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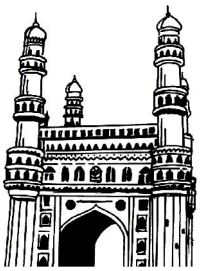

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1.1 Introduction to Business Economics

Business Economics or Managerial Economics consists of that part of economic theory which helps the business manager to take rational decisions. Economic theories help to analyse the practical problems faced by a business firm. Managerial Economics integrates economic theory with business practice. It is a special branch of economics that bridges the gap between abstract theory and business practice. It deals with the use of economic concepts and principles for decision making in a business unit It is over wise called Business Economics or Economics of the Firm. The terms Managerial Economics and Business Economics are used interchangeably. The term Managerial Economics is more in use now-a-days.

Managerial Economics is economics applied in business decision-making. Hence it is also called Applied Economics.

1.1.1 Meaning of Business Economics or Managerial Economics

Business Economics or Managerial Economics generally refers to the integration of economics theories with business practises. Economics provides various conceptual tools like - Demand, Supply, Price, Competition, etc. Business economics applies these tools to the management of business. In this sense, business economics also known as applied economics.

Business Economics is the application of principles and theories of economics in practise to run successfully the business. Everyday business manager has to face different problems, while running the business. They would be solved with the help of economic theories. Managers integrates the economic theories with the business practises and takes decisions as well as plans the activities of business.

1.1.2 Definitions of Business Economics or Managerial Economics

In simple words, business economics is the discipline which helps a business manager in decision making for achieving the desired results. In other words, it deals with the application of economic theory to business management.

> Business economics is "the integration of economic theory with business practise for the purpose of facilitating decision-making and forward planning by management".
>
> - ***Spencer and Siegelman***,

> "Business economics deals with the use of economic modes of thought to analyse business situation".
>
> - ***Mc Nair and Meriam***

> "Managerial Economics is the application of Economic theory and methodology to business administration practise."
>
> - ***E. F. Brigham and J. L. Pappas***

> "Managerial Economics is concerned with using logic of economics, mathematics & statistics to provide effective ways of thinking about business decision problems."
>
> - ***Hauge***

According to Joel Dean, "The purpose of Managerial Economics is to show how economic analysis can be used in formulating business policies."

From the above said definitions, we can safely say that business economics makes indepth study of the following objectives :

i) Explanation of nature and form of economic analysis

ii) Identification of the business areas where economic analysis can be applied

iii) Spell out the relationship between Managerial Economics and other disciplines outline the methodology of managerial economics.

1.1.3 Characteristics of Business Economics

The following characteristics of business economics will indicate its nature :

1. **Micro economics**: Managerial economics: micro economic in character. This is so because it studies the problems of an individual business unit. It does not study the problems of the entire economy.

2. **Normative science**: Managerial economics is a normative science. It is concerned with what management should do under particular circumstances. It determines the goals of the enterprise. Then it develops the ways to achieve these goals.
3. **Pragmatic**: Managerial economics is pragmatic. It concentrates on making economic theory more application oriented. It tries to solve the managerial problems in their day-today functioning.
4. **Prescriptive**: Managerial economics is prescriptive rather than descriptive. It prescribes solutions to various business problems.
5. **Uses macro economics**: Marco economics is also useful to business economics. Macro-economics provides an intelligent understanding of the environment in which the business operates. Managerial economics takes the help of macro-economics to understand the external conditions such as business cycle, national income, economic policies of Government etc.
6. **Uses theory of firm**: Managerial economics largely uses the body of economic concepts and principles towards solving the business problems. Managerial economics is a special branch of economics to bridge the gap between economic theory and managerial practice.
7. **Management oriented**: The main aim of managerial economics is to help the management in taking correct decisions and preparing plans and policies for future. Managerial economics analyses the problems and give solutions just as doctor tries to give relief to the patient.
8. **Multi disciplinary**: Managerial economics makes use of most modern tools of mathematics, statistics and operation research. In decision making and planning principles such accounting, finance, marketing, production and personnel etc.
9. **Art and science**.-Managerial economics is both a science and an art. As a science, it establishes relationship between cause and effect by collecting, classifying and analyzing the facts on the basis of certain principles. It points out to the objectives and also shows the way to attain the said objectives.

1.1.4 Objectives of Business Economics

The various objectives of business economics are :

1. To integrate economic theory with business practice.
2. To apply economic concepts: and principles to solve business problems.

3. To employ the most modern instruments and tools to solve business problems.
4. To allocate the scarce resources in the optimal manner.
5. To make overall development of a firm.
6. To help achieve other objectives of a firm like attaining industry leadership, expansion of the market share etc.
7. To minimise risk and uncertainty
8. To help in demand and sales forecasting.
9. To help in operation of firm by helping in planning, organizing, controlling etc.
10. To help in formulating business policies.
11. To help in profit maximisation.

1.1.5 Business Economics is Useful Because

i) It provides tools and techniques for managerial decisions,

ii) It gives answers to the basic problems of business management,

iii) It supplies data for analysis and forecasting,

iv) It provides tools for demand forecasting and profit planning,

v) It guides the managerial economist. - Thus, Business economics offers a number of benefits to business managers. It is also useful to individuals, society and government.

1.1.6 Nature of Business Economics

The nature of business economics can be summarized as follows :

1. Demand Forecasting

Demand forecasting is an important topic studied in Business Economics. Every business firm initiates and continues its production process on the basis of the anticipation of more demand for its goods in the future. It makes research and conducts market survey with a view to know the tastes and fashions of the consumers. It pools up the resources and starts production for meeting the future demand. Business economics analyses the demand behaviour and forecasts the quantity demanded by the consumers.

2. Cost Analysis

Business Economics deals with the analysis of different costs incurred by the business firms. Every firm desires to minimize its costs and increase its output by securing several economies of scale. But is does not know in advance about the exact costs involved in production process. Business Economics deals with the cost estimates and acquaints the entrepreneurs with the cost analysis of their firm.

3. Profit Analysis

Every business firm aims to secure maximum profits. But at the same time it faces uncertainty and risk in getting profits. It has to make innovations in production and marketing of its goods. Business Economics deals with the matters relating to profit analysis like profit techniques, policies and break-even analysis.

4. Capital Management

Capital management is another topic dealt in Business Economics. It denotes planning and control of capital expenditure in business organisation. It studies matters like cost of capital, rate of return, selection of best project etc.

5. Effective Utilization of Business Resources

Business economics study is very helpful for effective utilization of business resources. It determines every factors price on supply and demand of such factor so, that the price becomes optimize by this supply demand analysis.

6. Effective use of Economic Policies for Business Development

Business economics makes different economic policies under macro economics and these policies utilize for business and trade development. For instance, we can take monetary policies. In monetary policies, RBI has power to change CRR and other interest rate for development of business.

1.1.7 Scope of Managerial or Business Economics

The scope of managerial economics include all the economic concepts, theories, ideas, principles, tools and techniques that can be used to analyze the business environment and find solutions to practical business problems. The following business areas can be considered as the scope of managerial economics.

1. Objectives of a Business Firm or Organization

Managerial economics provides a sound framework by facilitating a business firm to frame its objectives both in the short-run and long-run.

2. Resource Allocation

Managerial economics provide the methods of effective resource allocation. It mainly aims at achieving high output through low and proper allocation of resources.

3. Demand Analysis and Demand Forecasting

It suggests the methodologies for analyzing the demand of a product. The demand forecasting techniques it provides are proven to be quite efficient for meeting the competition.

4. Competitive Analysis

The techniques provided by managerial economics facilities a firm to withstand in a competitive situation.

5. Strategic Planning

Managerial economics guides a business manager in making strategic decisions.

6. Production Management

Managerial economics plays a vital role in production management. It's effective tools helps to plan the business schedule, regulate the production process and effectively place the output in the market.

7. Cost Analysis

Managerial economics provide various cost concepts and cost curves that facilitate in determining cost-output relationship both in short-run and long-run.

8. Pricing Strategies

Managerial economics provide various cost concepts and cost curves that facilitate in determining cost-output relationship both in short-run and long-run.

9. Market Structure Analysis

The techniques and concepts of managerial economics analyze the market structure and guide in taking necessary decisions that are required for a firm to exist in the market.

10. Investment and Capital Budgeting Decisions

The concept of opportunity cost provided by managerial economics facilitates in making appropriate investment decisions and choose the best alternative that fits the organizational requirements.

11. Marketing Strategies

Managerial economics provide marketing strategies like

- Product policy
- Sales promotion
- Segmentation, Targeting and positioning of markets.

12. Economics of Scale

Managerial economics in the long-run helps a firm to enjoy economics and diseconomics of scale.

13. Profit Management

Managerial economics mainly concentrates on the primary goal of a firm i.e., profit maximization. It deals with the activities like profit estimation and profit planning.

14. Input and Output Analysis

The concept of production function managerial economics depicts the input and output relationship.

15. Inventory Control

Effective inventory control techniques of managerial economics readily meet the organizational requirements.

1.2 Relationship with Other Disciplines

Macro Economics, Statistics, Mathematics, Accounts etc., have contributed a lot in the growth of Managerial Economics. D.C. Hague has stated, "Managerial Economics uses the logic of Economics, Mathematics and Statistics to provide effective ways of thinking about business decision problems."

Economics has two main divisions: micro-economics and macro-economics. Micro-economics has been defined as that branch where the unit of study is an individual or a firm. Macro-economics, on the other hand, is aggregative in character and has the entire economy as a unit of study.

1.2.1 Managerial Economics and Traditional Economics

Managerial Economics has been described as economics applied to decision-making. It may be viewed as a special branch of economics bridging the gulf between pure economic theory and managerial practice. The relation between Managerial

Economics and Economics is as close as is Engineering to Physics and Medicines to Biology.

Traditional Economics has two main divisions: microeconomics and macroeconomics. Microeconomics; also known as price theory, is the main source of concepts and analytical tools for managerial economics. To illustrate, various microeconomic concepts such as elasticity of demand, marginal cost, the short and long runs, opportunity cost, various market forms, etc., are all of great significance to managerial economics.

The chief contribution of macroeconomics is in the area of forecasting. The modern theory of income, employment, trade cycles, etc. has implications for forecasting general business conditions. As the prospects of an individual firm often depend greedy on general business conditions, individual firm forecasts depend on general business forecasts.

1.2.2 Managerial Economics and Accounting

Managerial economics and accounting are closely interrelated. Accounting can be defined as the recording of financial operations of a business firm. A business manager needs a lot of accounting information data for logical analysis in decision-making and policy formulation at the level of firm.

The accounting data and information has to be presented in a methodological manner worthy of analysis and interpretation for decision-making and future planning. This is why a new branch of accounting known as 'management accounting' has developed to help correct managerial decision-making. The main task of management accounting is to provide the sort of data which managers need to solve some business problems accurately.

1.2.3 Managerial Economics and Operational Research

Operational Research is closely related to managerial economics. Operational research is the application of mathematical techniques to solving business problems. It provides all the data required for business decisions and forward planning. Techniques such as linear programming, game theory, etc. are due to the works of operational research, linear programming is extensively used in decision-making. Managerial economics is concerned with efficient use of scarce resources.

Operational research is also concerned with efficient use of scarce resources. There is close affinity between managerial economics and operational research. Managerial economics gives special emphasis to the problems involving maximisation

of profits and minimisation of costs, while operational research focuses attention on the concept of optimisation.

Managerial economics has made much use of optimisation concept but initially started with marginal analysis taken from economics. Managerial economics uses the logic of Economics, Mathematics and Statistics for undertaking effective decisions, while operational research techniques based on these ways of thinking are being used to solve decision-making problems in business. Again, both operational research and managerial economics are concerned with taking effective decisions.

Operational research is a tool in the hands of managerial economics to solve day-to-day business problems. Managerial economics is an academic subject which aims at understanding and analysing problems and decision-making by a firm. Thus, operational research is a functional activity pursued by specialists within the firm. Though it is expensive and a slow process, it helps managers make accurate solutions by means of providing necessary data.

1.2.4 Managerial Economics and Marketing

Managerial Economics helps marketing in two ways. First, as a basic discipline, providing tools and concepts of analysis and second, as an integrating area, providing its judgement on the optimum sales volume under the given cost function of a firm, market structure, and the objective function to be optimized. How much to sell under given circumstances is answered by an economist and how to sell the desired amount of output is the domain of the marketing manager. Sometimes, selling more than what is desired may harm the interest of the firm. It has, however, the sanction neither of Economics nor of marketing principles as both stresses on the protection of long run interests of the firm.

Economics is of a great help to marketing in the sphere of pricing. Of the three basic aspects of pricing viz. value theory, price theory, and pricing techniques, the first two are the exclusive domain of Economics, while the third one forms part of both Managerial Economics and marketing. In the case of pricing techniques, there are varying practices in different organizations. In many pricing is handled by the accounts staff such as chartered accountants and company secretaries. There are several areas of marketing which are totally or heavily dependent on economic theory. These are :

1. Theory of the Firm
2. Concepts of goals and goal formulation
3. Market structures
4. Pricing.

1.2.5 Managerial Economics and Production Management

Production is defined as the creation of utility by transforming input into output. It usually refers to manufacturing activity and the term operations are used to denote a wider meaning, encompassing all economic activity which creates economic utility. Operations personnel have four basic responsibilities to fulfill while producing a firm's products or services.

1. Supply of quantities,
2. Maintenance of time-bound deliveries,
3. Fulfillment of quality requirement, and
4. Economizing production operations.

For this, the personnel have to deal with a number of inter-related areas including production planning, production control, quality control, methods analysis, materials handling, plant layout, inventory control, work management, and wage incentives. A knowledge of Economics would help operations personnel not only to economize their production operations but also help them

a) To monitor and analyse the input market,

b) To monitor market maturity, technical maturity, and competitive maturity of products being produced,

c) To have better coordination with the R & D department with respect to product and process innovation, and

d) To take decisions on production targets.

1.2.6 Managerial Economics and Personnel Management

A human resource manager has to concern himself with two types of problems: (i) an effective utilization of human resources in terms of costs and productivity and (ii) improvement in the terms and conditions of employment as an adjunct to employee satisfaction. Manpower planning, at the micro level, is another important function of an HRD manager wherein a firm ensures that it has the right number and the right kind of people, at the right places, at the right time, doing work for which they are economically most useful.

Managerial economics can help personnel management by analysing the economic and financial aspects of personnel problems both in relation to the economic

welfare of the firm and to the prevailing environment of the economy as a whole. It explains the economic implications of policies and strategies and judges their consistency with respect to organizational objectives as well as internal and external constraints. It can provide a safety range for wage negotiations with trade unions. Business forecasting could provide information for devising employment norms of the sales force.

1.3 Managerial Decision Making Process (5 steps)

Decision making is crucial for running a business enterprise which faces a large number of problems requiring decisions. Which product to be produced, what price to be charged, what quantity of the product to be produced, what and how much advertisement expenditure to be made to promote the sales, how much investment expenditure to be incurred are some of the problems which require decisions to be made by managers.

The five steps involved in managerial decision making process are explained below :

1. Establishing the Objective

The first step in the decision making process is to establish the objective of the business enterprise. The important objective of a private business enterprise is to maximise profits. However, a business firm may have some other objectives such as maximisation of sales or growth of the firm.

But the objective of a public enterprise is normally not of maximisation of profits but to follow benefit-cost criterion. According to this criterion, a public enterprise should evaluate all social costs and benefits when making a decision whether to build an airport, a power plant, a steel plant, etc.

2. Defining the Problem

The second step in decision making process is one of defining or identifying the problem. Defining the nature of the problem is important because decision making is after all meant for solution of the problem. For instance, a cotton textile firm may find that its profits are declining.

It needs to be investigated what are the causes of the problem of decreasing profits. Whether it is the wrong pricing policy, bad labour-management relations or the use of outdated technology which is causing the problem of declining

profits. Once the source or reason for falling profits has been found, the problem has been identified and defined.

3. Identifying Possible Alternative Solutions (i.e. Alternative Courses of Action)

Once the problem has been identified, the next step is to find out alternative solutions to the problem. This will require considering the variables that have an impact on the problem. In this way, relationship among the variables and with the problems has to be established.

In regard to this, various hypotheses can be developed which will become alternative courses for the solution of the problem. For example, in case of the problem mentioned above, if it is identified that the problem of declining profits is due to be use of technologically inefficient and outdated machinery in production.

The two possible solutions of the problem are :

1) Updating and replacing only the old machinery.

2) Building entirely a new plant equipped with latest machinery.

The choice between these alternative courses of action depends on which will bring about larger increase in profits.

4. Evaluating Alternative Courses of Action

The next step in business decision making is to evaluate the alternative courses of action. This requires, the collection and analysis of the relevant data. Some data will be available within the various departments of the firm itself, the other may be obtained from the industry and government.

The data and information so obtained can be used to evaluate the outcome or results expected from each possible course of action. Methods such as regression analysis, differential calculus, linear programming, cost- benefit analysis are used to arrive at the optimal course. The optimum solution will be one that helps to achieve the established objective of the firm. The course of action which is optimum will be actually chosen. It may be further noted that for the choice of an optimal solution to the problem, a manager works under certain constraints.

The constraints may be legal such as laws regarding pollution and disposal of harmful wastes; they way be financial (i.e. limited financial resources); they may relate to the availability of physical infrastructure and raw materials, and they may be technological in nature which set limits to the possible output to be produced per unit of time. The crucial role of a business manager is to determine optimal course of action and he has to make a decision under these constraints.

5. Implementing the Decision

After the alternative courses of action have been evaluated and optimal course of action selected, the final step is to implement the decision. The implementation of the decision requires constant monitoring so that expected results from the optimal course of action are obtained. Thus, if it is found that expected results are not forthcoming due to the wrong implementation of the decision, then corrective measures should be taken.

However, it should be noted that once a course of action is implemented to achieve the established objective, changes in it may become necessary from time to time in response in changes in conditions or firm's operating environment on the basis of which decisions were taken.

The five steps in the decision making process are shown in Fig. 1.2

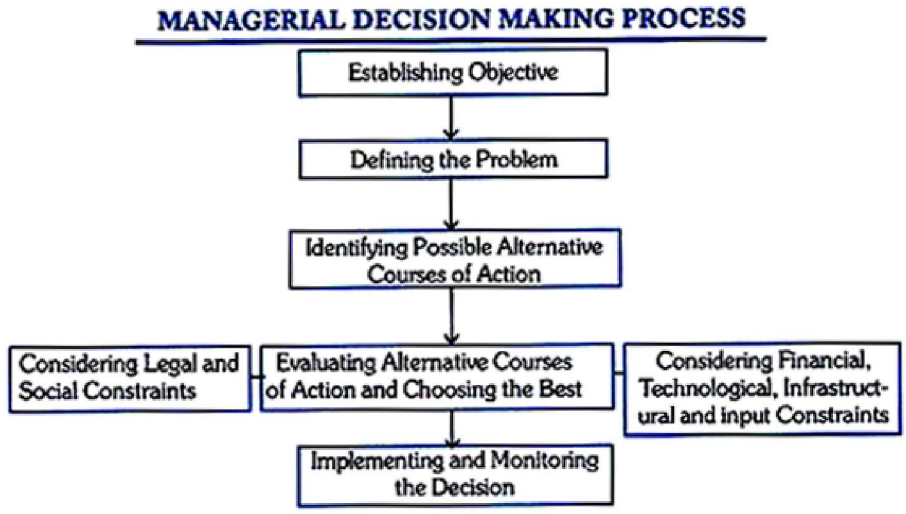

Fig. 1.2. *Managerial Decision Making Process : Various Steps*

1.4 Role of a Managerial Economist

1. Study of the Business Environment

Every firm has to take into consideration such external factors as the growth of national income, volume of trade and the general price trends, for its policy decision. A firm works within a business environment. The basic element of business environment for a firm are the trend of growth of national economy and world economy and phase of the business cycle in which the economy is moving. At what rate and where is population getting concentrated? Where are the demand prospects for established and new products? Where are the prospective markets? These questions lead the economists into purposeful studies of the economic environment.

The international economic outlook is a very important environmental factor for exporting firms. The nature and degree of competition within the industry in which a firm is placed are also a part of the business environment. The kind of economic policies pursued by the government constitute a powerful element of the business environment of a firm. What are the priorities of the new five year plan? In which sectors of the economy have the outlays been bran increased? What are the budgetary trends? What about changes in expenditure, tax rates tariffs and import restrictions? For all purposes the economists place a significant role.

2. Business Plan and Forecasting

The business economists can help the management in the formation of their business plan by forecasting and economic environment. The management can easily decide the timing and locating of their specific action. The managerial economists has to interpret the national economic trends and industrial outlook for their relevance to the firm in which he is working. He advises top management by means of short, business like practical notes. In a partially controlled economy like India, the business economists translates the government's intentions in business jargon and also transmits the reaction of the industry to propose changes in government policy.

3. Study of Business Operations

The business economist can also help the management in decision making relating to the internal operations of a firm, i.e., in deciding about price, rate of operations, investment and growth of the firm for offering this advice ; the economist has

specific analytical and forecasting techniques which yield meaningful conclusions. What will be the reasonable sales and profit budget for the next year? What are the suitable production schedules and inventory policies? What changes in wage and price policies are imperative now? What would be the sources of finance? Thus, he is trained to answer such questions posted by the top management.

4. Economic Intelligence

The business economist also provides general intelligence services by supplying the management with economic information of general interest so that they can talk intelligently in conferences and seminars. They are also supplied the facts and figures for preparing the annual reports of the firm. Those facts and figures are collected by the business economist as he understands the literature available on business activities.

5. Specific functions

Business economists are now performing specific functions as consultants also. Their specific functions are demand forecasting, industrial market research, pricing problems of industry, production programmes, investment analysis and forecasts. They also offer advice on trade and public relations, primary commodities and foreign to capital projects in agriculture, industry, transport and tourism and also of the export environment.

6. Participation in Public Debates

The business economists participate in public debates organised by different agencies. Both governments and society seek their advice. Their practical experience in business and industry gives value to their observation. In nut shell a business economist can play a multi-faceted role. He is not only an analyst of current trends and policies for his employers but also a bridge between the businessmen in the specific industry and the Govt.

1.4.1 Responsibilities of a Business Economist

A business economist is well familiar with his responsibilities. He must keep in the mind the main objective of making a reasonable profit on the invested capital in his firm. Firms are not always after profit-maximization, but to continue in business, every firm has to operate for profit. Therefore, a business economist has the main responsibility of helping the management to make more profits than before. All his other responsibilities

flow from this basic obligation. The responsibilities of a business economists are summarised below :

1. Making successful Forecasts

Managements have to take decisions concerning the future and it is uncertain. This uncertainity cannot be eliminated altogether but it can be reduced through scientific forecasts of the economic environment to his employers. This is required for business planning. If a business economist can make successful forecasts about business trends, the management will hold him in great esteem.

A wise managerial economist will revise his forecasts from time to time keeping in view new developments in his business. As soon as he finds a change in his forecasts, he has to alert the management about it. He assists the management in making the needed adjustments. This will help him to strengthen his position as a member of the managerial team.

2. Maintaining Relationships

The managerial economists must establish and maintain contacts with data sources for his analysis and forecasts. He makes contacts with individual who are specialists in the different fields. He must join professional associations and subscribe to the journals giving him fresh and latest information. In other words, his business biggest quality is his ability to obtain information quickly by establishing contacts with the sources of such information.

3. Earning full Status on the Managerial team

A business economist has to participate in decision-making and forward-planning. For this he must be able to earn full status on the business team. He must be prepared to take up assignments on special project also. He should be able to express himself clearly so that his advice is understood and accepted. Finally, he must be in tune with the industry's thinking, and not lose the national perspective in giving advice to the management.

Thus, we can conclude from our discussion that managerial economists can earn an important place in the managerial team only if they understand and undertake his responsibilities.

1.5 Basic Economic Principles

Fundamental concepts of Business economics :

1. Opportunity cost principle
2. Marginalism
3. Incremental concept/principle
4. Principle of time perspective
5. Discounting principle
6. Equi-marginal principle
7. Risk and Uncertainty

1.5.1 Opportunity Cost Principle

The opportunity cost of a decision means the sacrifice of alternatives required by that decision. This can be best understood with the help of a few illustrations, which are as follows :

1. The opportunity cost of the funds employed in one's own business is equal to the interest that could be earned on those funds if they were employed in other ventures.
2. The opportunity cost of the time as an entrepreneur devotes to his own business is equal to the salary he could earn by seeking employment.
3. The opportunity cost of using a machine to produce one product is equal to the earnings forgone which would have been possible from other products.
4. The opportunity cost of using a machine that is useless for any other purpose is zero since its use requires no sacrifice of other opportunities.
5. If a machine can produce either X or Y, the opportunity cost of producing a given quantity of X is equal to the quantity of Y, which it would have produced. If that machine can produce 10 units of X or 20 units of Y, the opportunity cost of 1 X is equal to 2 Y.
6. If no information is provided about quantities produced, except about their prices then the opportunity cost can be computed in terms of the ratio of their respective prices, say Px/Py.

7. The opportunity cost of holding Rs. 500 as cash in hand for one year is equal to the 10% rate of interest, which would have been earned had the money been kept as fixed deposit in a bank.

Thus, it is clear that opportunity costs require the ascertaining of sacrifices. If a decision involves no sacrifice, its opportunity cost is nil.

For decision-making, opportunity costs are the only relevant costs. The opportunity cost principle may be stated as under: "The cost involved in any decision consists of the sacrifices of alternatives required by that decision. If there are no sacrifices, there is no cost."

1.5.2 Marginalism

Marginalism is a theory of economics that attempts to explain the discrepancy in the value of goods and services by reference to their secondary, or marginal, utility. The reason why the price of diamonds is higher than that of water, for example, owes to the greater additional satisfaction of the diamonds over the water. Thus, while the water has greater total utility, the diamond has greater marginal utility.

Although the central concept of marginalism is that of marginal utility, marginalists, following the lead of Alfred Marshall, drew upon the idea of marginal physical productivity in explanation of cost. The neoclassical tradition that emerged from British marginalism abandoned the concept of utility and gave marginal rates of substitution a more fundamental role in analysis.

Important Marginal Concepts

1. Marginality

Constraints are conceptualized as a border or margin. The location of the margin for any individual corresponds to his or her endowment, broadly conceived to include opportunities. This endowment is determined by many things including physical laws (which constrain how forms of energy and matter may be transformed), accidents of nature (which determine the presence of natural resources), and the outcomes of past decisions made both by others and by the individual.

A value that holds true given particular constraints is a marginal value. A change that would be affected as or by a specific loosening or tightening of those constraints is a marginal change.

Neoclassical economics usually assumes that marginal changes are infinitesimals or limits. (Though this assumption makes the analysis less robust, it increases tractability.) One is therefore often told that "marginal" is synonymous with "very small", though in more general analysis this may not be operationally true (and would not in any case be literally true). Frequently, economic analysis concerns the marginal values associated with a change of one unit of a resource, because decisions are often made in terms of units; marginalism seeks to explain unit prices in terms of such marginal values.

2. Marginal Use

The marginal use of a good or service is the specific use to which an agent would put a given increase, or the specific use of the good or service that would be abandoned in response to a given decrease.

Marginalism assumes, for any given agent, economic rationality and an ordering of possible states-of-the-world, such that, for any given set of constraints, there is an attainable state which is best in the eyes of that agent.

Descriptive marginalism asserts that choice amongst the specific means by which various anticipated specific states-of-the-world (outcomes) might be affected is governed only by the distinctions amongst those specific outcomes; prescriptive marginalism asserts that such choice ought to be so governed.

On such assumptions, each increase would be put to the specific, feasible, previously unrealized use of greatest priority, and each decrease would result in abandonment of the use of lowest priority amongst the uses to which the good or service had been put.

3. Marginal Utility

The marginal utility of a good or service is the utility of its marginal use. Under the assumption of economic rationality, it is the utility of its least urgent possible use from the best feasible combination of actions in which its use is included.

In 20th century mainstream economics, the term "utility" has come to be formally defined as a quantification capturing preferences by assigning greater quantities to states, goods, services, or applications that are of higher priority. But marginalism and the concept of marginal utility predate the establishment of this convention within economics.

The more general conception of utility is that of use or usefulness, and this conception is at the heart of marginalism; the term "marginal utility" arose from translation of the German "Grenznutzen", which literally means border use, referring directly to the marginal use, and the more general formulations of marginal utility do not treat quantification as an essential feature.

On the other hand, none of the early marginalists insisted that utility were not quantified, some indeed treated quantification as an essential feature, and those who did not still used an assumption of quantification for expository purposes. In this context, it is not surprising to find many presentations that fail to recognize a more general approach.

1.5.3 Equi-marginal Principle

This principle deals with the allocation of the available resource among the alternative activities. According to this principle, an input should be allocated in such a way that the value added by the last unit is the same in all cases. This generalisation is called the equimarginal principle.

Suppose a firm has 100 units of labour at its disposal. The firm is engaged in four activities, which need labour services, viz., A, B, C and D. It can enhance any one of these activities by adding more labour but sacrificing in return the cost of other activities. If the value of the marginal product is higher in one activity than another, then it should be assumed that an optimum allocation has not been attained. Hence it would, be profitable to shift labour from low marginal value activity to high marginal value activity, thus increasing the total value of all products taken together. For example, if the values of certain two activities are as follows:

Value of Marginal Product of labour

Activity A = Rs. 20

Activity B = Rs. 30

In this case it will be profitable to shift labour from A to activity B thereby expanding activity B and reducing activity A. The optimum will be reach when the value of the marginal product is equal in all the four activities or, when in symbolic terms :

$$VMPL_A = VMPL_B = VMPL_C = VMPL_D$$

Where the subscripts indicate labour in respective activities. Certain aspects of the equi-marginal principle need clarifications, which are as follows:

- **First,** the values of marginal products are net of incremental costs.

  In activity B, we may add one unit of labour with an increase in physical output of 100 units. Each unit is worth 50 paise so that the 100 units will sell for Rs. 50. But the increased output consumes raw materials, fuel and other inputs so that variable costs in activity B (not counting the labour cost) are higher. Let us say that the incremental costs are Rs. 30 leaving a net addition of Rs. 20. The value of the marginal product relevant for our purpose is thus Rs. 20.

- **Secondly,** if the revenues resulting from the addition of labour are to occur in future, these revenues should be discounted before comparisons in the alternative activities are possible.

  Activity A may produce revenue immediately but activities B, C and D may take 2, 3 and 5 years respectively. Here the discounting of these revenues will make them equivalent.

- **Thirdly,** the measurement of value of the marginal product may have to be corrected if the expansion of an activity requires an alternative reduction in the prices of the output. If activity B represents the production of radios and it is not possible to sell more radios without a reduction in price, it is necessary to make adjustment for the fall in price.

- **Fourthly,** the equi-marginal principle may break under sociological pressures. For instance, due to inertia, activities are continued simply because they exist. Similarly, due to their empire building ambitions, managers may keep on expanding activities to fulfil their desire for power. Department, which are already over-budgeted often, use some of their excess resources to build up propaganda machines (public relations offices) to win additional support. Governmental agencies are more prone to bureaucratic self-perpetuation and inertia.

1.5.4 Incremental Principle

The incremental concept is closely related to the marginal costs and marginal revenues of economic theory. Incremental concept involves two important activities which are as follows :

- Estimating the impact of decision alternatives on costs and revenues.
- Emphasising the changes in total cost and total cost and total revenue resulting from changes in prices, products, procedures, investments or whatever may be at stake in the decision.

The two basic components of incremental reasoning are as follows :

- **Incremental cost**: Incremental cost may be defined as the change in total cost resulting from a particular decision.
- **Incremental revenue**: Incremental revenue means the change in total revenue resulting from a particular decision.

The incremental principle may be stated as under :

A decision is obviously a profitable one if :

- It increases revenue more than costs
- It decreases some costs to a greater extent than it increases other costs
- It increases some revenues more than it decreases other revenues
- It reduces costs more that revenues.

Some businessmen hold the view that to make an overall profit; they must make a profit on every job. Consequently, they refuse orders that do not cover full cost (labour, materials and overhead) plus a provision for profit. Incremental reasoning indicates that this rule may be inconsistent with profit maximisation in the short run. A refusal to accept business below full cost may mean rejection of a possibility of adding more to revenue than cost. The relevant cost is not the full cost but rather the incremental cost. A simple problem will illustrate this point.

Illustration

Suppose a new order is estimated to bring in additional revenue of Rs. 5,000. The costs are estimated as under :

Labour Rs. 1,500

Material Rs. 2,000

Overhead (Allocated at 120% of labour cost) Rs. 1,800

Selling administrative expenses

(Allocated at 20% of labour and material cost) Rs. 700

Total Cost Rs. 6,000

The order at first appears to be unprofitable. However, suppose, if there is idle capacity, which can be, utilised to execute this order then the order can be accepted. If

the order adds only Rs. 500 of overhead (that is, the added use of heat, power and light, the added wear and tear on machinery, the added costs of supervision, and so on), Rs. 1,000 by way of labour cost because some of the idle workers already on the payroll will be deployed without added pay and no extra selling and administrative cost then the incremental cost of accepting the order will be as follows.

Labour Rs. 1,500

Material Rs. 2,000

Overhead Rs. 500

Total Incremental Cost Rs. 3,500

While it appeared in the first instance that the order will result in a loss of Rs. 1,000, it now appears that it will lead to an addition of Rs. 1,500 (Rs. 5,000- Rs. 3,500) to profit. Incremental reasoning does not mean that the firm should accept all orders at prices, which cover merely their incremental costs. The acceptance of the Rs. 5,000 order depends upon the existence of idle capacity and labour that would go unutilised in the absence of more profitable opportunities. Earley's study of "excellently managed" large firms suggests that progressive corporations do make formal use of incremental analysis. It is, however, impossible to generalise on the use of incremental principle, since the observed behaviour is variable.

1.5.5 Principle of Time Perspective

The economic concepts of the long run and the short run have become part of everyday language. Business economists are also concerned with the short-run and long-run effects of decisions on revenues as well as on costs. The actual problem in decision-making is to maintain the right balance between the long-run and short-run considerations.

A decision may be made on the basis of short-run considerations, but may in the course of time offer long-run repercussions, which make it more or less profitable than it appeared at first. An illustration will make this point clear.

Illustration

Suppose there is a firm with temporary idle capacity. An order for 5,000 units comes to management's attention. The customer is willing to pay Rs. 4.00 per unit or Rs. 20,000 for the whole lot but not more. The short-run incremental cost (ignoring the fixed cost) is only Rs. 3.00. Therefore, the contribution to overhead and profit is Re.

1.00 per unit (Rs. 5,000 for the lot. However, the long-run repercussions of the order ought to be taken into account are as follows :

- If the management commits itself with too much of business at lower prices or with a small contribution, it may not have sufficient capacity to take up business with higher contributions when the opportunity arises. The management may be compelled to consider the question of expansion of capacity and in such cases; even the so-called fixed costs may become variable.
- If any particular set of customers come to know about this low price, they may demand a similar low price. Such customers may complain of being treated unfairly and feel discriminated. In response, they may opt to patronise manufacturers with more decent views on pricing. The reduction or prices under conditions of excess capacity may adversely affect the image of the company in the minds of its clientele, which will in turn affect its sales.

It is, therefore, important to give due consideration to the time perspective. The principle of time perspective may be stated as under: 'A decision should take into account both the short-run and long-run effects on revenues and costs and maintain the right balance between the long-run and short-run perspectives."

Haynes, Mote and Paul have cited the case of a printing company. This company pursued the policy of never quoting prices below full cost though it often experienced idle capacity and the management was fully aware that the incremental cost was far below full cost. This was because the management realised that the long-run repercussions of pricing below full cost would make up for any shortrun gain. The management felt that the reduction in rates for some customers might have an undesirable effect on customer goodwill particularly among regular customers not benefiting from price reductions. It wanted to avoid creating such an "image" of the firm that it exploited the market when demand was favorable but which was willing to negotiate prices downward when demand was unfavorable.

1.5.6 Discounting Principle

This concept is an extension of the concept of time perspective. Since future is unknown and incalculable, there is lot of risk and uncertainty in future. Everyone knows that a rupee today is worth more than a rupee will be two years from now. This appears similar to the saying that "a bird in hand is more worth than two in the bush." This judgment is made not on account of the uncertainty surround-ing the future or the risk of inflation.

It is simply that in the intervening period a sum of money can earn a return which is ruled out if the same sum is available only at the end of the period. In technical parlance, it is said that the present value of one rupee available at the end of two years is the present value of one rupee available today. The mathematical technique for adjusting for the time value of money and computing present value is called 'discounting'.

The following example would make this point clear. Suppose, you are offered a choice of Rs. 1,000 today or Rs. 1,000 next year. Naturally, you will select Rs. 1,000 today. That is true because future is uncertain. Let us assume you can earn 10 per cent interest during a year.

You may say that I would be indifferent between Rs. 1,000 today and Rs. 1,100 next year i.e., Rs. 1,100 has the present worth of Rs. 1,000. Therefore, for making a decision in regard to any investment which will yield a return over a period of time, it is advisable to find out its 'net present worth'. Unless these returns are discounted and the present value of returns calculated, it is not possible to judge whether or not the cost of undertaking the investment today is worth.

The concept of discounting is found most useful in managerial economics in decision problems pertaining to investment planning or capital budgeting.

The formula of computing the present value is given below :

$V = A/1+i$

where:

V = Present value

A = Amount invested Rs. 100

i = Rate of interest 5 per cent

$V = 100/1+.05 = 100/1.05$ =Rs. 95.24

Similarly, the present value of Rs. 100 which will be discounted at the end of 2 years: A 2 years $V = A/ (1+i) 2$

For n years $V = A/ (1+i) n$

1.5.7 Risk and Uncertainty

Managerial decisions are actions of today which bear fruits in future which is unforeseen. Future is uncertain and involves risk. The uncertainty is due to unpredictable changes in the business cycle, structure of the economy and government policies.

This means that the management must assume the risk of making decisions for their institution in uncertain and unknown economic conditions in the future. Firms may be uncertain about production, market prices, strategies of rivals, etc. Under uncer-tainty, the consequences of an action are not known immediately for certain.

Economic theory generally assumes that the firm has perfect knowledge of its costs and demand relationships and of its environment. Uncertainty is not allowed to affect the decisions. Uncertainty arises because producers simply cannot foresee the dynamic changes in the economy and hence, cost and revenue data of their firms with reasonable accuracy.

Also dynamic changes are external to the firm; they are beyond the control of the firm. The result is that the risks from unexpected changes in a firm's cost and revenue data cannot be estimated and therefore the risks from such changes cannot be insured. But products must attempt to predict the future cost and revenue data of their firms and determine the output and price policies.

The managerial economists have tried to take account of uncertainty with the help of subjective probability. The probabilistic treatment of uncertainty requires formulation of definite subjective expec-tations about cost, revenue and the environment. The probabilities of future events are influenced by the time horizon, the risk attitude and the rate of change of the environment.

SHORT ANSWERS

1. Business Economics

Business Economics or Managerial Economics generally refers to the integration of economics theories with business practises. Economics provides various conceptual tools like - Demand, Supply, Price, Competition, etc. Business economics applies these tools to the management of business. In this sense, business economics also known as applied economics.

Business Economics is the application of principles and theories of economics in practise to run successfully the business. Everyday business manager has to face different problems, while running the business. They would be solved with the help of economic theories. Managers integrate the economic theories with the business practises and take decisions as well as plan the activities of business.

2. Opportunity Cost Principle

The opportunity cost of a decision means the sacrifice of alternatives required by that decision. This can be best understood with the help of a few illustrations, which are as follows :

- The opportunity cost of the funds employed in one's own business is equal to the interest that could be earned on those funds if they were employed in other ventures.
- The opportunity cost of the time as an entrepreneur devotes to his own business is equal to the salary he could earn by seeking employment.
- The opportunity cost of using a machine to produce one product is equal to the earnings forgone which would have been possible from other products.
- The opportunity cost of using a machine that is useless for any other purpose is zero since its use requires no sacrifice of other opportunities.
- If a machine can produce either X or Y, the opportunity cost of producing a given quantity of X is equal to the quantity of Y, which it would have produced. If that machine can produce 10 units of X or 20 units of Y, the opportunity cost of 1 X is equal to 2 Y.

- If no information is provided about quantities produced, except about their prices then the opportunity cost can be computed in terms of the ratio of their respective prices, say Px/Py.

3. Incremental Principle

The incremental concept is closely related to the marginal costs and marginal revenues of economic theory. Incremental concept involves two important activities which are as follows :

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UNIT II

Theory of Demand and Supply: Demand Analysis - demand function, law of demand, determinants of demand, types of demand. Elasticity of demand, types, Measurement and significance of Elasticity of Demand. Demand Forecasting, Need for Demand Forecasting, Methods of Demand Forecasting.

Supply – Supply function, determinants of supply, law of supply, Elasticity of Supply.

2.1 Demand Analysis

Introduction

It is necessary to estimate the demand for the goods or services before they are produced and provided. The producers, for this purpose, heavily depend upon the data relating to the pattern of consumption of these goods and services. The demand analysis provides them the basis to take decisions relating to volume of production (How many products required to produce), capital to be invested (How much amount to be invested) and so on.

Demand

Demand for a commodity refers to the quantity of the commodity which an individual consumer is willing to purchase at a particular time at a particular price.

A product or service is said to have demand when three conditions are satisfied.

(a) Desire to acquire - Desire of the consumer to buy the + Product

(b) Willingness to pay - His willingness to buy the product and

(c) Ability to pay - Ability to pay the specified price for it.

Definitions

a) Demand refers to the quantities of commodity that the consumers are able to buy at each possible price during a given period of time, other things being equal.

- Ferguson

b) Demand is the ability and the willingness to buy a specific quantity of a good at alternatives prices in a given time period

-B.R.Schiller.

Features of demand

The various features of demand are:

a) Difference between Desire and Demand: Demand is the amount of commodity for which a consumer has the willingness and the ability to buy .These is difference between need and demand .Demand is not only the need, it also implies that the consumer has the money to purchase it.

b) Relationship between Demand and price: Demand is always at a price .unless price is stated, the amount demanded has no meaning. the consumer must know both the price and the commodity and he will tell his amount demanded.

c) Demanded at a point of time: The amount demanded must refer to some period of time such as 10 quintals of wheat per year or six shirts per year of five kilos of sugar per month .not only this, the amount demanded and the price must refer to a particular data.

2. 2 Demand Function

The behavior of a buyer is influenced by many factors; the price of the good, the prices of of the buyer, the period of time and a variety of other possible variables. The quantity that a buyer is willing and able to purchase is a function of these variables.

An individual's related goods (compliments and substitutes), incomes of the buyer, the tastes and preferences demand function for a good (Good X) might be written:
$Q_X = f_X(P_X, P$ related goods, income (M), preferences, . . .)

- Q_X = the quantity of good X
- P_X = the price of good X
- $P_{\text{related goods}}$ = the prices of compliments or substitutes
- Income (M) = the income of the buyers
- Preferences = the preferences or tastes of the buyers

The demand function is a model that "explains" the change in the dependent variable (quantity of the good X purchased by the buyer) "caused" by a change in each of the independent variables. Since all the independent variable may change at the same time it is useful to isolate the effects of a change in each of the independent variables. To represent the demand relationship graphically, the effects of a change in P_X on the Q_X are shown. The other variables, ($P_{related\ goods}$, M, preferences, . . .) are held constant. Figure III.A.1 shows the graphical representation of demand. Since ($P_{related\ goods}$, M, preferences, . . .) are held constant, the demand function in the graph shows a relationship between P_X and Q_X in a given unit of time (ut).

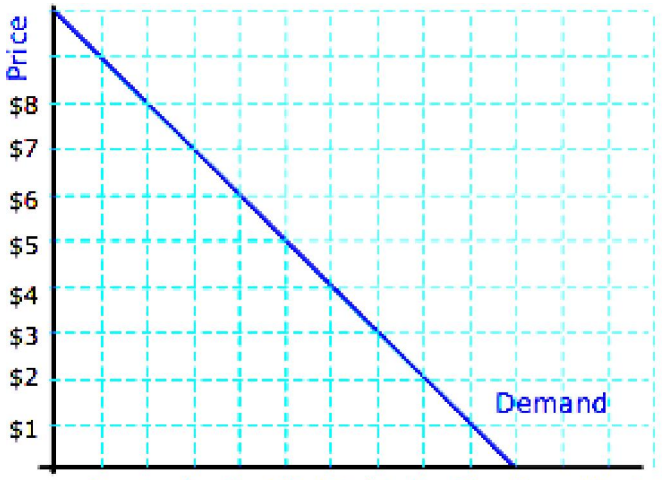


Figure III.A.1

The demand function can be viewed from two perspectives. The demand is usually defined as a schedule of quantities that buyers are willing and able to purchase at a schedule of prices in a given time interval (ut), ceteris paribus.

$Q_X = f(P_X)$, given incomes, price of related goods, preferences, etc.

Demand can also be perceived as the maximum prices buyers are willing and able to pay for each unit of output, ceteris paribus.

$P_X = f(Q_X)$, given incomes, price of related goods, preferences, etc.

It is important to remember that the demand function is usually thought of as Q = f(P) but the graph is drawn with quantity on the X-axis and price on the Y-axis. While demand is frequently stated Q = f(P), remember that the graph and calculation of total revenue (TR) and marginal revenue (MR) are calculated on the basis of a

change in quantity (Q). TR = f(Q) The calculation of "elasticity" is based on a change in quantity (Q) caused by a change in the price (P). It is important to clarify which variable is independent and which is dependent in a particular concept.

2.3 Law of Demand

Among the many causal factors affecting demand, price is the most significant and the price- quantity relationship called as the Law of Demand is stated as follows: "The greater the amount to be sold, the smaller must be the price at which it is offered in order that it may find purchasers, or in other words, the amount demanded increases with a fall in price and diminishes with a rise in price" (Alfred Marshall). In simple words other things being equal, quantity demanded will be more at a lower price than at higher price.

The law assumes that income, taste, fashion, prices of related goods, etc. remain the same in a given period. The law indicates the inverse relation between the price of a commodity and its quantity demanded in the market. However, it should be remembered that the law is only an indicative and not a quantitative statement. This means that it is not necessary that such variation in demand be proportionate to the change in price.

Definitions

Some major definitions of the Law of Demand are as follows:

"Law of Demand states that people will buy more at lower prices and buy less at higher prices, if other things remaining the same."- ***Prof. Samuelson***.

The Law of Demand states that amount demanded increases with a fall in price and diminishes when price increases." - ***Prof. Marshall***

"According to the law of demand, the quantity demanded varies inversely with price." – ***Ferguson***

Marshall:-"The greater the amount to be sold the smaller must be the price"

Benham:-"Usually a larger quantity of commodity will demanded at lower price that a higher price"

2.3.1 Characteristics of Law of Demand

- Inverse relationship between price and demand.
- Price is independent variable
- Demand is dependent variable on price of goods.

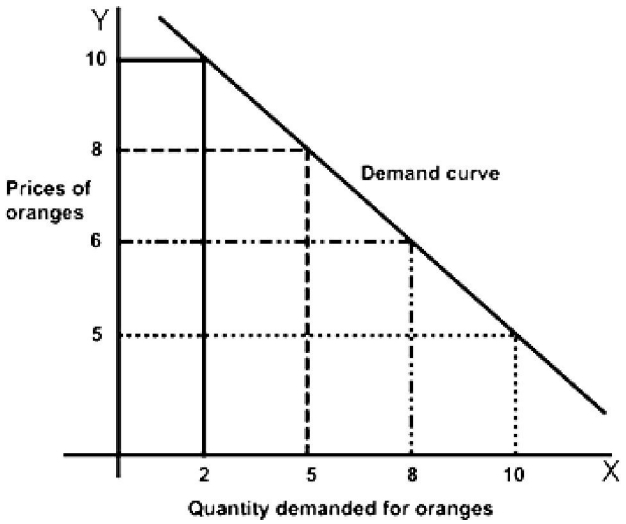
Demand Curve and Schedule

Prices of oranges	Quantity demanded for oranges
10	2
5	5
6	5
5	10

Table represents the increase in the price of the oranges lead to decrease the demand for oranges.

If the price of the orange is 5/-, people are willing to by 10 oranges. When prices are increased to 8/- where people are willing to buy only 5 oranges. This table shows that the increase in price of goods causes decreases the quantity demanded for the goods.

DEMAND CURVE (graphical presentation of law of demand)



2.3.2 Assumptions

Every law will have limitation or exceptions. This law operates when the commodity's price changes and all other prices and conditions do not change. The main assumptions are

- Habits, tastes and fashions remain constant
- Money, income of the consumer does not change.
- Prices of other goods remain constant
- The commodity in question has no substitute
- The commodity is a normal good and has no prestige or status value.
- People do not expect changes in the prices.

2.3.3 Exceptions to Law of Demand

Generally, the amount demanded of good increases with a decrease in price of the good and vice versa. In some cases, however, this may not be true. Such situations are explained below.

1. **Giffen goods**: these are those inferior goods on which the consumer spends a large part of his income and the demand for which falls with a fall in their price. The demand curve for these has a positive slope. The consumers of such goods are mostly the poor. a rise in their price drains their resources and the poor have to shift their consumption from the more expensive goods to the giffen goods, while a fall in the price would spare the household some money for more expensive goods. which still remain cheaper. These goods have no closely related substitutes; hence income effect is higher than substitution effect.

2. **Commodities** which are used as status symbols: Some expensive commodities like diamonds, air conditioned cars, etc., are used as status symbols to display one's wealth. The more expensive these commodities become, the higher their value as a status symbol and hence, the greater the demand for them. The amount demanded of these commodities increase with an increase in their price and decrease with a decrease in their price. Also known as a Veblen good. (In economics, Veblen goods are a group of commodities for which people's preference for buying those increases as their price increases, as greater price confers greater status, instead of decreasing according to the law of demand.)

3. **Expectations regarding future prices**: If the price of a commodity is rising and is expected to rise in future the demand for the commodity will increase.

4. **Emergency**: At times of war, famine etc. consumers have an abnormal behaviour. If they expect shortage in goods they would buy and hoard goods even at higher prices. In depression they will buy less at even low prices.

5. **Quality-price relationship**: some people assume that expensive goods are of a higher quality then the low priced goods. In this case more goods are demanded at higher prices.

2.4 Determinants of Demand

1. Price of the Given Commodity

Other things remaining constant, the rise in price of the commodity, the demand for the commodity contracts, and with the fall in price, its demand increases.

2. Price of Related Goods

Demand for the given commodity is affected by price of the related goods, which is called cross price demand.

3. Income of the Individual Consumer

Change in consumer's level of income also influences their demand for different commodities. Normally, the demand for certain goods increase with the increasing level of income and vice versa.

4. Tastes and Preferences

The taste and preferences of individuals also determine the demand made for certain goods and services. Factors such as climate, fashion, advertisement, innovation, etc. affect the taste and preference of the consumers.

5. Expectation of Change in Price in the Future

If the price of the commodity is expected to rise in the future, the consumer will be willing to purchase more of the commodity at the existing price. However, if the future price is expected to fall, the demand for that commodity decreases at present.

6. Size and Composition of Population

The market demand for a commodity increases with the increase in the size and composition of the total population. For instance, with the increase in total population size, there is an increase in the number of buyers. Likewise, with an increase in the male composition of the population, the demand for goods meant for male increases.

7. Season and Weather

The market demand for a certain commodity is also affected by the current weather conditions. For instance, the demand for cold beverages increases during summer season.

8. Distribution of Income

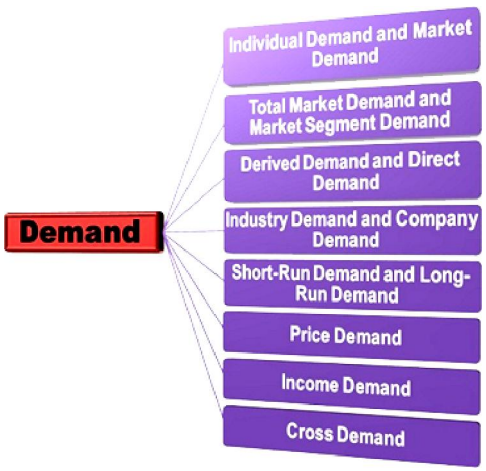
In case of equal distribution of income in the economy, the market demand for a commodity remains less. With an increase in the unequal distribution of income, the demand for certain goods increase as most people will have the ability to buy certain goods and commodities, especially luxury goods.

2.5 Types of Demand

Definition

The Demand for a product refers to the quantity of goods and services that the consumers are willing to buy at a particular price for a given point of time.

The demand can be classified on the following basis



1. **Individual Demand and Market Demand:** The individual demand refers to the demand for goods and services by the single consumer, whereas the market demand is the demand for a product by all the consumers who buy that product. Thus, the market demand is the aggregate of the individual demand.

2. **Total Market Demand and Market Segment Demand:** The total market demand refers to the aggregate demand for a product by all the consumers in the market who purchase a specific kind of a product. Further, this aggregate demand can be sub-divided into the segments on the basis of geographical areas, price sensitivity, customer size, age, sex, etc. are called as the market segment demand.

3. **Derived Demand and Direct Demand:** When the demand for a product/ outcome is associated with the demand for another product/outcome is called as the derived demand or induced demand. Such as the demand for cotton yarn is derived from the demand for cotton cloth. Whereas, when the demand for the products/outcomes is independent of the demand for another product/outcome is called as the direct demand or autonomous demand. Such as, in the above example the demand for a cotton cloth is autonomous.

4. **Industry Demand and Company Demand:** The industry demand refers to the total aggregate demand for the products of a particular industry, such as demand for cement in the construction industry. While the company demand is a demand for the product which is particular to the company and is a part of that industry. Such as demand for tyres manufactured by the Goodyear. Thus, the company demand can be expressed as the percentage of the industry demand.

5. **Short-Run Demand and Long-Run Demand:** The short term demand is more elastic which means that the changes in price or income are reflected immediately on the quantity demanded. Whereas, the long run demand is inelastic, which shows that demand for commodity exists as a result of adjustments following changes in pricing, promotional strategies, consumption patterns, etc.

6. **Price Demand:** The demand is often studied in parlance to price, and is therefore called as a price demand. The price demand means the amount of commodity a person is willing to purchase at a given price. While studying the demand, we often assume that the other factors such as income of the consumer, their tastes, and preferences, the prices of other related goods remain unchanged. There is a negative relationship between the price and demand Viz. As the price increases the demand decreases and as the price decreases the demand increases.

7. **Income Demand:** The income demand refers to the willingness of an individual to buy a certain quantity at a given income level. Here the price of the product, customer's tastes and preferences and the price of the related goods are expected to remain unchanged. There is a positive relationship between the income and demand. As the income increases the demand for the commodity also increases and vice-versa.

8. **Cross Demand:** It is one of the important types of demand wherein the demand for a commodity depends not on its own price, but on the price of other related products is called as the cross demand. Such as with the increase in the price of coffee the consumption of tea increases, since tea and coffee are **substitutes** to each other. Also, when the price of cars increases the demand for petrol decreases, as the car and petrol are **complimentary** to each other.

These are some of the important types of demand that the firms must cater to before deciding on the price and other factors related to their products

2.6 Elasticity of Demand

The Elasticity of Demand measures the percentage change in quantity demanded for a percentage change in the price. Simply, the relative change in demand for a commodity as a result of a relative change in its price is called as the elasticity of demand.

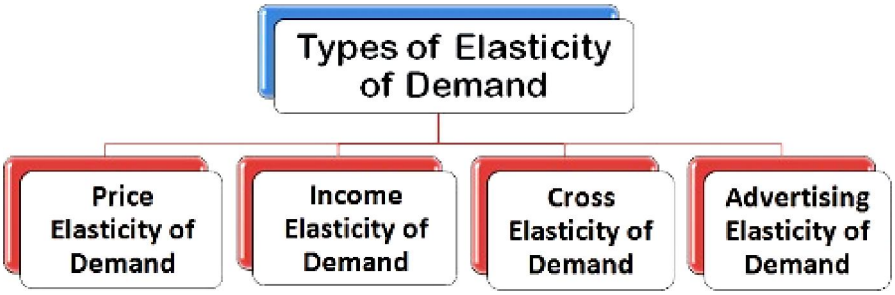
Elasticity Of Demand

In economics, the term elasticity means a proportionate (percentage) change in one variable relative to a proportionate (percentage) change in another variable. The quantity demanded of a good is affected by changes in the price of the good, changes in price of other goods, changes in income and changes in other factors. Elasticity is a measure of just how much of the quantity demanded will be affected due to a change in price or income.

Elasticity of Demand is a technical term used by economists to describe the degree of responsiveness of the demand for a commodity due to a fall in its price. A fall in price leads to an increase in quantity demanded and vice versa.

2.7 Types of Elasticity of Demand

The following are the four types of elasticity o f demand



1. **Price Elasticity of Demand:** The price elasticity of demand, commonly known as the elasticity of demand refers to the responsiveness and sensitiveness of demand for a product to the changes in its price. In other words, the price elasticity of demand is equal to

$$E_p = \frac{\text{Proportionate change in Quantity Demanded}}{\text{Proportionate change in Price}}$$

Numerically,

$$E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Where,

$\Delta Q = Q_1 - Q_0$,

$\Delta P = P_1 - P_0$,

Q_1 = New quantity,

Q_2 = Original quantity,

P1 = New price,

P0 = Original price

Types of price elasticity of demand

a) Perfectly Elastic Demand

b) Perfectly Inelastic Demand

c) Relatively Elastic Demand

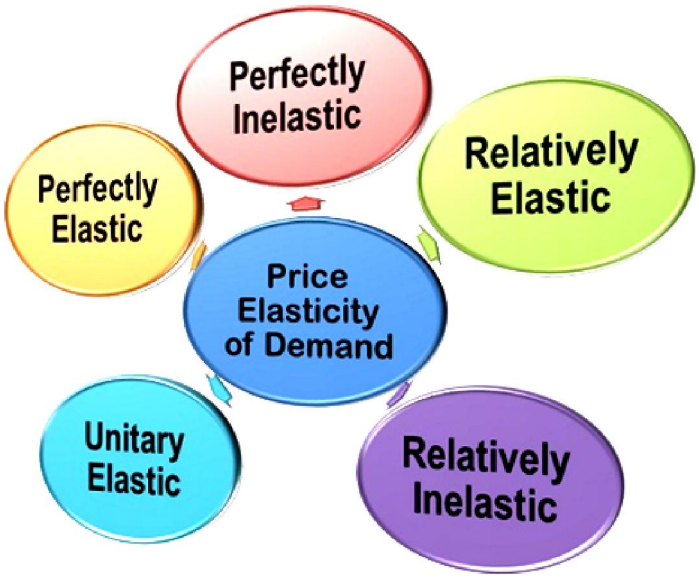
d) Relatively Inelastic Demand

e) Unitary Elastic Demand

The extent of responsiveness of demand with change in the price is not always the same.The demand for a product can be elastic or inelastic, depending on the rate of change in the demand with respect to change in price of a product.

Elastic demand is the one when the response of demand is greater with a small proportionate change in the price. On the other hand, inelastic demand is the one when there is relatively a less change in the demand with a greater change in the price.

For better understanding the concepts of elastic and inelastic demand, the price elasticity of demand has been divided into five types, which are shown in Figure-1:



a) Perfectly Elastic Demand

When a small change in price of a product causes a major change in its demand, it is said to be perfectly elastic demand. In perfectly elastic demand, a small rise

in price results in fall in demand to zero, while a small fall in price causes increase in demand to infinity. In such a case, the demand is perfectly elastic or $e_p = 00$. The degree of elasticity of demand helps in defining the shape and slope of a demand curve. Therefore, the elasticity of demand can be determined by the slope of the demand curve. Flatter the slope of the demand curve, higher the elasticity of demand.

In perfectly elastic demand, the demand curve is represented as a horizontal straight line, which is shown in Figure-2

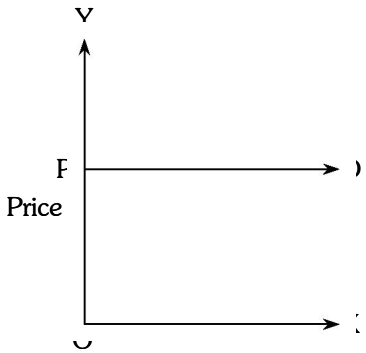


Figure – 2 : Perfectly Elastic Demand

From Figure-2 it can be interpreted that at price OP, demand is infinite; however, a slight rise in price would result in fall in demand to zero. It can also be interpreted from Figure-2 that at price P consumers are ready to buy as much quantity of the product as they want. However, a small rise in price would resist consumers to buy the product.

Though, perfectly elastic demand is a theoretical concept and cannot be applied in the real situation. However, it can be applied in cases, such as perfectly competitive market and homogeneity products. In such cases, the demand for a product of an organization is assumed to be perfectly elastic. From an organization's point of view, in a perfectly elastic demand situation, the organization can sell as much as much as it wants as consumers are ready to purchase a large quantity of product. However, a slight increase in price would stop the demand.

b) Perfectly Inelastic Demand

A perfectly inelastic demand is one when there is no change produced in the demand of a product with change in its price. The numerical value for perfectly inelastic demand is zero (e_p=0).

In case of perfectly inelastic demand, demand curve is represented as a straight vertical line, which is shown in Figure-3

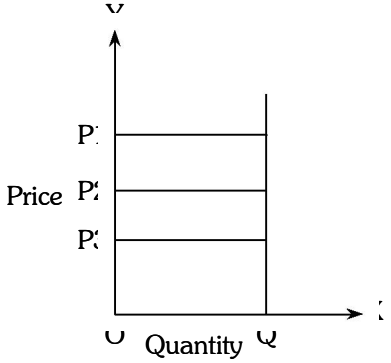


Figure 3: Perfectly Inelastic Demand

It can be interpreted from Figure-3 that the movement in price from OP1 to OP2 and OP2 to OP3 does not show any change in the demand of a product (OQ). The demand remains constant for any value of price. Perfectly inelastic demand is a theoretical concept and cannot be applied in a practical situation. However, in case of essential goods, such as salt, the demand does not change with change in price. Therefore, the demand for essential goods is perfectly inelastic.

c) Relatively Elastic Demand

Relatively elastic demand refers to the demand when the proportionate change produced in demand is greater than the proportionate change in price of a product. The numerical value of relatively elastic demand ranges between one to infinity.

Mathematically, relatively elastic demand is known as more than unit elastic demand (e_p>1). For example, if the price of a product increases by 20% and the demand of the product decreases by 25%, then the demand would be relatively elastic.

The demand curve of relatively elastic demand is gradually sloping, as shown in Figure-4

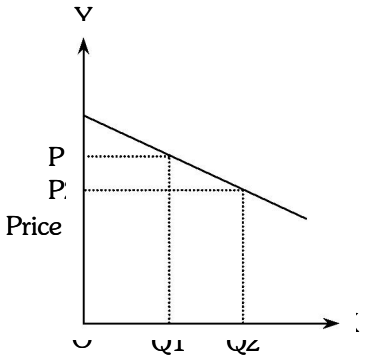


Figure – 4 : Relatively Elastic Demand

It can be interpreted from Figure-4 that the proportionate change in demand from OQ1 to OQ2 is relatively larger than the proportionate change in price from OP1 to OP2. Relatively elastic demand has a practical application as demand for many of products respond in the same manner with respect to change in their prices.

For example, the price of a particular brand of cold drink increases from Rs. 15 to Rs. 20. In such a case, consumers may switch to another brand of cold drink. However, some of the consumers still consume the same brand. Therefore, a small change in price produces a larger change in demand of the product.

d) Relatively Inelastic Demand

Relatively inelastic demand is one when the percentage change produced in demand is less than the percentage change in the price of a product. For example, if the price of a product increases by 30% and the demand for the product decreases only by 10%, then the demand would be called relatively inelastic. The numerical value of relatively elastic demand ranges between zero to one ($e_p < 1$). Marshall has termed relatively inelastic demand as elasticity being less than unity.

The demand curve of relatively inelastic demand is rapidly sloping, as shown in Figure-5

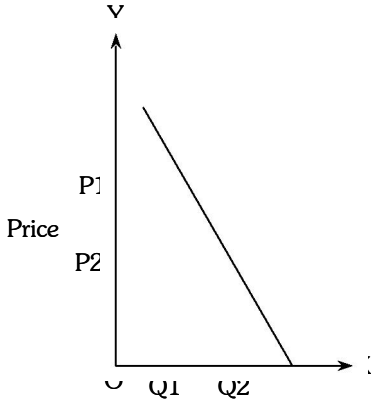


Figure – 5 : Relatively in Elastic Demand

It can be interpreted from Figure-5 that the proportionate change in demand from OQ1 to OQ2 is relatively smaller than the proportionate change in price from OP1 to OP2. Relatively inelastic demand has a practical application as demand for many of products respond in the same manner with respect to change in their prices. Let us understand the implication of relatively inelastic demand with the help of an example.

The demand schedule for milk is given in Table-3

Table-3: Demand Schedule for Milk	
Price of Milk (per litre)	**Quantity Demanded (litres)**
15	100
20	90

Calculate the price elasticity of demand and determine the type of price elasticity.

Solution:

P= 15

Q = 100

P1 = 20

Q1 = 90

Therefore, change in the price of milk is:

$\Delta P = P1 - P$

$\Delta P = 20 - 15$

$\Delta P = 5$

Similarly, change in quantity demanded of milk is:

$\Delta Q = Q1 - Q$

$\Delta Q = 90 - 100$

$\Delta Q = -10$

The change in demand shows a negative sign, which can be ignored. This is because of the reason that the relationship between price and demand is inverse that can yield a negative value of price or demand.

Price elasticity of demand for milk is:

$e_p = \Delta Q/\Delta P * P/Q$

$e_p = 10/5 * 15/100$

$e_p = 0.3$

The price elasticity of demand for milk is 0.3, which is less than one. Therefore, in such a case, the demand for milk is relatively inelastic.

e) Unitary Elastic Demand

When the proportionate change in demand produces the same change in the price of the product, the demand is referred as unitary elastic demand. The numerical value for unitary elastic demand is equal to one ($e_p=1$).

The demand curve for unitary elastic demand is represented as a rectangular hyperbola, as shown in Figure-6:

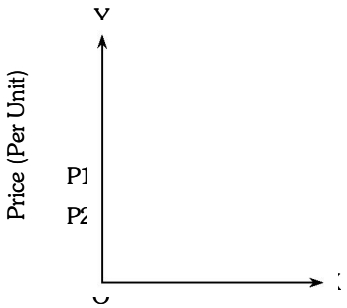


Figure – 6 : Unitary Elastic Demand

From Figure-6, it can be interpreted that change in price OP1 to OP2 produces the same change in demand from OQ1 to OQ2. Therefore, the demand is unitary elastic.

2. Income Elasticity of Demand: The income is the other factor that influences the demand for a product. Hence, the degree of responsiveness of a change in demand for a product due to the change in the income is known as income elasticity of demand. The formula to compute the income elasticity of demand is:

$$E_y = \frac{\text{Percentage change in Demand for a product}}{\text{Percentage change in Income}}$$

For most of the goods, the income elasticity of demand is greater than one indicating that with the change in income the demand will also change and that too in the same direction, i.e. more income means more demand and vice-versa.

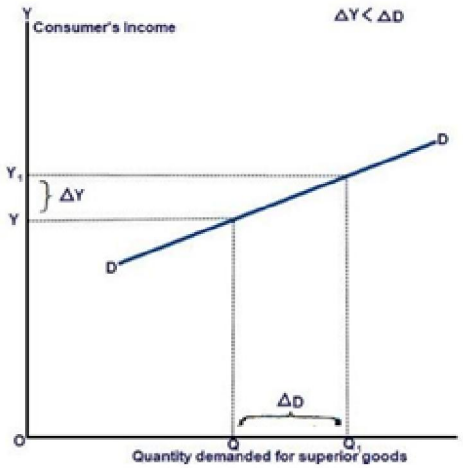
Types of Income Elasticity of demand

i. Positive income elasticity of demand (E_Y>0)

If there is direct relationship between income of the consumer and demand for the commodity, then income elasticity will be positive. That is, if the quantity demanded for a commodity increases with the rise in income of the consumer and vice versa, it is said to be positive income elasticity of demand. For example: as the income of consumer increases, they consume more of superior (luxurious) goods. On the contrary, as the income of consumer decreases, they consume less of luxurious goods. Positive income elasticity can be further classified into three types:

ii) Income elasticity greater than unity (E_Y > 1)

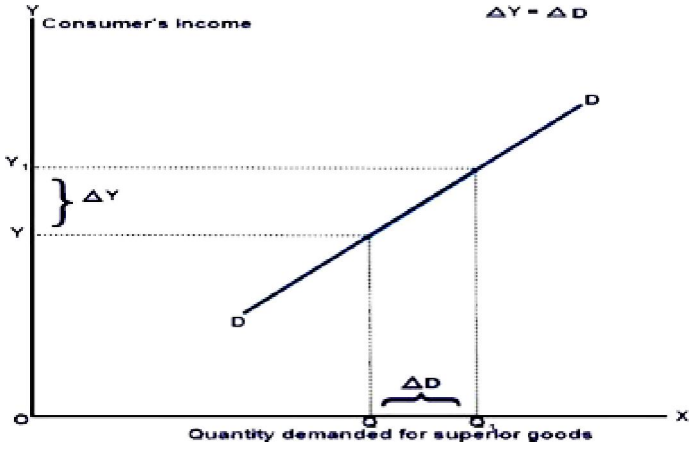
If the percentage change in quantity demanded for a commodity is greater than percentage change in income of the consumer, it is said to be income greater than unity. For example: When the consumer's income rises by 3% and the demand rises by 7%, it is the case of income elasticity greater than unity.



In the given figure, quantity demanded and consumer's income is measured along X-axis and Y-axis respectively. The small rise in income from OY to OY_1 has caused greater rise in the quantity demanded from OQ to OQ_1 and vice versa. Thus, the demand curve DD shows income elasticity greater than unity.

iii) Income elasticity equal to unity ($E_Y = 1$)

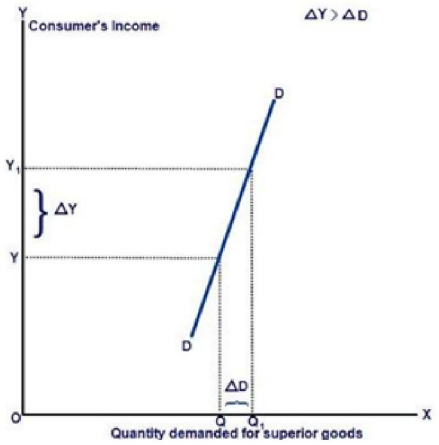
If the percentage change in quantity demanded for a commodity is equal to percentage change in income of the consumer, it is said to be income elasticity equal to unity. For example: When the consumer's income rises by 5% and the demand rises by 5%, it is the case of income elasticity equal to unity.



In the given figure, quantity demanded and consumer's income is measured along X-axis and Y-axis respectively. The small rise in income from OY to OY_1 has caused equal rise in the quantity demanded from OQ to OQ_1 and vice versa. Thus, the demand curves DD shows income elasticity equal to unity.

iv) Income elasticity less then unity ($E_Y < 1$)

If the percentage change in quantity demanded for a commodity is less than percentage change in income of the consumer, it is said to be income greater than unity. For example: When the consumer's income rises by 5% and the demand rises by 3%, it is the case of income elasticity less than unity.

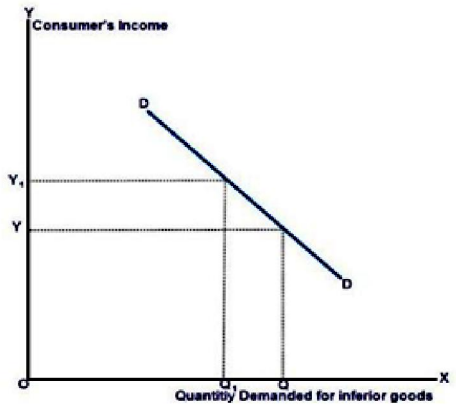


In the given figure, quantity demanded and consumer's income is measured along X-axis and Y-axis respectively. The greater rise in income from OY to OY_1 has caused small rise in the quantity demanded from OQ to OQ_1 and vice versa. Thus, the demand curve DDshows income elasticity less than unity.

v) Negative income elasticity of demand ($E_Y<0$)

If there is inverse relationship between income of the consumer and demand for the commodity, then income elasticity will be negative. That is, if the quantity demanded for a commodity decreases with the rise in income of the consumer and vice versa, it is said to be negative income elasticity of demand. For example:

As the income of consumer increases, they either stop or consume less of inferior goods.



In the given figure, quantity demanded and consumer's income is measured along X-axis and Y-axis respectively. When the consumer's income rises from OY to OY1 the quantity demanded of inferior goods falls from OQ to OQ_1 and vice versa. Thus, the demand curve DD shows negative income elasticity of demand.

vi) Zero income elasticity of demand ($E_Y=0$)

If the quantity demanded for a commodity remains constant with any rise or fall in income of the consumer and, it is said to be zero income elasticity of demand. For example: In case of basic necessary goods such as salt, kerosene, electricity, etc. there is zero income elasticity of demand.

In the given figure, quantity demanded and consumer's income is measured along X-axis and Y-axis respectively. The consumer's income may fall to OY_1 or rise to OY_2 from OY, the quantity demanded remains the same at OQ. Thus, the demand curve DD, which is vertical straight line parallel to Y-axis shows zero income elasticity of demand.

Problem 1.

If a consumer's daily income rises from Rs. 300 to Rs. 350, his purchase of a good X increases from 25 units per day to 35 units, find income elasticity of demand for X.

Solution.

Change in quantity demand $(\Delta Q) = (Q_2 = Q_1) = 35 - 25 = 10$

Change in income $(\Delta M) = M_2 - M_1 = 350 - 300 = 50$

$$e_i = \frac{\%\text{ Change in quality demanded}}{\%\text{ Change in price}}$$

$$e_i = \frac{\Delta Q}{\Delta M} \times \frac{M_2 + M_1}{Q_2 + Q_1}$$

$$= e_i = \frac{10}{50} \times \frac{350 + 300}{25 + 35}$$

$$= \frac{10}{50} \times \frac{650}{60} = 2.17$$

Income elasticity of demand in this case is 2.17.

Problem 2.

Suppose demand for cars in Bombay as a function of income is given by the following equation:

$Q = 20{,}000 + 5M$

Where Q is quantity demanded. M is per capita level of income in rupees.

Find out income elasticity of demand when per capita annual income in Bombay is Rs 15,000.

Solution.

Income elasticity (e_i) = $\Delta Q / \Delta M$. M/Q

In order to obtain income elasticity, we have to first find out quantity demanded (Q) at income level of Rs 15,000. Thus.

Q = 20,000 + 5 x 15,000 = 95,000

It will be seen from the given income demand function that coefficient of income (M) is equal to 5. This implies that $\Delta Q/\Delta M = 5$. With this information we can calculate income elasticity.

$$e_i = \frac{\Delta Q}{\Delta M} \times \frac{M}{Q} = 5 \times \frac{15,000}{95,000}$$

Problem 3.

The following demand function for readymade trousers has been estimated:

Q = 2,000 + 15y – 5.5P

Where Y is income in thousands of rupees, Q is the quantity demanded in units and P is the price per unit.

(a) When P = Rs 150 and Y = 15 thousand rupees, determine the following

1. Price elasticity of demand
2. Income elasticity of demand

(b) Determine what effect a rise in price would have on total revenue.

(c) Assess how sale of trousers would change during a period of rising incomes.

Solution.

(a) Coefficient of P, i.e., $\Delta Q / \Delta P = 5.5$

Price elasticity of demand $\Delta Q / \Delta P = 505$ x 150/Q

Let us first find out the quantity demanded (i.e., Q at the given income (Y = 15 thousands) and given price (P = Rs 150 per unit).

Substituting the values of income and price in the given demand function, we have:

$$Q = 2{,}000 + 15 \times 15 - 5.5 \times 150$$

$$= 2{,}000 + 225 - 825 = 1{,}400$$

Thus, $e_i = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = 5.5 \times \frac{150}{1400} = \frac{82.5}{140} = 0.59$

Income elasticity $= \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$

$\frac{\Delta Q}{\Delta Y} = 15$, Q = 1400, Y = 15 thousand rupees

$$e_i = 15 \times \frac{15}{1400} = \frac{9}{56} = 0.16$$

(b) Since price elasticity of demand for trousers is less than one, rise in price would cause increase in total revenue.

(c) Since income elasticity of demand for trousers is less than one, trousers are a necessity and therefore the increase in income of the people will lead to less than a proportionate increase in their sales.

3. Cross Elasticity of Demand

The cross elasticity of demand refers to the change in quantity demanded for one commodity as a result of the change in the price of another commodity. This type of elasticity usually arises in the case of the interrelated goods such as substitutes and complementary goods. The cross elasticity of demand for goods X and Y can be expressed as:

$$E_c = \frac{\text{Proportionate Change in Purchase of Commodity X}}{\text{Proportionate change in the Price of Commodity Y}}$$

The two commodities are said to be complementary, if the price of one commodity falls, then the demand for other increases, on the contrary, if the price of one commodity rises the demand for another commodity decreases. For example, petrol and car are complementary goods.

While the two commodities are said to be substitutes for each other if the price of one commodity falls, the demand for another commodity also decreases, on the other hand, if the price of one commodity rises the demand for the other commodity also increases. For example, tea and coffee are substitute goods.

4. Advertising Elasticity of Demand:

The responsiveness of the change in demand to the change in advertising or rather promotional expenses is known as advertising elasticity of demand. In other words, the change in the demand as a result of the change in advertisement and other promotional expenses is called as the advertising elasticity of demand. It can be expressed as:

$$E_a = \frac{\text{Proportionate Change in Demand}}{\text{Proportionate change in Advertising Expenditure}}$$

Numerically,

Where,

Q1 = Original Demand

Q2= New Demand

A1= Original Advertisement Outlay

A2 = New Advertisement Outlay

These are some of the important types of elasticity of demand that helps in understanding the criteria of demand for the goods and services and the factors that influence the demand.

2.8 Measuring Elasticity of Demand

Elasticity of demand is known as price-elasticity of demand. Because elasticity of demand is the degree of change in amount demanded of a commodity in response to a change in price. Price elasticity of demand can be measured through three popular methods. These methods are:

1. Percentage method or Arithmetic method
2. Total Expenditure method
3. Graphic method or point method.

1. Percentage Method

According to this method price elasticity is estimated by dividing the percentage change in amount demanded by the percentage change in price of the commodity. Thus given the percentage change of both amount demanded and price we can derive elasticity of demand. If the percentage charge in amount demanded is greater that the percentage change in price, the coefficient thus derived will be greater than one.

If percentage change in amount demanded is less than percentage change in price, the elasticity is said to be less than one. But if percentage change of both amount demanded and price is same, elasticity of demand is said to be unit.

2. Total expenditure Method

Total expenditure method was formulated by Alfred Marshall. The elasticity of demand can be measured on the basis of change in total expenditure in response to a change in price. It is worth noting that unlike percentage method a precise mathematical coefficient cannot be determined to know the elasticity of demand.

By the help of total expenditure method we can know whether the price elasticity is equal to one, greater than one, less than one. In such a method the initial expenditure before the change in price and the expenditure after the fall in price are compared. By such comparison, if it is found that the expenditure remains the same, elasticity of demand is One (ed=I).

If the total expenditure increases the elasticity of demand is greater than one (ed>l). If the total expenditure diminished with the change in price elasticity of demand is less than one (ed<I).

3. Graphic Method

Graphic method is otherwise known as point method or Geometric method. This method was popularized by method. According to this method elasticity of demand is measured on different points on a straight line demand curve. The price elasticity of demand at a point on a straight line is equal to the lower segment of the demand curve divided by upper segment of the demand curve.

Thus at mid point on a straight-line demand curve, elasticity will be equal to unity; at higher points on the same demand curve, but to the left of the midpoint, elasticity will be greater than unity, at lower points on the demand curve, but to the right of the midpoint, elasticity will be less than unity.

2.9 Significance of Elasticity of Demand

The concept of Elasticity of demand has significant role to play in economic theory and practice and we shall study the importance of this concept.

1. Elasticity of Demand in Production

In a free capitalistic economy, production mainly depends on consumer demand and care should be taken to adjust it to the extent of demand. Hence elasticity is a concept which enables all producers to take correct decision regarding the quantum of output based on the demand.

2. Elasticity of Demand in Price Fixation

Every seller under imperfect competition and monopoly has to consider the elasticity of demand for his product when he fixes the price or contemplates to change the price. The seller has to take into consideration the extent of response in demand due to change in price as the revenue realized by him depends on the quantity demanded in the market.

In price fixation, this concept is made use of not only in imperfect competition, but also in monopoly. A monopolist can fix the price only on the basis of elasticity of demand.

If the commodity enjoys inelastic demand, the monopolist can increase the price without losing the quantity demanded. This will not in any way affect the net monopoly revenue for him. In the case of price discrimination, the markets are divided mainly on the basis of difference in elasticity of demand for the same product in different markets.

In the case of perfect competition this may be an exception as the producer can expect perfectly elastic curve for his product.

3. Elasticity of Demand in Distribution

The concept of elasticity of demand has an important role to play in the determination of the rewards for factors of production in a price-enterprise economy .For example if the demand for labor is very elastic, the efforts of Trade Unions to increase the wages will not meet with success. On the other hand if the demand for labor is inelastic, as there may be little scope for automation; Trade Unions can succeed well in getting the wages raised. Rewards for other factors of production also depend on their elasticity of demand.

4. Elasticity of demand in International Trade

The concept of elasticity of demand forms the basis of international trade, particularly the *terms of trade* which implies the rate at which the domestic commodity is exchanged for foreign commodities. So, while calculating terms of trade, the intensities of demand of the two countries requiring the product of the other country should be considered.

The terms of trade depends upon the mutual elasticity of demand of the two countries for each other's goods.

5. Elasticity of Demand in Foreign Exchange

In the field of foreign exchange, fixation of appropriate rate of exchange between two currencies of the two countries mainly depends on the elastic ties of demand for imports and exports.

In deciding devaluation or revaluation of the domestic currency, the authorities should make a careful study of the elasticity of demand for the country's exports and imports and accordingly fix the exchange rate to correct the disequilibrium in the balance of payments

6. Elasticity of demand in Nationalizing an Industry

This concept of elasticity of demand is used to enable the government to decide whether an Industry can be declared as *public utility* to be nationalized. If the demand is inelastic for the product of a monopolistic concern, it is a clear case of declaring as public utility and the government can nationalize the concern and operate it.

7. Elasticity of Demand in Public Finance

Elasticity of demand is of immense use to Finance Ministers to formulate taxation and economic policies. In imposing a tax on a commodity, the elasticity of demand of the commodity should be carefully studied to find out the effect of taxation.

The tax burden should be equally borne by all and at the same time the government should realize adequate revenue from that commodity.

The problem of *Incidence of taxation* (bearing the burden of taxation) depends upon the elastic ties of demand and supply of the commodities taxed.

Further, in imposing statutory price – control for a commodity, the elasticity of demand for that commodity has to be taken into consideration. In framing the budget, the concept of elasticity of demand has a significant role in all matters relating to taxes and revenue.

In framing economic policies, the knowledge of elasticity of demand is required. For stabilizing agricultural prices, the government may adopt either output control or purchase surpluses or other similar operations.

In all cases, without knowing the trends of demand and elastic ties of commodities and farm products, the government cannot stabilize the prices properly. Thus Elasticity of demand is of great significance in theory and practice.

2.10 Demand Forecasting

s The activity of estimating the quantity of a product or service that consumers will purchase. Demand forecasting involves techniques including both informal methods, such as educated guesses, and quantitative methods, such as the use of historical sales data or current data from test markets. Demand forecasting may be used in making pricing decisions, in assessing future capacity requirements, or in making decisions on whether to enter a new market.

Definitions

According to Cundiff and Still, "Demand Forecasting is an estimate of Demand during a specified period. Which estimate is tied to a proposed marketing plan and which assumes a particular set of uncontrollable and competitive forces."

In the words of Prof. Philip Kotler. The company (sales) forecast is the expected level of company sales based on a chosen marketing plan and assumed marketing environment"

According to Evan J. Douglas, "Demand forecasting may be defined as the process of finding values for demand in future time periods."

Demand Forecasting refers to the process of predicting the future demand for the firm's product. In other words, demand forecasting is comprised of a series of steps that involves the anticipation of demand for a product in future under both controllable and non-controllable factors.

The cost should be controlled by producing correct level of goods in the firm and also according to the demand for those goods in the market. For the estimation of demand, demand forecasting is to be done by the firm.

- Forecasting = estimation of future situations.
- Forecasting reduces or minimizes the uncertainty.
- By forecasting effective decisions can be taken for tomorrow.
- Demand forecasting is based on the determinants of the demand.
- Demand for goods increases and gives sales.
- Sales are the primary source of the income for a firm.

Steps Involved In Demand Forecasting:

1. Identification of business objectives:

In the first stage we should know what is the aim of forecasting? What we get or know from the forecasting? Estimation of factors like quantity and composition of demand for goods, price to be quoted, sales planning and inventory control etc., are done in the first stage.

2. Determining the nature of goods under consideration:

Different category of goods has their own distinctive demand. Example capital goods, consumer durables and non-durables goods in which category our goods fall we should estimate.

3. Selecting a proper method of forecasting:

There are different methods for demand forecasting. Which is best suited method that we should select for doing demand forecasting?

4. Interpretation of results:

The forecasting which is done by the managerial economist should be interpreted in detailed manner. That means it should be easy to understand by the top management.

2.11 Need for Demand Forecasting

- Business managers, depending upon their functional area, need various forecasts. They need to forecast demand, supply, price, profit, costs and returns from investments.
- The question may arise: Why have we chosen demand forecasting as a model? What is the use of demand forecasting?

- The significance of demand or sales forecasting in the context of business policy decisions can hardly be overemphasized. Sales constitute the primary source of revenue for the corporate unit and reduction for sales gives rise to most of the costs incurred by the firm.
- Demand forecasting is essential for a firm because it must plan its output to meet the forecasted demand according to the quantities demanded and the time at which these are demanded. The forecasting demand helps a firm to arrange for the supplies of the necessary inputs without any wastage of materials and time and also helps a firm to diversify its output to stabilize its income overtime.

2.12 Methods/Techniques Demand Forecasting

To invest money and others factors in business; we require a reasonable accurate forecast of demand. Starting with qualitative methods like survey of collective opinions, buyers' intention, Delphi approach and its variant, a number of quantitative methods are used for computing demand forecasts as detailed below.

1. Opinion Polling Method

a) Collective opinion Survey:

Sales personnel are closest to the customers and have an intimate feel of the market. Thus they are most suited to assess consumer's reaction to company's products. Here each salesperson makes an estimate of the expected sales in their area, territory, state and/or region; these estimates are collated, reviewed and revised. Taking in to account product design features and price is decided and made. Thus, "collective opinion survey forms the basis of market Analysis and demand forecasting.

Although this method is simple, direct, first hand and most acceptable, it suffers from following weaknesses:

- Demand estimates by individual salespersons to obtain total demand of the country may be risky as each person has knowledge about a small portion of market only
- Salesperson may not prepare the demand estimation with the seriousness and care
- Limited experience in their employment, salesperson may not have the required knowledge and experience.

b) Survey of Customers Intention

Another method of demand forecasting is to carry out a survey of what consumers prefer and intend to buy. If the product is sold to a few large industrial buyers, survey would involve interviewing them.

If it is a consumer durable product, a sample survey is carried out about what they are planning or intending to buy. It is not east to query all consumers through direct contact or through printed questionnaire by mail. These surveys serve useful purpose in establishing relationships between

a) Demand and price

b) Demand and income of consumers

c) Demand and expenditure on advertisement etc.

This method is preferred when bulk of the sales made to institutions and industrial buyers and only a few of them have to be contacted. Disadvantages are. Survey method is not useful for households - interviewing them is not only difficult but also expensive. They are not able to give precise idea about their intentions particularly when alternative products are available in the market.

c) Delphi Method

The Delphi technique was developed at RAND Corporation in the 1950s. Delphi method is a group (members) process and aims at achieving a 'single opinion of the members on the subject. Herein experts in the field of marketing research and demand forecasting are engaged in

- Analyzing economic conditions
- Carrying out sample surveys of market
- Conducting opinion polls.

Based on the above, demand forecast is worked out in following steps:

1. Administrator sends out a set of questions in writing to all the experts on the panel, who are requested to write back a brief predication.
2. Written predictions of experts are collected and combined, edited and summarized together by the administrator.
3. Based on the summary, administrator designs a new set of questions and gives them to the same experts who answer back again in writing.

4 Administrator repeats the process of collecting, combining, editing and summarizing the responses.

5. Steps 3 and 4 are repeated by the administrator to experts with diverse backgrounds until they come to one single opinion.

If there is divergence of opinions and hence conclusions, administrator has to sort it out through mutual discussions. Administrator has to have the necessary experience and background as he plays a key role in designing structured 'questionnaires and synthesizing the data.

d) Nominal Group Technique

This technique was originally developed by Delbecq and VandeVen. This is a further modification of Delphi method of forecasting. A panel of 3-4 groups of up to 10 experts are formed and allowed to interact, discuss 'and rank all the suggestions in descending (highest to lowest) order as per the following procedure:

Experts sit around a table in full view of one another and are asked to speak to each other. An administrator hand over copies of questionnaire needing a forecast and each expert is expected to write down a list of ideas about the questions. After everyone has written down their ideas, administrator asks each expert to share one idea, out of own list. The idea shared is written on the 'flip chart' which everyone can see. Experts give ideas in rotation until all of them are written on the 'flip chart'. No discussion takes place in this phase and usually 15 to 25 ideas emerge from this format.

In the next phase, experts discuss ideas presented by them. Administrator ensures that all ideas have been adequately discussed. During discussions similar ideas are combined. This reduces the number of ideas. After completing group discussions, experts are asked to give in writing ranks to ideas according to their perception of priority.

2. Statistical Methods

a) Trend projection method

This technique assumes that whatever past years demand pattern will be continued in the future also. Basing on the historical data that means previous year's data is used to predict the demand for the future. In this trend projection method, previous year's data is presented on the graph and future demand is estimated.

Year	Sales in lakhs
2005	2
2006	2.2
2007	2.3
2008	2.2
2009	2.3
2010	2.2/2.3/2.4

b) Regression Analysis

Past data is used to establish a functional relationship between two variables. For Example, demand for consumer goods has a relationship with income of Individuals and family; demand for tractors is linked to the agriculture income and demand for cement, bricks etc. are dependent upon value of construction contracts at any time. Forecasters collect data and build relationship through co-relation and regression analysis of variables.

Deficit monsoon hits tractor sales as farm operations see a decline

Our annual sale is pegged around 40,000 units. But, we are unlikely to touch sales in excess of 20,000 units, says official of automotive major Mahindra & Mahindra

Deficit rain during monsoon this year has brought down paddy acreage during the kharif season. But the shortfall in rains has hit one segment of the industry very hard.

The sale of tractors, used extensively in the agriculture operations, has shown a steep dip during the current year. Automotive major Mahindra & Mahindra has witnessed a significant de-growth in the overall tractor sales in the State that, in turn, had its echo on the company's overall performance in the segment.

Mahindra & Mahindra president automotive and farm equipment sectors Pawan Goenka said the company enjoys over 50 per cent market share in the tractor sales in Andhra Pradesh where the total annual sale is pegged around 40,000 units. "But, we are unlikely to touch sales in excess of 20,000 units as was witnessed in the previous fiscal," he told The Hindu .

The acreage is down by about 3 lakh hectares, compared to 26 lakh hectares normal, in the State and farmers have switched over to other crops like cotton, pulses and maize on account of shortfall in the kharif plantation during the early phase of monsoon. The State, according to figures released by the Centre, faced the worst water crunch, with a 52 per cent deficiency in the reservoir levels.

Tractors, according to Mahindra and Mahindra, are extensively used in the canal irrigation where they serve as multi-utility vehicles. Thanks to the steep drop in release of water to canal irrigated areas, the usage had come down significantly.

Mahindra and Mahindra, accordingly, forecast the tractor growth rate during the year to half to around 6 per cent from the earlier projected 12 per cent. "Tractor growth rate is expected to be around 6 per cent during the year with first quarter showing some de-growth and second quarter expected to be even," he said. The company, however, sounded optimistic in claiming that sales are expected to pick up by November when the Rabi operations start. "The second half is expected to ensure growth of around 6 per cent," Mr. Goenka said. The company has registered sale of 13,000 units in the period between April and August, but was unlikely to touch the last year's figure in excess of 20,000 units.

Agriculture Department secretary V. Nagi Reddy admitted that the monsoon had not been upto the expected levels and this was sure to bring down the crop production. Though the State had witnessed normal rainfall, the deficit in water availability could be attributed to the shortage in the catchment areas in Karnataka and Maharashtra that reduced inflows into reservoirs. According to him, there was over 10 per cent drop in the total cultivated area because of the deficit rains. "Fall in production is, however, unlikely to be proportionate with the dip in the total acreage as the shortfall is likely to be made up by higher production of other crops," Mr. Nagi Reddy said.

c) Econometric Models

Econometric models are more complex and comprehensive as this model uses mathematical and statistical tools to forecast demand. This model takes various factors which affect the demand. For example, demand for passenger transport is not only dependent upon the population of the city, geographical area, industrial units, their location etc.

It is not easy to locate one single economic indicator for determining the demand forecast of a product. Invariably, a multi-factor situation applies Econometric Models, although complex, are being increasingly used for market analysis and demand forecasts.

d) Simple Average Method

Among the quantitative techniques for demand analysis, simple Average Method is the first one that comes to one's mind. Herein, we take simple average of all past periods - simple monthly average of all consumption figures collected every month for the last twelve months or simple quarterly average of consumption figures collected for several quarters in the immediate past. Thus,

Sum of Demands of all periods

$$= \frac{\text{Simple Average}}{\text{Number of periods}}$$

Year	Sales in lakhs
2005	2
2006	2.2
2007	2.3
2008	2.2
2009	2.3
2010	?

$\frac{2+2.2+2.3+2.2+2.3}{5} = 2.2$ average a sales expexted in 2010

2.13 Supply Analysis

Supply is a fundamental economic concept that describes the total amount of a specific good or service that is available to consumers. Supply can relate to the amount available at a specific price or the amount available across a range of prices if displayed on a graph. This relates closely to the demand for a good or service at a specific price; all else being equal, the supply provided by producers will rise if the price rises because all firms look to maximize profits.

Definitions of Supply

a) Supply of goods is the quantity offered for sale in a given market at a given time at various prices. –***Thomas***

b) Supply refers to the amount of goods that producer in a given market desired to sell, during a given time period at various prices. –***Ceteris Paribus***

2.14 Supply Function

The supply function is the mathematical expression of the relationship between supply and those factors that affect the willingness and ability of a supplier to offer goods for sale.

$$Sx = f (px, pf, o \ldots \ldots \ldots \ldots T, t,s)$$

Sx = Supply of goods

Px = Price

Pf = Factor input employed (used) for production.

- Raw material
- Human resources
- Machinery

O = Factors outside economic sphere.

T = Technology.

t = Taxes.

S = Subsidies

There is a functional (direct) relationship between price and supply.

2.14.1 Types of Supply Function

1. Individual Supply Function

The algebraic expression of an individual supply schedule is called individual supply function. Individual supply schedule is a tabular statement representing the various amounts of a commodity that a single producer is willing to sell at different price, during a given period of time.

Individual supply schedule	
Price of milk per liter (in Rs.)	**Quantity supplied per day in liters (*1000)**
10	10
12	13
14	20
16	25

Mathematically, a supply function can be represented as

$S_x = f(P_x, Po, P_f, S_t, T, G)$ where,

S_x = Supply of the commodity x

P_x = Price of the commodity x

P_{rg} = Price of related goods

P_f = Price of factors of production

S_t = State of technology

T = Taxation policy

G = Goals of the firm

2. Market Supply Function

Market supply function is the algebraic expression of the market supply schedule. Market supply schedule can be defined as the tabular statement which represents various amounts of a commodity that the entire producers in the whole economy are willing to supply at optimal price, at any given time.

Market Supply Schedule				
Price of the product X per unit (in Rs.)	Individual supply per day			Market supply per Day
	A	B	C	
100	750	500	450	1700
200	800	650	500	1950
300	900	750	650	2300
400	1000	900	700	2600

Market supply function can also be defined as the summation of individual supply functions within a specific market.

Mathematically, a market supply function can be represented as

$S_x = f(P_x, Po, P_f, S_t, T, G, N, F, M)$ where,

S_x = Market supply of the commodity x

P_x = Price of the commodity x

P_{rg} = Price of related goods

P_f = Price of factors of production

S_t = State of technology

T = Taxation policy

G = Goals of the market

N = Number of firms

F = Future expectation regarding price of the commodity x

M = Means of transportation and communication

2.15 Determinants of Supply

Innumerable factors and circumstances could affect a seller's willingness or ability to produce and sell a good. Some of the more common factors are:

1. Cost factor of production

Cost of production depends on the factors like

- Price of raw materials
- Rents and interest on capital
- Cost of machinery
- Payments to human resources (wages and salaries)
- Transportation charges

If cost of production is high normally supply will be low

2. State of technology

Use of latest technology decreases the cost of production and increases the production capacity which increases supply of goods.

3. Factors outside the economic sphere

Supply depends upon the below said factors. These factors should not arise if they arise; they affect the supply directly or indirectly.

- Whether conditions
- Floods
- Wars
- Epidemics (unexpected situations)

4. Tax and subsidy

If tax subsidy (charge less tax) is given by the government the production cost decreased. If that is not there production cost raises. Finally the production will be low and effects to decrease in supply.

2.16 Law of Supply

The relationship between price and quantity supplied is usually a positive relationship. A rise in price is associated with a rise in quantity supplied.

Definitions

Law of supply states that other factors remaining constant, price and quantity supplied of a good are directly related to each other. In other words, when the price paid by buyers for a good rises, then suppliers increase the supply of that good in the market.

In the words of Dooley. "The law of supply states that other things being equal the higher the price, the greater the quantity supplied or the lower the price, the smaller the quantity supplied."

According to Lipsey, "The law of supply states that other things being equal, the quantity of any commodity that firms will produce and offer for sale is positively related to the commodity's own price, rising when price rises and falling when price falls."

The law of supply can be explained with the help of supply schedule and supply curve as explained below.

Supply Schedule

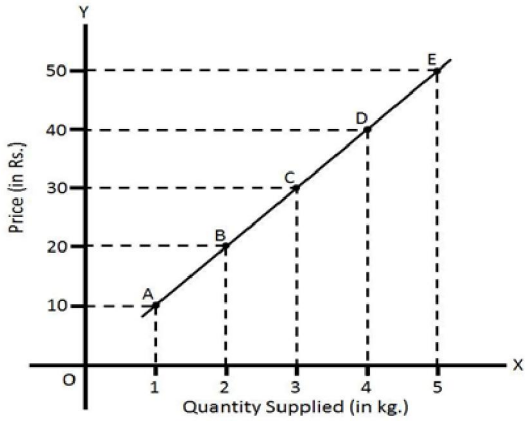
Supply Schedule is a tabular presentation of various combinations of price and quantity supplied by the seller or producer during a period of time. We can show the supply schedule through the following imaginary table.

Price (in Rs.)	Quantity supplied (in kg)
10	1
20	2
30	3
40	4
50	5

The given schedule shows positive relationship between price and quantity supplied of a commodity. In the beginning, when the price is Rs.10 per kg, quantity supplied by the seller is 1kg. As the price increases from Rs.10 per kg to Rs.20 per kg and then to Rs.30 per kg, the quantity supplied by the seller also increases from 1 kg to 2 kg and then to 3 kg respectively. Further rise in price to Rs.40 and then to Rs.50 per kg results in increase in quantity supplied by the seller to 4kg and then to 5kg. Thus, the above schedule shows that there is positive relationship in between price and quantity supplied of a commodity.

Supply Curve

The supply curve is a graphical representation of a supply schedule. By plotting various combinations of price and quantity supplied of the table, we can derive an upward sloping demand curve as shown in the figure below



In the given figure, price and quantity supplied are measured along the Y-axis and the X-axis respectively. By plotting various combinations of price and quantity supplied we derived points A, B, C, D, E curve and joining these points we find an upward sloping i.e. SS1. The positive slope of the supply curve SS1 establishes the law of supply and shows the positive relationship in between price and quantity supplied.

Assumptions

The term "other things remaining the same" refers to the following assumptions in the law of supply:

- No change in the state of technology.
- No change in the price of factors of production.
- No change in the number of firms in the market.
- No change in the goals of the firm.
- No change in the seller's expectations regarding future prices.
- No change in the tax and subsidy policy of the products.
- No change in the price of other goods.

2.17 ELASTICITY OF SUPPLY

Elasticity of supply is measured as the ratio of proportionate change in the quantity supplied to the proportionate change in price. High elasticity indicates the supply is sensitive to changes in prices, low elasticity indicates little sensitivity to price changes, and no elasticity means no relationship with price .It is denoted by(Es)

$$E_s = \frac{\% \text{ Elasticity of Supply}}{\% \text{ Change in price}}$$

Definitions

- According to **Lipsey,** "Elasticity of supply is the ratio of percentage change in quantity supplied over the percentage change in price."
- In the words of **Prof. Bilas,** "Elasticity of supply is defined as the percentage change in quantity supplied divided by percentage change in price."

Price elasticity of supply measures the relationship between change in quantity supplied and a change in price. The formula for price elasticity of supply is:

- "Q =change in the demand.(difference in demand)
- "P=change in the price.(difference in the price)
- P1=initial price. (first price/ old price)
- Q1=initial demand. (first demand/ old demand)

The value of elasticity of supply is **positive**, because an increase in price is likely to increase the quantity supplied to the market and vice versa.

1. Calculating the Price Elasticity of Supply

You may be asked "Given the following data, calculate the price elasticity of supply when the price changes from $9.00 to $10.00" Using the chart on the bottom of the page, I'll walk you through answering this question.

First we need to find the data we need. We know that the original price is $9 and the new price is $10, so we have Price(OLD)=$9 and Price(NEW)=$10. From the chart we see that the quantity supplied (make sure to look at the supply data, not the demand data) when the price is $9 is 150 and when the price is $10 is 110. Since we're going from $9 to $10, we have Q Supply(OLD)=150 and Q Supply(NEW)=210, where "Q Supply" is short for "Quantity Supplied". So we have:

- Price(OLD)=9
- Price(NEW)=10
- QSupply(OLD)=150
- QSupply(NEW)=210

To calculate the price elasticity, we need to know what the percentage change in quantity supply is and what the percentage change in price is. It's best to calculate these one at a time.

1. Calculating the Percentage Change in Quantity Supply

The formula used to calculate the percentage change in quantity supplied is:

[Q Supply(NEW) – Q Supply(OLD)] / Q Supply(OLD)

By filling in the values we wrote down, we get:

[210 - 150] / 150 = (60/150) = 0.4

So we note that **% Change in Quantity Supplied = 0.4** (This is in decimal terms. In percentage terms it would be 40%). Now we need to calculate the percentage change in price.

2. Calculating the Percentage Change in Price

Similar to before, the formula used to calculate the percentage change in price is:

[Price (NEW) - Price (OLD)] / Price (OLD)

By filling in the values we wrote down, we get:

[10 - 9] / 9 = (1/9) = 0.1111

We have both the percentage change in quantity supplied and the percentage change in price, so we can calculate the price elasticity of supply.

3. Final Step of Calculating the Price Elasticity of Supply

We go back to our formula of:

PEoS = (% Change in Quantity Supplied)/(% Change in Price)

We now fill in the two percentages in this equation using the figures we calculated.

PEoD = (0.4)/(0.1111) = 3.6

When we analyze *price* elasticities we're concerned with the absolute value, but here that is not an issue since we have a positive value. We conclude that the price elasticity of supply when the price increases from $9 to $10 is 3.6.

2.17.1 Five Types of Elasticities of Supply

1. **Unit Elastic Supply:** When change in price of X brings about exactly proportionate change in its quantity supplied then supply is unit elastic i.e. elasticity of supply is equal to one, e.g. if price rises by 10% and supply expands by 10% then, change in the quantity supplied the supply is relatively inelastic or elasticity of supply is less than one.

$$Es = \frac{\%\text{ Change in Quantity Supplied of X}}{\%\text{ Change in price of X}}$$

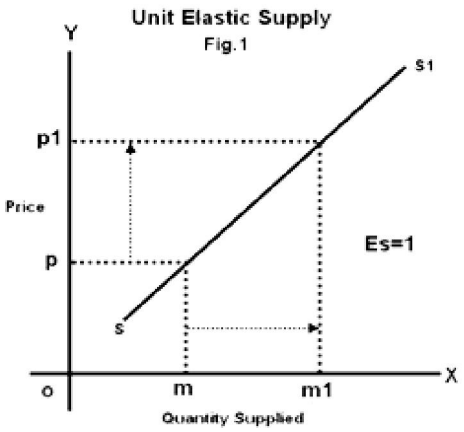
2. **Relatively Elastic Supply:** When a change in price brings about more than proportionate change in the quantity supplied, then supply is relatively elastic or elasticity of supply is greater than one.

3. **Relatively Inelastic Supply** when the proportionate change in the quantity supplied is less than proportionate change in the price of a product.

4. **Perfectly Inelastic Supply:** When a change in price has no effect on the quantity supplied then supply is perfectly inelastic or the elasticity of supply is zero.

5. **Perfectly Elastic Supply:** When a negligible change in price brings about an infinite change in the quantity supplied, then supply is said to be perfectly elastic or elasticity of supply is infinity.

All the five types of Elasticities of supply can be shown by different slopes of the supply curve. Fig. (1) Shows the supply is unit elastic because change in price from OP to OP1 brings about exactly proportionate change in the quantity supplied of commodity X viz., from OM to OM1. In this case Es = 1.



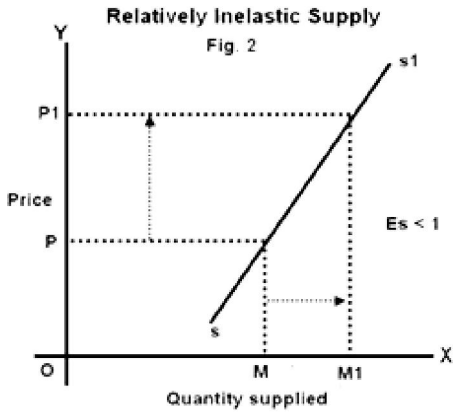
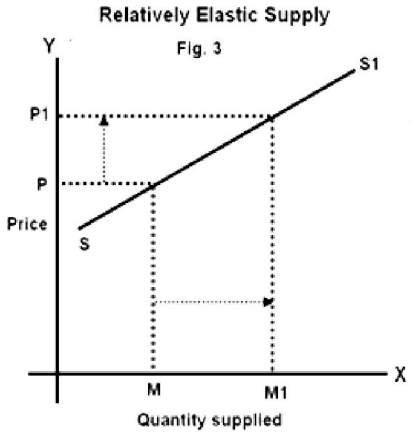
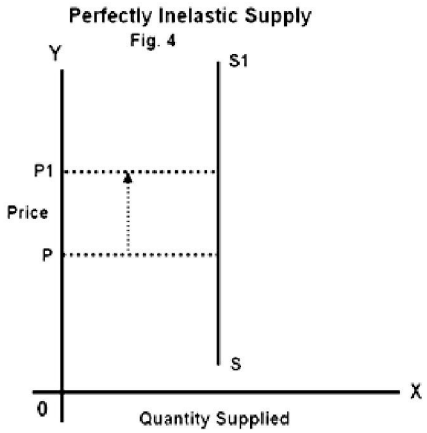


Fig (2) shows that supply is relatively inelastic because change in price of from OP to OP1 brings about less than proportionate change in quantity supplied of X. in this case Es < 1.

Fig (3) shows that supply is relatively elastic because change in price of X from OP to OP1 brings about more than proportionate change in quantity supplied of X. in this case Es > 1.

Fig (4) shows that supply is perfectly inelastic because change in price of X from OP to OP1 has absolutely no effect on quantity supplied of X. in this case Es = 0. Thus, if the supply curve is vertical, i.e. parallel to Y-axis it represents perfectly inelastic supply.





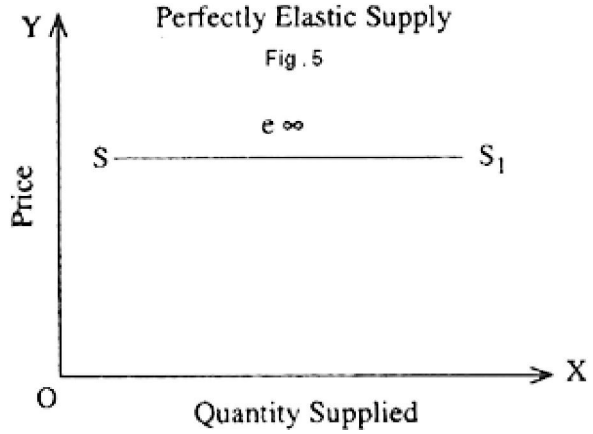


Fig (5) shows that supply is perfectly elastic because a small change in price of X brings about infinite change in supply. Thus, if the supply curve is horizontal or parallel to X- axis it represents perfectly elastic supply.

Hence, the five different types of elasticities of supply can be shown by five different slopes of supply curve.

2.17.2 The Model of Supply and Demand (equilibrium)

Equilibrium is defined to the price-quantity pair where the quantity demanded is equal to the quantity supplied, represented by the intersection of the demand and supply curves.

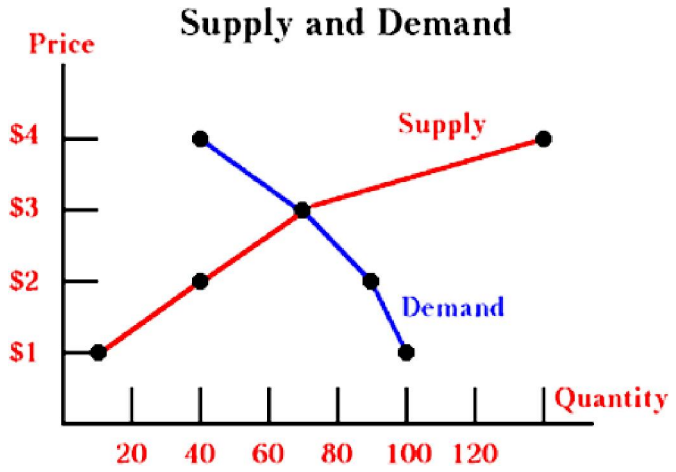
In words, equilibrium exists if the amount sellers are willing to sell is equal to the amount buyers are willing to buy.

The market price of a good is determined by both the supply and demand for it. In 1890, English economist Alfred Marshall published his work, Principles of Economics, which was one of the earlier writings on how both supply and demand interacted to determine price. Today, the supply-demand model is one of the fundamental concepts of economics. The price level of a good essentially is determined by the point at which quantity supplied equals quantity demanded. To illustrate, consider the following case in which the supply and demand curves are plotted on the same graph.

If we combine the supply and demand tables in earlier sections, we get the table below. It should be obvious that the price of $3.00 is the equilibrium price and the quantity of 70 is the equilibrium quantity. At any other price, sellers would want to sell a different amount than buyers want to buy.

Supply and Demand Together at Last		
Price ofWidgets	Number of Widgets People Want to Buy	Number of Widgets Sellers Want to Sell
$1.00	100	10
$2.00	90	40
$3.00	70	70
$4.00	40	140

The same information can be shown with a graph. On the graph, the equilibrium price and quantity are indicated by the intersection of the supply and demand curves.



SHORT ANSWERS

1. Demand Analysis is a process whereby the management makes decisions with respect to the production, cost allocation, advertising, inventory holding, pricing, etc. The demand shows the relationship between two economic variables, the price of the product and the quantity of product that a consumer is willing to buy for a given period of time, other things being equal.

2. Demand Function

The behavior of a buyer is influenced by many factors; the price of the good, the prices of of the buyer, the period of time and a variety of other possible variables. The quantity that a buyer is willing and able to purchase is a function of these variables. An individual's related goods (compliments and substitutes), incomes of the buyer, the tastes and preferences demand function for a good (Good X) might be written:

$Q_X = f_X(P_X, P \text{ related goods, income (M), preferences, . . .)}$

- Q_X = the quantity of good X
- P_X = the price of good X
- $P_{\text{related goods}}$ = the prices of compliments or substitutes
- Income (M) = the income of the buyers
- Preferences = the preferences or tastes of the buyers

3. Elasticity of demand is an important variation on the concept of demand. Demand can be classified as

- elastic,
- inelastic or
- unitary

Price Elasticity of Demand: The price elasticity of demand, commonly known as the elasticity of demand refers to the responsiveness and sensitiveness of demand for a product to the changes in its price. In other words, the price elasticity of demand is equal to

$$E_p = \frac{\text{Proportionate change in Quantity Demanded}}{\text{Proportionate change in Price}}$$

4. Income Elasticity of Demand: The income is the other factor that influences the demand for a product. Hence, the degree of responsiveness of a change in demand for a product due to the change in the income is known as income elasticity of demand. The formula to compute the income elasticity of demand is

$$E_y = \frac{\text{Percentage Change in Demand for a product}}{\text{Percentage Change in Income}}$$

5. Cross Elasticity of Demand

The cross elasticity of demand refers to the change in quantity demanded for one commodity as a result of the change in the price of another commodity. This type of elasticity usually arises in the case of the interrelated goods such as substitutes and complementary goods. The cross elasticity of demand for goods X and Y can be expressed as

$$E_c = \frac{\text{Proportionate Change in Purchase of Commodity X}}{\text{Proportionate Change in the Price of Commodity Y}}$$

6. Advertising Elasticity of Demand:

The responsiveness of the change in demand to the change in advertising or rather promotional expenses, is known as advertising elasticity of demand. In other words, the change in the demand as a result of the change in advertisement and other promotional expenses is called as the advertising elasticity of demand. It can be expressed as

$$E_a = \frac{\text{Proportionate change in demand}}{\text{Proportionate change in Advertising Expenditure}}$$

7. Demand Forecasting refers to the process of predicting the future demand for the firm's product. In other words, demand forecasting is comprised of a series of steps that involves the anticipation of demand for a product in future under both controllable and non-controllable factors.

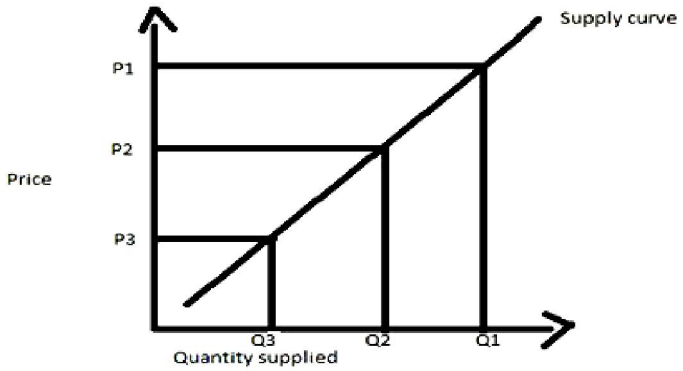
8. Law of Demand:

Economics states law of demand as the relation of a price to sales. According to law of demand there is a Inverse Relationship or Negative Relationship between the price of a product and its demand. The law of demand thus states that "the higher the price, lower the demand and lower the price, higher the demand other things remain same or constant"

9. Law of supply

Law of supply states that other factors remaining constant, price and quantity supplied of a good are directly related to each other. In other words, when the price paid by buyers for a good rises, then suppliers increase the supply of that good in the market.

Description: Law of supply depicts the producer behavior at the time of changes in the prices of goods and services. When the price of a good rises, the supplier increases the supply in order to earn a profit because of higher prices.



The above diagram shows the supply curve that is upward sloping (positive relation between the price and the quantity supplied). When the price of the good was at P3, suppliers were supplying Q3 quantity. As the price starts rising, the quantity supplied also starts rising.

10. Elasticity of Supply

Elasticity of supply is measured as the ratio of proportionate change in the quantity supplied to the proportionate change in price. High elasticity indicates the supply is sensitive to changes in prices, low elasticity indicates little sensitivity to price changes, and no elasticity means no relationship with price .It is denoted by(Es).

$$E_s = \frac{\%\text{ change in quantity supplied}}{\%\text{ change in price}}$$

11. Price Elasticity of Supply

Price elasticity of supply measures the relationship between change in quantity supplied and a change in price. The formula for price elasticity of supply is:

- "Q =change in the demand.(difference in demand)
- "P=change in the price.(difference in the price)
- P1=initial price. (first price/ old price)
- Q1=initial demand. (first demand/ old demand)

12. Market Supply Function

Market supply function is the algebraic expression of the market supply schedule. Market supply schedule can be defined as the tabular statement which represents various amounts of a commodity that the entire producers in the whole economy are willing to supply at optimal price, at any given time.

13. Types of elasticity of supply

a) Unit Elastic Supply: When change in price of X brings about exactly proportionate change in its quantity supplied then supply is unit elastic i.e. elasticity of supply is equal to one,

b) Relatively Elastic Supply: When change in price brings about more than proportionate change in the quantity supplied, then supply is relatively elastic or elasticity of supply is greater than one.

c) **Perfectly Inelastic Supply:** When a change in price has no effect on the quantity supplied then supply is perfectly inelastic or the elasticity of supply is zero.

d) **Perfectly Elastic Supply:** When a negligible change in price brings about an infinite change in the quantity supplied, then supply is said to be perfectly elastic or elasticity of supply is infinity.

UNIT III

Production and Cost Analysis: Production function, Production function with one, two variables, Cobb-Douglas Production Function, Marginal Rate of Technical Substitution, Isoquants and Isocosts, Returns to Scale, Economies of scale - Innovations and global competitiveness. Cost concepts, determinants of cost, cost-output relationship in the short run and long run, short run vs. long run costs, average cost curves.

3.1 Production Analysis

Introduction of Production

In the ordinary language, the term "production" means rising of crops or making of a physical goods in factories. For example, if you make ice cream, you will say that you have produced ice- cream (goods). But from the point of view of Economics, you have not produced any new thing in the form of ice-cream; rather, you have changed the form of milk, sugar, cream, etc, and thus, have created the utility. Marshall is right to say, "Man does not produce physical (material) goods; but when it is said that he produces material goods, in fact, he only creates the utility. Even the scientists also agree that "Matter can neither be created nor destroyed." Thus, in Economics, the word "production" is used to imply creation or increasing the utility of a good so that its value is increased.

Meaning of Production

Production refers to the use of any process which is designed to transform a set of input elements into a set of output elements .

Definitions

"Production may be defined as the creation of utilities. Anatol Murad

"Production is the process that creates utility in goods. A.H. Smith

"Production is the creation of value in a commodity."- Thomas

"Production is the creation of economic utility "- Ely

"Production means an increase in the value of a commodity."- Nicholson

"Production is any activity which adds to the value of a nation's supply of goods and services." -M.J.UImer

"Production may be defined as the process by which inputs may be transformed into output" - Robert Awh

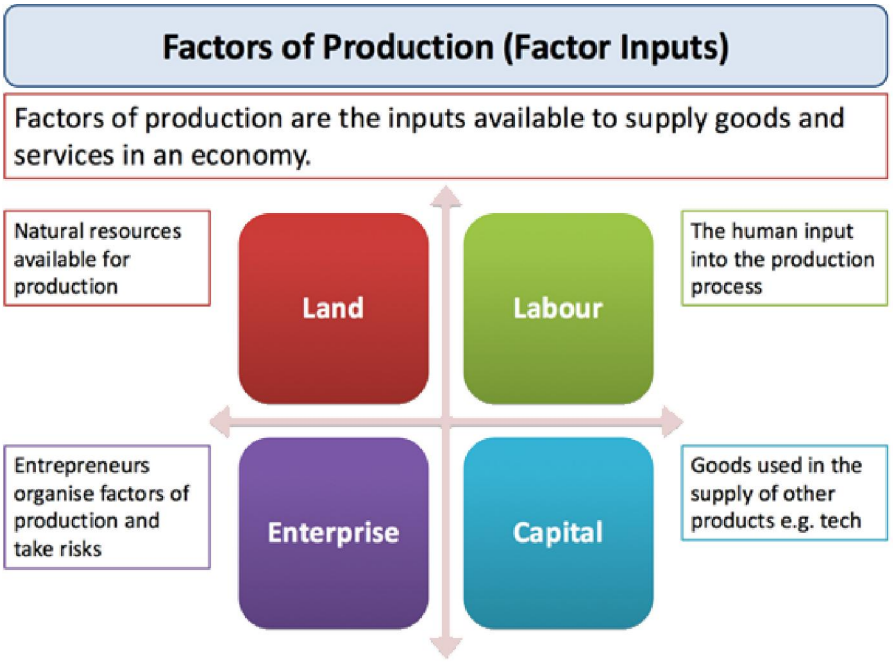
Difference between Consumption and Production

Generally, production and consumption are considered to be altogether contrary and different activities.

Consumption is the use of utility whereas production is creation of utility. In fact, their difference is not so fundamental. Both these are two different aspects of the same activity. For example, when a carpenter makes a chair, he performs an act of production by increasing the utility of log of wood. But at the same time, he has also consumed the log of wood by using its utility.

Thus, two aspects of the same activity are production and consumption. According to Prof. Mehta., "When the utility of a good is used for the direct satisfaction of want, it is called consumption, and its use for the indirect satisfactions of want is called production."

Factors of Production



1. Land

Land includes all natural physical resources – e.g. fertile farm land, the benefits from a temperate climate or the harnessing of wind power and solar power and other forms of renewable energy.

Some nations are richly endowed with natural resources and then specialise in the their extraction and production – for example – the high productivity of the vast expanse of farm land in the United States and the oil sands in Alberta, Canada. Other countries such as Japan are heavily reliant on importing these resources.

2. Labour

- Labour is the human input into production e.g. the supply of workers available and their productivity
- An increase in the size and the quality of the labour force is vital if a country wants to achieve growth. In recent years the issue of the migration of labour has become important. Can migrant workers help to solve labour shortages? What are the long-term effects on the countries who suffer a drain or loss of workers through migration?

3. Capital

- Capital goods are used to produce other consumer goods and services in the future
- Fixed capital includes machinery, equipment, new technology, factories and other buildings
- Working capital means stocks of finished and semi-finished goods (or components) that will be either consumed in the near future or will be made into consumer goods
- New items of capital machinery, buildings or technology are used to boost the productivity of labour. For example, improved technology in farming has vastly increased productivity and allowed millions of people to move from working on the land into more valuable jobs in other industries.

4. Entrepreneurship

- Regarded by some as a specialised form of labour input
- An entrepreneur is an individual who supplies products to a market to make a profit

- Entrepreneurs will usually invest their own financial capital in a business and take on the risks. Their main reward is the profit made from running the business.

3.2 Production Function

When most people think of fundamental tasks of a firm, they think first of production. Economists describe this task with the production function, an abstract way of discussing how the firm gets output from its inputs. It describes, in mathematical terms, the technology available to the firm.

The technological relationship between inputs and output of a firm is generally referred to as the production function. The production function shows the functional relationship between the physical inputs and the physical output of a firm in the process of production. To quote Samuelson, "The production function is the Technical relationship telling the maximum amount of output capable of being produced by each and every set of specified inputs. It is defined for a given set of technical knowledge."

According to Stigler, "the production function is the name given to the relationship between the rates of input of productive services and the rate of output of product. It is the economist's summary of technical knowledge.

Production is the transformation of inputs into outputs. Inputs are the factors of production — land, labor, and capital — plus raw materials and business services.

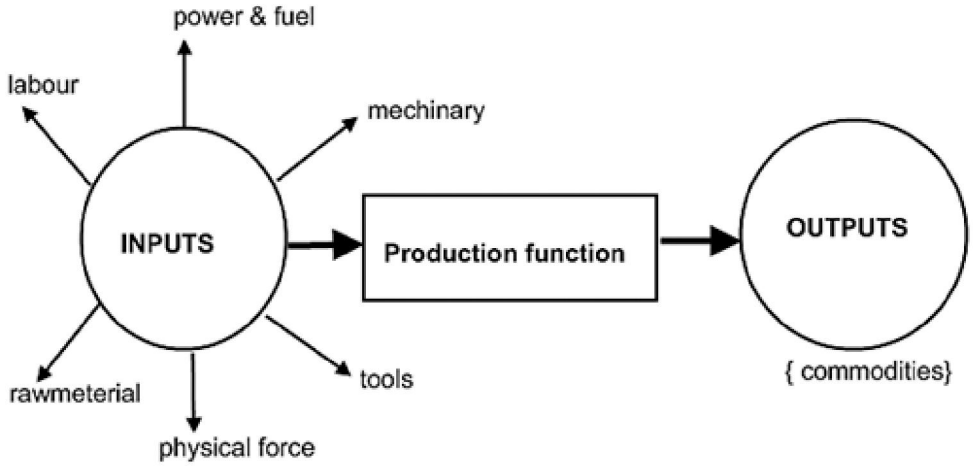
The transformation of inputs into outputs is determined by the technology in use. Limited quantities of inputs will yield only limited quantities of outputs. The relationship between the quantities of inputs and the maximum quantities of outputs produced is called the "production function."

But how do these outputs change when the input quantities vary? Let's take a look at an example of a production function.

In general, we would allow for varying amounts of land, labor and capital. However, in this example, labor will be the only input, for the sake of simplicity.

The main theme of production function is to get the maximum production with the present given set of variable.

Eg: a firm can use the more labour and less machines OR it can use less labour and more machines to get maximum production. Here which is suited best and how to find the best alternative choice is the main aim of production function.



In a general mathematical form, a production function can be expressed as:

Production function Q = f(LB, L, K, M, T, t)

Q = output/quantity

LB = Land & Buildings.

L = Labour.

K = capital.

M = raw material.

t= time.

Assumptions for Production Function:

1. Technology is assumed to be constant.
2. It is related to a particular or specific period.
3. It is assumed that the manufacturer is using the best technology.
4. All inputs are divisible.
5. Utilization for inputs at maximum level of efficiency.

Significance / Importance of Production Function

1. Production function shows the maximum output that can be produced by a specific set of combination of input factors.

2. There are two types of production function, one is short-run production function and the other is long-run production function. The short-run production explains how output change is relation to input when there are some fixed factors. Similarly, long run production function explains the behaviours of output in relation to input when all inputs are variable.

3. The production function explains how a firm reaches the most optimum combination of factors so that the unit costs are the lowest.

4. Production function explains how a producer combines various inputs in order to produce a given output in an economically efficient manner.

5. The production function helps us to estimate the quantity in which the various factors of production are combined.

3.2.1 Features of Production Function

Following are the main Features of Production Function :

1. Substitutability

The factors of production or inputs are substitutes of one another which make it possible to vary the total output by changing the quantity of one or a few inputs, while the quantities of all other inputs are held constant. It is the substitutability of the factors of production that gives rise to the laws of variable proportions.

2. Complementarily

The factors of production are also complementary to one another, that is, the two or more inputs are to be used together as nothing will be produced if the quantity of either of the inputs used in the production process is zero.

The principles of returns to scale is another manifestation of complementarily of inputs as it reveals that the quantity of all inputs are to be increased simultaneously in order to attain a higher scale of total output.

3. Specificity

It reveals that the inputs are specific to the production of a particular product. Machines and equipment's, specialized workers and raw materials are a few examples of the specificity of factors of production. The specificity may not be

complete as factors may be used for production of other commodities too. This reveals that in the production process none of the factors can be ignored and in some cases ignorance to even slightest extent is not possible if the factors are perfectly specific.

Production involves time; hence, the way the inputs are combined is determined to a large extent by the time period under consideration. The greater the time period, the greater the freedom the producer has to vary the quantities of various inputs used in the production process.

In the production function, variation in total output by varying the quantities of all inputs is possible only in the long run whereas the variation in total output by varying the quantity of single input may be possible even in the short run.

3.3 Production Function With One Variable Input

The law of returns states that when at least one factor of production is fixed and when all other factors are variable the total output in the initial stages will increase at an increasing rate and after reaching a certain level of output the total output will increase at declining rate. if variable factor input are added further to the fixed factor input, the total output may decline. The law of returns is also called the Law of variable proportion or the law of diminishing returns.

Production function with one variable input /Law of variable proportions./ Law of diminishing marginal productivity.

When there is increase in the production, we normally increase the labour rather than the machinery. The more labour employed in the production process, there will be raise in the production. But continues increase in the labour may lead to decrease in the production after certain point. Here comes the question. How many employees should be employed to get maximum production? Law of variable proportion answer the question of the employment of labour for optimum production.

Definition

According to Leftwitch, The law of variable proportions states that if the input of one resource is increased by equal increments per unit of time while the inputs of

other resources are held constant, total output will increase, but beyond some point the resulting output increases will become smaller and smaller."

According to Eminent Economist Samuelson says, "The law states that an increase in some inputs relative to other fixed input will, in a given state of technology, cause total output to increase; but after a point the extra output resulting from the same addition of extra inputs is likely to become less and less."

ASSUMPTIONS

The law has following main assumptions

(1) One of the factors is variable while all other factors are fixed.

(2) All units of the variable factor are homogeneous.

(3) There is no change in the technique of production.

This law of variable proportion shows the input and output relationship with one variable factor. e.g. labour.

Illustration

No. of labour	Total output or total returns (acres)
0	0
1	2
2	6
3	9
4	10
5	10
6	9

Solution:

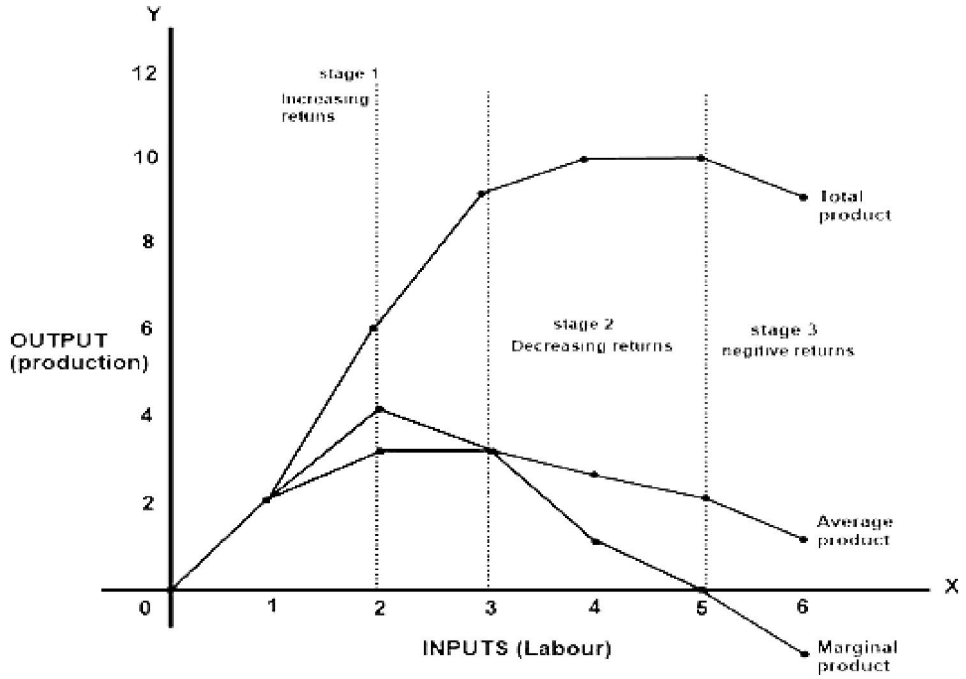
From the above given data, we should find out the average production and the marginal production.

$$\text{average product} = \frac{\text{total output}}{\text{number of labour}}$$

marginal product = difference between total product by increase in labour

Points to remember

- point out the maximum value in the marginal production Colum.
- point out the maximum value relating to the marginal production value in the average production Colum.
- At this intersection point indicates best number of employees employed to have the maximum production



3 Stages of the Production with Graph Analysis

Stage 1

The maximum value of the marginal product is at 4 and maximum value of the average product relating to the marginal product Colum is 3. This is intersection point where the maximum 6 units of production can be done by employing 2 labors. Up to this point it is called as increasing returns stage.

Stage 2

When we employee more than 2 labors ie. 3 labours total production is raising but the marginal production is falling down from 4 to 3 and average product is nearly same. So this stage is stated as decreasing returns to the production.

Stage 3

At 6 labours employed the marginal production is -1 units and the curve is cutting the X axis and moving down to the negative position. Hence this stage is stated as the negative returns in the production.

3.4 Production Function with Two Variables

Production function using 2 variable inputs is explained with the help of the Isoquants. Details about isoquants are explained below

In economics, an isoquant (derived from quantity and the Greek word iso [equal) and Latin word qunatus meaning 'quantity'. The isoquant therefore called as the "Equal Product Curve" or can be named as the "indifference curve"

As isoquant curve can be defined as the locus of points representing various combinations of two inputs___ capital and labour__ yielding the same output.

In economics, an isoquant is a contour line drawn through the set of points at which the same quantity of output is produced while changing the quantities of two or more inputs.

DEFINITION

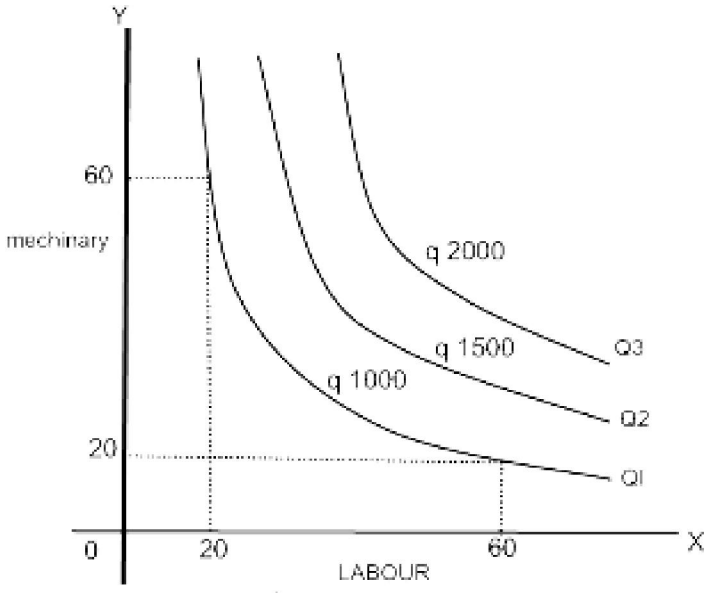
According to Ferguson, "An isoquant is a curve showing all possible combinations of inputs physically capable of producing a given level of output"

In the words of Peterson, "An isoquant curve may be defined as a curve showing the possible combinations of two variable factors that can be used to produce the same total product"

The term Isoquant or Iso-product is composed of 'iso' implying equal and 'quant' implying quantity or product or output. Thus it means equal quantity or equal output. Different factors are needed to produce goods. These factors may be substituted for one another. For example 100 watches may be produced with 90 units of capital and 10 units of labour. The same number of watches (100 units) may also be produced with such combinations as 60 units of capital and 20 units of labour or with 40 units of capital and 30 units of labour. If different combinations of two factors yielding equal amount of total output are diagrammatically presented in the form of a curve, then such a curve is called on Isoquant or Iso-product curve.

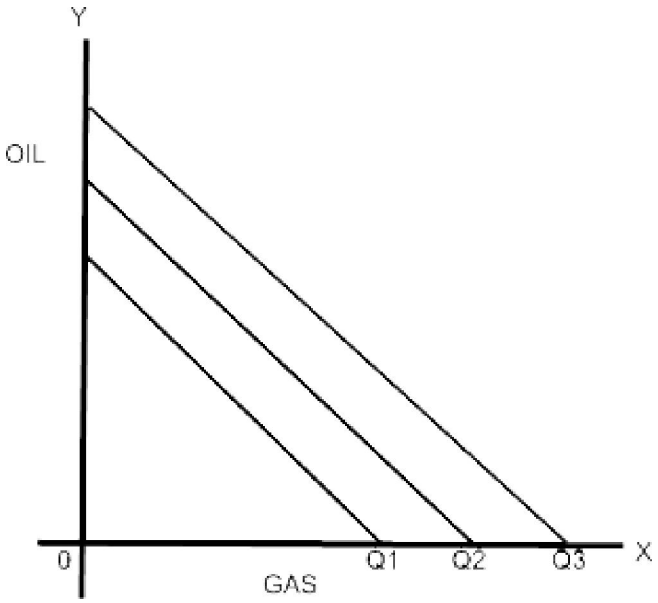
Thus isoquant curve is that curve which shows the different possible combinations of two factor inputs yielding the same amount of output. Isoquant curves are also known as Equal product or Iso-product or Production Indifference Curves. Isoquant curve is called production indifference curve since it is an extension of indifference curve analysis from the theory of consumption to the theory of production.An isoquant shows that if the firm have ability to substitute between the two different inputs (labour and machines) in order to produce the same level of output

If the distance between isoquants increases (curve shifting upward) output increases. Example q 1000 to q 1500 shift in the curve shows increase in the quantity produced where q = quantity produced.



By the isoquant curve we came to know that if we want to produce certain quantity of good (q=1000) ie 1000 goods, we can employee more labour and we can use less machinery. In the same way for the same output that is (q=1000) we can use more number of machinery and we can employee less number of labour in the firm for production of same quantity. Here according to the budget and the financial position of the firm the producer can switch between the alternative production systems.

Eg: for producing 1000 goods we can use 60 machines and 20 labours. OR we can use 20 machines and 60 labours for same production.



Linear Isoquants

This liner isoquant is drawn if there is a perfect substitutability in the inputs of production. For example

Power plant equipped to burn either oil or gas, various amounts of electric power can be produced by burning gas only or oil only. Gas and oil are perfect substitutes here. Hence isoquants are straight lines.

3.5 COBB-DOUGLASS PRODUCTION FUNCTION

The Cobb-Douglass production function was introduced in 1928, and it is still a common functional form in economic studies today. It has been used extensively to estimate both individual firm and aggregate production functions. It has undergone

significant criticism but has endured. "It is now customary practice in economics to deny its validity and then to use it as an excellent approximation". It is was originally constructed for all of the manufacturing output (Q) in the United States for the years 1899 to 1922. The two inputs used by the authors were number or manual workers (L) and fixed capital (K). The formula for the production function, which was suggested by Cob, was of the following form :

$$Q = AKaLb$$

Q quantity output

K capital

L labor

And A, a, b are the parameters.

The exponents of the K and L (a, b) represents respectively.

The output elasticity of L (E1) and capital (Ek)

Here Ek = Elasticity of Capital

And EK + EL = a+b = Returns to Scale

a+b = 1 i.e. constant returns

a+b > 1 i.e. increasing returns to scale

a+b < 1 i.e. decreasing returns to scale

3.6 Marginal Rate of Technical Substitution (MRTS)

Technical Rate of Substitution (**TRS** is the amount by which the quantity of one input has to be reduced, when one extra unit of another input is used, so that output remains constant.

Where MP1 and MP2 are the marginal products of input 1 and input 2, respectively. Along an isoquant, the MRTS shows the rate at which one input (e.g. capital or labor) may be substituted for another, while maintaining the same level of output. Thus the MRTS is the absolute value of the slope of an isoquant at the point in question.

When relative input usages are optimal, the marginal rate of technical substitution is equal to the relative unit costs of the inputs, and the slope of the isoquant at the chosen point equals the slope of the isocost curve. It is the rate at which one input is substituted for another to maintain the same level of output.

Explanation

The concept of MRTS can be explained easily with the help of the table and the graph, below:

Schedule

It is clear from the above table that all the five different combinations of labor and capital that is A, B, C, D and E yield the same level of output of 150 units of commodity X, As we move down from factor A to factor B, then 4 units of capital are required for obtaining 1 unit of labor without affecting the total level of output (150 units of commodity X).

The MRTS is 4:1. As we step down from factor combination B to factor combination C, then 3 units of capital are needed to get 1 unit of labor. The MRTS of labor for capital 3:1. If we further switch down from factor combination C to D, the MRTS of labor for capital is 2:1. From factor D to E combination, the MRTS of labor for capital falls down to 1:1.

Formula

$$MRTS_{LK} = \frac{\Delta K}{\Delta L}$$

It means that the marginal rate of technical substitution of factor labor for factor capital (K) ($MRTS_{LK}$) is the number of units of factor capital (K) which can be substituted by one unit of factor labor (L) keeping the same level of output. In the figure 12.8, all the five combinations of labor and capital which are A, B, C, D and E are plotted on a graph.

Diagram/Graph

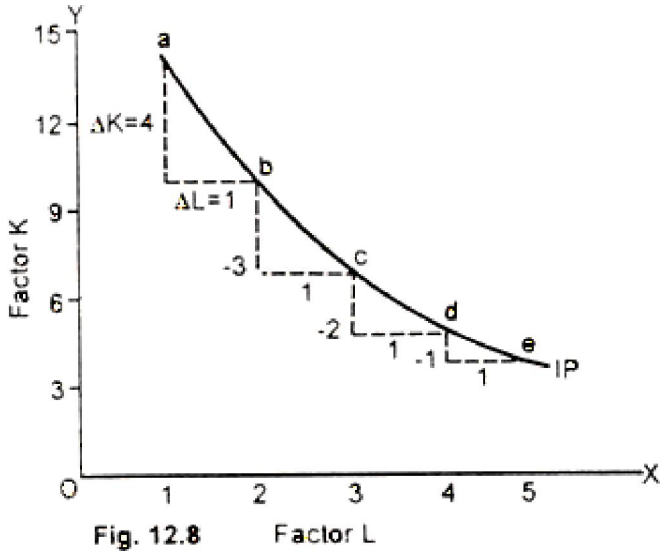


Fig. 12.8

The points A, B, C, D and E are joined to form an isoquant. The iso-product curve shows the whole range of factor combinations producing 150 units of commodity X. It is important to point out that ail the five factor combination of labor and capital on an iso-product curve are technically efficient combinations. The producer is indifferent towards these, combinations as these produce the same level of output.

3.7 ISOQUANT

The term Iso-quant or Iso-product is composed of two words, Iso = equal, quant = quantity or product = output.

Thus it means equal quantity or equal product. Different factors are needed to produce a good. These factors may be substituted for one another.

A given quantity of output may be produced with different combinations of factors. Iso-quant curves are also known as Equal-product or Iso-product or Production Indifference curves. Since it is an extension of Indifference curve analysis from the theory of consumption to the theory of production.

Thus, an Iso-product or Iso-quant curve is that curve which shows the different combinations of two factors yielding the same total product. Like, indifference curves, Iso- quant curves also slope downward from left to right. The slope of an Iso-quant curve expresses the marginal rate of technical substitution (MRTS).

Definitions

"The Iso-product curves show the different combinations of two resources with which a firm can produce equal amount of product." ***–Bilas***

"Iso-product curve shows the different input combinations that will produce a given output." ***–Samuelson***

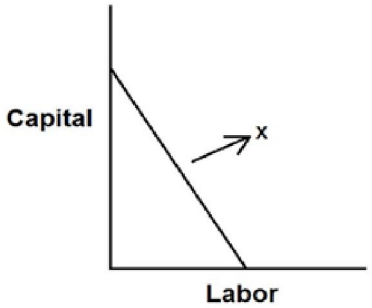
An Iso-Quant curve is the geometrical representation of the different combinations of input factors employed to produce the given level of output.

3.7.1 Types of Iso-Quant Curves

The iso-quant curves can be classified on the basis of the substitutability of factors of production. These are:

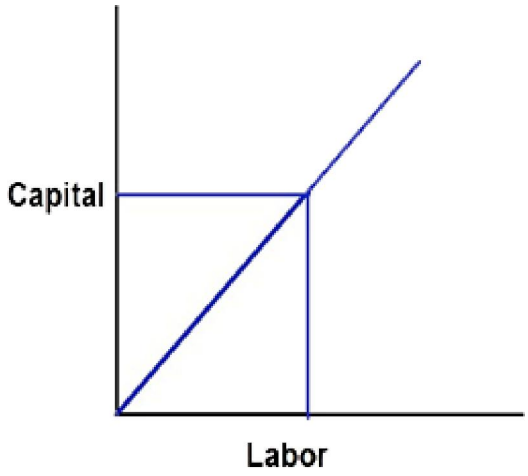
1. Linear Iso-quant Curve

This curve shows the perfect substitutability between the factors of production. This means that any quantity can be produced either employing only capital or only labor or through "n" number of combinations between these two.



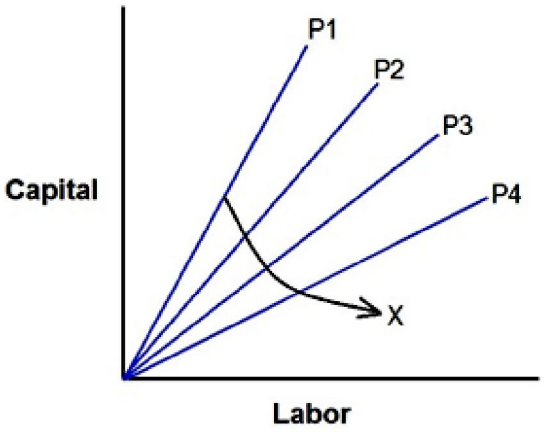
2. Right Angle Iso-quant Curve

This is one of the types of iso-quant curves, where there is a strict complementarity with no substitution between the factors of production. According to this, there is only one method of production to produce any one commodity. This curve is also known as Leontief Iso-quant, input-output isoquant and is a right angled curve.

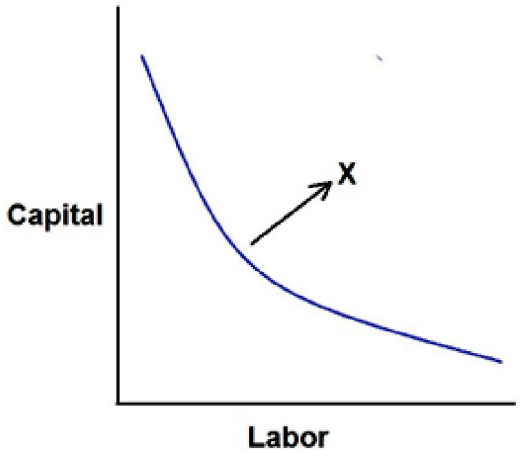


3. Kinked iso-quant Curve

This curve assumes, that there is a limited substitutability between the factors of production. This shows that substitution of factors can be seen at the kinks since there are a few processes to produce any one commodity. Kinked iso-quant curve is also known as activity analysis programming iso-quant or linear programming iso-quant.



4. **Convex Iso-quant Curve**: In this types of iso-quant curves, the factors can be substituted for each other but up to a certain extent. This curve is smooth and convex to the origin.



Thus, the classification of the iso-quant curve can be done on the basis of the number of labor units that can be substituted for capital and vice-versa, so as to have the same level of production.

3.7.2 Properties of Isoquant

i) An Isoquant Slopes Downward from Left to Right

This implies that the Isoquant is a negatively sloped curve. This is because when the quantify of factor K (capital) is increased, the quantity of L (labor) must be reduced so as to keep the same level of output.

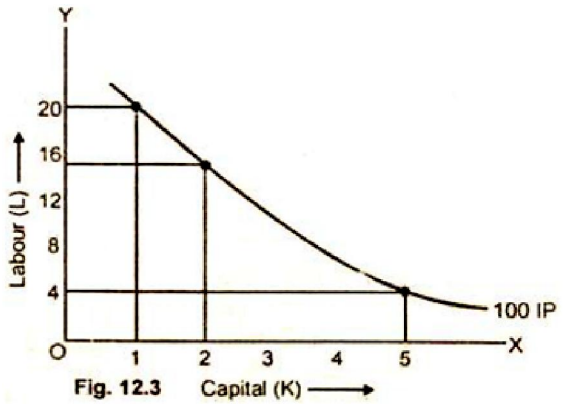


Fig. 12.3

The figure (12.3) depicts that an isoquant IP is negatively sloped curve. This curve shows that as the amount of factor K is increased from one unit to 2 units, the units of factor L are decreased from 20 to 15 only so that output of 100 units remains constant.

ii) An Isoquant that Lies Above and to the Right of Another Represents a Higher Output Level

It means a higher isoquant represents higher level of output.

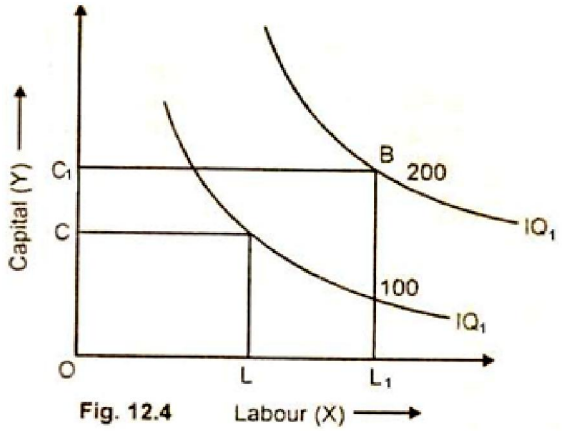


Fig. 12.4

The figure 12.4 represents this property. It shows that greater output can be secured by increasing the quantity combinations of both the factors X and Y. The producer increases the output from 100 units to 200 units by increasing the quantity combination of both the X and Y. The combination of OC of capital and OL of labor yield 100 units of production. The production can be increased to 200 units by increasing the capital from OC to OC_1 and labor from OL to OL_1.

iii) Isoquants Cannot Cut Each Other

The two isoquants can not intersect each other.

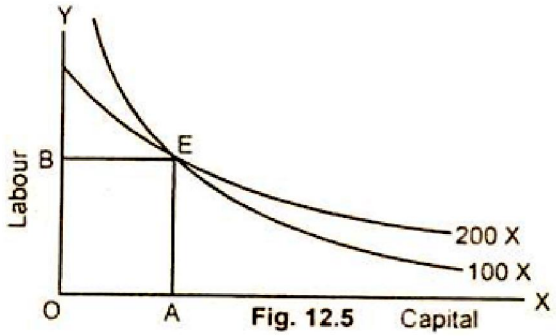


Fig. 12.5

If two isoquant are drawn to intersect each other as is shown in this figure 12.5, then it is a negation of the property that higher Isoquant represents higher level of output to a lower Isoquant. The intersection at point E shows that the same factor combination can produce 100 units as well as 200 units. But this is quite absurd. How can the same level of factor combination produce two different levels of output, when the technique of production remains unchanged. Hence two isoquants cannot intersect each other.

iv) Isoquants are Convex to the Origin

This property implies that the marginal significance of one factor in terms of another factor diminishes along an ISO product curve. In other words, the isoquants are convex to the origin due to diminishing marginal rate of substitution.

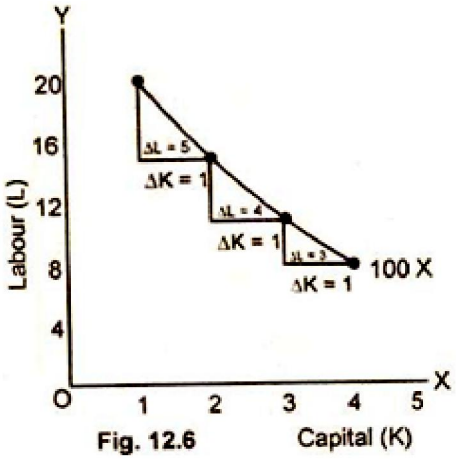


Fig. 12.6

In this figure 12.6 MRS^{KL} diminishes from 5:1 to 4:1 and further to 3:1. This shows that as more and more units of capital (K) are employed to produce 100 units of the product, lesser and lesser units of labor (L) are used. Hence diminishing marginal rate of technical substitution is the reason for the convexity of an isoquant.

v) Each Isoquant is Oval Shaped

The iso product curve, is elliptical. This means that the firm produces only those segments of the iso-product curves which are convex to the origin and lie between the ridge lines. This is the economic region of production.

3.7.3 Assumptions

The main assumptions of Iso-quant curves are as follows

1. Two Factors of Production

Only two factors are used to produce a commodity.

2. Divisible Factor

Factors of production can be divided into small parts.

3. Constant Technique

Technique of production is constant or is known before hand.

4. Possibility of Technical Substitution

The substitution between the two factors is technically possible. That is, production function is of 'variable proportion' type rather than fixed proportion.

5. Efficient Combinations

Under the given technique, factors of production can be used with maximum efficiency.

3.8 Isocost

Isocost line shows all combinations of inputs which cost the same total amount. Although similar to the budget constraint in consumer theory, the use of the isocost line pertains to cost-minimization in production, as opposed to utility-maximization. For the two production inputs labour and capital, with fixed unit costs of the inputs, the equation of the isocost line is

$$rK+wL=C,$$

where w represents the wage rate of labour, r represents the rental rate of capital, K is the amount of capital used, L is the amount of labour used, and C is the total cost of acquiring those quantities of the two inputs.

The absolute value of the slope of the isocost line, with capital plotted vertically and labour plotted horizontally, equals the ratio of unit costs of labour and capital.

The isocost line is combined with the isoquant map to determine the optimal production point at any given level of output. Specifically, the point of tangency between any isoquant and an isocost line gives the lowest-cost combination of inputs that can

produce the level of output associated with that isoquant. Equivalently, it gives the maximum level of output that can be produced for a given total cost of inputs. A line joining tangency points of isoquants and isocosts (with input prices held constant) is called the expansion path.

3.9 Returns to Scale

In the long run all factors of production are variable. No factor is fixed. Accordingly, the scale of production can be changed by changing the quantity of all factors of production.

Definition

"The term returns to scale refers to the changes in output as all factors change by the same proportion." ***Koutsoyiannis***

"Returns to scale relates to the behaviour of total output as all inputs are varied and is a long run concept". ***Leibhafsky***

Returns to scale are of the following three types:

1. Increasing Returns to scale.
2. Constant Returns to Scale
3. Diminishing Returns to Scale

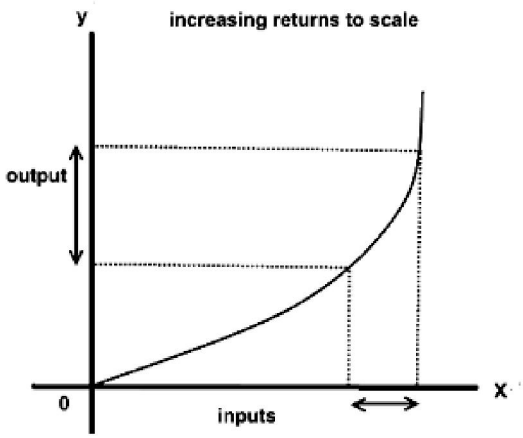
1. Increasing Returns to Scale

This law states that the volume of output keeps on increasing with every increase in the inputs. Where a given increase in inputs leads to a more than proportionate increase in the output, the law of increasing returns to scale is said to operate. We can introduce division of labour and other technological means to increase production. Hence, the total prod-uct increases at an increasing rate.

"An increase of labour and capital leads generally to improved organisation which increases the efficiency of the work of labour and capital. Therefore, an increase of labour and capital generally gives a return which increases more than in proportion."

, "As the proportion of one factor in a combination of factors is increased, upto a point, the marginal productivity of the factor will increase."

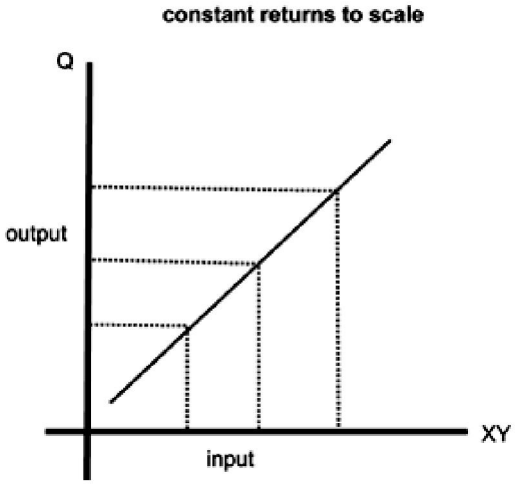
If the proportional increase in output (production) is larger than that of the inputs, then we have increasing returns to scale.



All factors of production (land, labor and capital) have been doubled, there is 100 percent increase in the factors of production whereas output has increased from 10 units to 25 units, which is more than double. There is an increase in output by 150%. It means increase in all inputs leads to a more than proportional increase in the output of the firm. Here increasing returns to scale is operating. Increasing returns to scale is achieved in the manufacturing industries.

2. Constant Returns to Scale

When the scope for division of labour gets re-stricted, the rate of increase in the total output remains constant, the law of constant returns to scale is said to operate. This law states that the rate of increase/decrease in volume of output is same to that of rate of increase/decrease in inputs.



If the proportional increase in all inputs is equal to the proportional increase in output (production), returns to scale are constant. For instance, if a simultaneous doubling of all inputs results in a doubling of production, then returns to scale are constant. 100% increase in the inputs may raise the production level to 100%.

3. Decreasing/Diminishing Returns to Scale

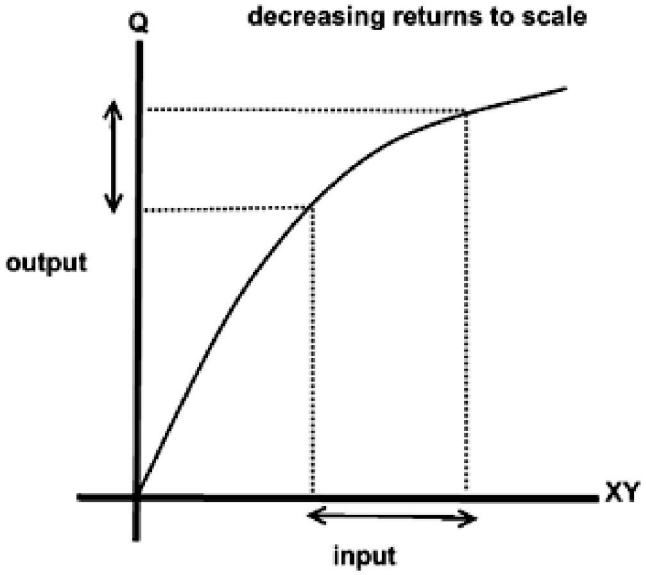
Where the proportionate increase in the inputs does not lead to equivalent increase in output, the output increases at a decreasing rate, the law of decreas-ing returns to scale is said to operate. This results in higher average cost per unit.

"As we increase the quantity for any one input which is combined with fixed quantity of other inputs, the marginal physical productivity of the variable input must eventually decline."

"As the proportion of one factor in a combination of factors is increased after a point, the marginal and average product of that factor will diminish."

Mr. Joan Robinson, defines it in these words. The law of Diminishing Returns states that with a fixed amount of any one factor of production successive increase in other factor will after a point yield a diminishing increment of output"

If the output (production) increases than the proportionality with input increases, we have decreasing returns to scale



All factors of production (land, labor and capital) have been doubled. There is 100 percent increase in the factors of production whereas output has increased from 10 units to 15 units, which is less than double. There is an increase in output by 50%. It means increase in all inputs leads to a less than proportional increase in the output of the firm. Here diminishing returns to scale are operating. Diminishing returns to scale is achieved in those activities involving natural resources such as growing agricultural products.

These laws can be illustrated with an example of agricultural land. Take one acre of land. If you till the land well with adequate bags of fertilizers and sow good quality seeds, the volume of output increases. The following table illustrates further:

From the above table, it is clear that with 1 unit of capital and 3 units of labour, the firm produces 50 units of output. When the inputs are doubled two units of capital and six units of labour, the output has gone up to 120 units. (From 50 units to 120 units). Thus, when inputs are increased by 100 percent, the output has increased by 140 percent. That is, output has increased by more than double. This is governed by Law of Increasing Returns to Scale.

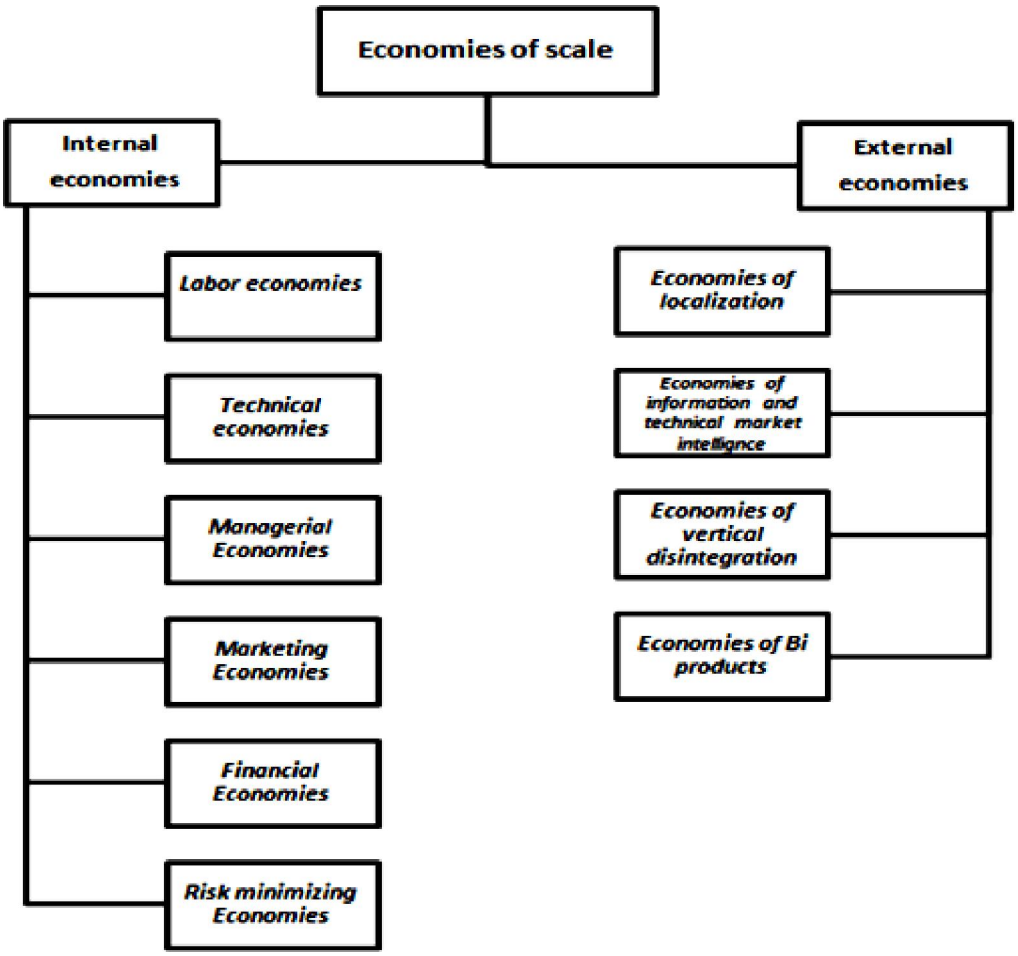
When the inputs are further doubled that is to 4 units of capital and 12 units of labour, the output has gone up to 240 units, (from 120 units to 240 units). Thus, when inputs arc increased by 100 per cent, the output has increased by 100 per cent. That is, output also has doubled. This is governed by Law of Constant Returns to Scale.

When the inputs are further doubled, that is, to 8 units of capital and 24 units of labour, the output has gone up to 360 units, (from 240 units to 360 units). Thus, when input are increased by 100 per cent, the has increased only by 50 per cent. This is governed by Law of Decreasing Returns to Scale.

3.10 Economies of Scale

Economies of scale arise when the cost per unit falls as output increases. Economies of scale are the main advantage of increasing the scale of production and becoming 'big'.

When we produce in large quantities generally the production cost reduces. It is the general principle everybody knows. Reduction in the cost of production, when output (production) is increased is called as economies of scale. Large scale of production is economical than small scale of production. Increase in returns to scale (reduction of cost by producing more goods) are caused by real economies, which are classified under



3.10.1 Economies of scale is classified as

INTERNAL ECONOMIES

This happens when better use is made in factors of production within the firm and by increasing output the factors in the internal economies are as follows.

1. Labour Economies

Increase in the scale of production of a firm results into many economies of labour, like specialization. Enlarged scale of production allows division of labour and specialization with the result of an improvement in the skills. Specialisation means to perform just one task repeatedly which makes the labour highly efficient in its performance. This adds to the productivity and efficiency of the labour. Adam Smith illustrated this point with an example. A labourer, all alone can make just 20 pins in a day.

But when he divides the work of pin-making into different parts and each part is entrusted to a different labourer then 2400 pins are made in a day. This is the marvel of division of labour which apart from increasing the skills of labour force, results in (i) Time Saving which is lost in shifting the worker from one job to another (ii) Promotion of New Inventions and (iii) Automation of Production Process. All these increase the productivity of labour and reduces costs.

2. Technical Economies

a) Economies of superior technique:

If firm is big it can use high technology (automated machinery) and it can produce high quality goods and cost can be also reduced. Normally small firm cannot use high technology.

b) Economies of increased dimensions:

This is purely mechanical advantage. A big ship is more economical then small ship for transportation Double Decker is more economical than single Decker for traveling. A big or small lorry needs single driver, it better to choose big lorry transportation to reduce cost rather than choosing two small Lorries With two drivers.

c) Economies of linked process:

Arranging production process in a correct sequence/order can lead to make Production continuous. Complete production process should be at one place only.

d) Economies of Power

Uses of Large Machines are more economical than using small machines. Eg: 10 small machines produce 10,000 units. Whereas one big machinery produces 10,000 units. Here choosing one big machinery is economical than choosing 10 small machines, because power consumed by 10 small machines is more than one big machinery.

e) **Economies of continuation**:

Production process should be continuous so that the usage of Raw material and other input can be utilized in properly and in efficient manner. Wastage can be reduced.

3. Managerial Economies:

As a firm grows, there is greater potential for managers to specialise in particular tasks (e.g. marketing, human resource management, finance). Specialist managers are likely to be more efficient as they possess a high level of expertise, experience and qualifications compared to one person in a smaller firm trying to perform all of these roles.

4. Marketing Economies

If a firm purchase high volume of raw material from the suppliers it cost less, than purchasing small volumes. Employing purchasing expert in the firm to purchase required raw material for the production prevents wastage of excess raw material and it also reduces cost.

5. Financial Economies

Many small businesses find it hard to obtain finance and when they do obtain it, the cost of the finance is often quite high. This is because small businesses are perceived as being riskier than larger businesses that have developed a good track record. Larger firms therefore find it easier to find potential lenders and to raise money at lower interest rates.

Big firm has good advantage in financial matters like

- Money borrowing (Recognized firms can get money easily from money lenders)
- Low rate of interest
- Can easily raise capital (by issuing shares)

6. Risk minimizing Economies

Producing different types of products by one company has good scope in market rather than producing single variety. Eg: HLL Company produces different types of soaps.

3.10.2 External Economies

Definition

In the words of Cairn cross, "External economies are those which are shared in by a number of firms or industries when the scale of production in any industry or group of industries increases. They are not monopolised by a single firm when it grows in size, but are conferred on it when some other firms grow larger.'

External economies of scale occur when a firm benefits from lower unit costs as a result of the whole industry growing in size. The main types are:

These Economies related to external factors

1. **Economies of localization** : All firms should be localized to have economies. Different production department should be located at one place. This gives advantage in transportation and in timely labour utilization in production.
2. **Economies of information and technical market intelligence** : Industry enjoys research advantage, when Management can get whatever the information they want with in short time when firms allocated at one place.
3. **Economies of vertical integration:** Some industries rather than producing spare parts by themselves, they are purchasing from outside companies. This happens when company feels that buying of parts is cheaper than they produce by themselves. (Make or Buy decision)

   E.g.: TATA Company purchased gear box for cars from kinetic Company

   E.g.: Mahindra cars purchasing engine from Renault Company.
4. **Economies of Bi products**: The firm using one raw material for manufacturing different other products can give more returns (profits) to the firm.

   Eg: Amul India , Company producing different food products from milk.

3.10.3 Dis-Economies of Scale

Increasing the size of a business or production does not always result in lower costs per unit. Sometimes a business can get increase in cost of production or loss to the organisation, it is called as diseconomies of scale.

Diseconomies of scale occur when a business grows so large that the costs per unit increase.

Diseconomies of scale occur because of several reasons; this situation is the result of the difficulties of managing a larger Workforce.

Internal Diseconomies of Scale

Internal diseconomies occur as the output of the firm is rising.

- **Interdependency**:
  - Large firms with many and different departments have the problem with interdependency with each other. A machine failure in the packaging department may result in stopping the whole production line.
- **Coordination and Communication**
  - As the business expands communicating between different departments and along the chain of command becomes more difficult. There are more layers in the hierarchy that can distort a message and wider spans of control for managers. This may result in workers having less clear instructions from management about what they are supposed to do when.
- **Mismanagement**
  - One of the main causes of diseconomies of scale or internal diseconomies is the difficulties of large-scale management. As a firm expands, difficulties of management go on multiplying. In a big firm, it becomes pretty difficult to co-ordinate the work of different sections. It becomes a tough problem to supervise the work spread all over. It adversely affects operational efficiency of the firm. In the words of Mc Connell, "The main factors causing diseconomies of scale have to do with certain management problems which physically arise as a firm becomes a large-scale producer."
- **Industrial relations**:
  - Because of the lack of contact between senior management and the work force, the workers may not feel commitment to work. Industrial disputes may arise and production may suffer.

- **Lack of motivation**:
  - Workers can often feel more isolated and less appreciated in a larger business and so their loyalty and motivation may decrease. It is harder for managers to stay in day-to-day contact with workers and build up a good team environment and sense of belonging. The main result of poor employee motivation is fall in productivity levels and an increase in average labour costs per unit.
- **Lack of control:**
  - When there is a large number of workers it is easier to escape with not working very hard because it is more difficult for managers to notice shirking.

External diseconomies of scale

External factors beyond the control of a company increases its total costs, as output in the rest of the industry increases. The increase in costs can be associated with market prices increasing for some or all of the factors of production.

For example, as a business increases its output, more pressure might be put on its labor supplies, which would then raise the price of additional output. The availability of raw materials also might cause the cost of production to rise. A mining firm, for example, might first extract minerals that are easy to access. After it is necessary to mine deeper seams to produce more ore, the cost of additional output will rise.

As output increases in an industry, each of the factors of production, land, labour, capital and enterprise, become scarcer. As they become scarce (unavailability), their prices increase.

3.11 Innovation And Global Competitiveness

Innovation means inventing and introducing a new or modified product in the market Innovations are two types.

1. product innovation
2. process innovation

Product innovation

Means the introduction of new or improved product

Process innovation

Means the introduction of new or improved production process Innovation can be examined with isoquants. A new or improved product requires a new isoquant map showing the various combinations of inputs to be produce each level of output of the new or improved product.

Ex : The Xerox corporations, the inventor of the copier in 1959, lost its competitive edge to Japanese competitors in the 1970s before it shook off its complacency and learned again how become to compete during the 1980s.

The risk in introducing innovation is usually high. For example 8 out of 10 new products fail shortly after their introduction.

Innovation for global competitiveness. We can say much more example for successful innovations.

3.12 Cost Concepts

Cost refers to the amount of expenditure incurred in acquiring something. The expenditure incurred to produce an output or provide service Thus the cost incurred in connection with raw material, labour, other heads constitute the overall cost of production.

An amount that has to be paid or given up in order to get something.In business, cost is usually a monetary valuation of (1) effort, (2) material, (3) resources, (4) time and utilities consumed, (5) risks incurred, and (6) opportunity forgone in production and delivery of a good or service. All expenses are costs, but not all costs (such as those incurred in acquisition of an income-generating asset) are expenses.

Types of Cost

(A) Actual Cost

Actual cost is defined as the cost or expenditure which a firm incurs for producing or acquiring a good or service. The actual costs or expenditures are recorded in the books of accounts of a business unit. Actual costs are also called as "Outlay Costs" or "Absolute Costs" or "Acquisition Costs".

Examples: Cost of raw materials, Wage Bill etc.

(B) Opportunity Cost

Opportunity cost is concerned with the cost of forgone opportunities/alternatives. In other words, it is the return from the second best use of the firms resources which the firms forgoes in order to avail of the return from the best use of the resources. It can also be said as the comparison between the policy that was chosen and the policy that was rejected. The concept of opportunity cost focuses on the net revenue that could be generated in the next best use of a scare input. Opportunity cost is also called as "Alternative Cost".

If a firm owns a land, there is no cost of using the land (ie., the rent) in the firms account. But the firm has an opportunity cost of using the land, which is equal to the rent forgone by not letting the land out on rent.

(C) Sunk Cost

Sunk costs are those do not alter by varying the nature or level of business activity. Sunk costs are generally not taken into consideration in decision - making as they do not vary with the changes in the future. Sunk costs are a part of the outlay/ actual costs. Sunk costs are also called as "Non-Avoidable costs" or "Inescapable costs".

Examples: All the past costs are considered as sunk costs. The best example is amortization of past expenses, like depreciation.

(D) Incremental Cost

Incremental costs are addition to costs resulting from a change in the nature of level of business activity. As the costs can be avoided by not bringing any variation in the activity in the activity, they are also called as "Avoidable Costs" or "Escapable Costs". More ever incremental costs resulting from a contemplated change is the Future, they are also called as "Differential Costs"

Example: Change in distribution channels adding or deleting a product in the product line.

(E) Explicit Cost

Explicit costs are those expenses/expenditures that are actually paid by the firm. These costs are recorded in the books of accounts. Explicit costs are important for calculating the profit and loss accounts and guide in economic decision-making. Explicit costs are also called as "Paid out costs"

Example: Interest payment on borrowed funds, rent payment, wages, utility expenses etc.

(F) Implicit Cost

Implicit costs are a part of opportunity cost. They are the theoretical costs ie., they are not recognised by the accounting system and are not recorded in the books of accounts but are very important in certain decisions. They are also called as the earnings of those employed resources which belong to the owner himself. Implicit costs are also called as "Imputed costs".

Examples: Rent on idle land, depreciation on dully depreciated property still in use, interest on equity capital etc.

(G) Book Cost

Book costs are those business costs which don't involve any cash payments but a provision is made in the books of accounts in order to include them in the profit and loss account and take tax advantages, like provision for depreciation and for unpaid amount of the interest on the owners capital.

(H) Out of Pocket Costs

Out of pocket costs are those costs are expenses which are current payments to the outsiders of the firm. All the explicit costs fall into the category of out of pocket costs.

Examples: Rent Payed, wages, salaries, interest etc

(I) Accounting Costs

Accounting costs are the actual or outlay costs that point out the amount of expenditure that has already been incurred on a particular process or on production as such accounting costs facilitate for managing the taxation need and profitability of the firm.

Examples: All Sunk costs are accounting costs

(J) Economic Costs

Economic costs are related to future. They play a vital role in business decisions as the costs considered in decision - making are usually future costs. They have the nature similar to that of incremental, imputed explicit and opportunity costs.

(K) Direct Cost

Direct costs are those which have direct relationship with a unit of operation like manufacturing a product, organizing a process or an activity etc. In other words, direct costs are those which are directly and definitely identifiable. The nature of the direct costs are related with a particular product/process, they vary with variations in them. Therefore all direct costs are variable in nature. It is also called as "Traceable Costs"

Examples: In operating railway services, the costs of wagons, coaches and engines are direct costs.

(L) Indirect Costs

Indirect costs are those which cannot be easily and definitely identifiable in relation to a plant, a product, a process or a department. Like the direct costs indirect costs, do not vary ie., they may or may not be variable in nature. However, the

nature of indirect costs depend upon the costing under consideration. Indirect costs are both the fixed and the variable type as they may or may not vary as a result of the proposed changes in the production process etc. Indirect costs are also called as Non-traceable costs.

Example: The cost of factory building, the track of a railway system etc., are fixed indirect costs and the costs of machinery, labour etc.

(M) Controllable Costs

Controllable costs are those which can be controlled or regulated through observation by an executive and therefore they can be used for assessing the efficiency of the executive. Most of the costs are controllable.

Example: Inventory costs can be controlled at the shop level etc.

(N) Non Controllable Costs

The costs which cannot be subjected to administrative control and supervision are called non controllable costs.

Example: Costs due obsolesce and depreciation, capital costs etc.

(O) Historical Costs and Replacement Costs.

Historical cost or original costs of an asset refers to the original price paid by the management to purchase it in the past. Whereas replacement costs refers to the cost that a firm incurs to replace or acquire the same asset now. The distinction between the historical cost and the replacement cost result from the changes of prices over time. In conventional financial accounts, the value of an asset is shown at their historical costs but in decision-making the firm needs to adjust them to reflect price level changes.

Example: If a firm acquires a machine for $20,000 in the year 1990 and the same machine costs $40,000 now. The amount $20,000 is the historical cost and the amount $40,000 is the replacement cost.

(P) Shutdown Costs

The costs which a firm incurs when it temporarily stops its operations are called shutdown costs. These costs can be saved when the firm again start its operations. Shutdown costs include fixed costs, maintenance cost, layoff expenses etc.

(Q) Abandonment Costs

Abandonment costs are those costs which are incurred for the complete removal of the fixed asset from use. These may occur due to obsolesce or due to improvisation of the firm. Abandonment costs thus involve problem of disposal of the asset.

(R) Urgent Costs and Postponable Costs

Urgent costs are those costs which have to be incurred compulsorily by the management in order to continue its operations. If urgent costs are not incurred in time the operational efficiency of the firm falls.

Example: Cost of material, labour, fuel etc

Postponable costs are those which if not incurred in time do not effect the operational efficiency of the firm. Examples are maintenance costs.

(S) Business Cost and Full Cost

Business costs include all the expenses incurred by the firm to carry out business activities. Costs Include all the payments and contractual obligations made by the firm together with the book cost of depreciation on plant and equipment.

Full costs include business costs, opportunity costs, and normal profits. Opportunity costs is the expected return/earnings from the next best use of the firms resources like capital, land and building, owners efforts and time. Normal profits is necessary minimum earning in addition to the opportunity costs, which a firm must receive to remain in its present occupation.

(T) Fixed Costs

Fixed costs are the costs that do not vary with the changes in output. In other words, fixed costs are those which are fixed in volume though there are variations in the output level.. If the time period in volume under consideration is long enough to make the adjustments in the capacity of the firm, the fixed costs also vary.

Examples: Expenditures on depreciation costs of administrative, staff, rent, land and buildings, taxes etc.

(U) Variable Costs

Variable Costs are those that are directly dependent on the output ie., they vary with the variation in the volume/level of output. Variable costs increase in output level but not necessarily in the same proportion. The proportionality between the variable costs and output depends upon the utilization of fixed facilities and resources during the production process.

Example: Cost of raw materials, expenditure on labour, running cost or maintenance costs of fixed assets such as fuel, repairs, routine maintenance expenditure.

(V) Total Cost, Average Cost and Marginal Cost

Total cost (TC) refers to the money value of the total resources/inputs required for the production of goods and services by the firm. In other words, it refers to the total outlays of money expenditure, both explicit and implicit, on the resources used to produce a given level output. Total cost includes both fixed and variable costs and is given by

$$TC = VC + FC$$

Average Cost (AC) , refers to the cost per unit of output assuming that production of each unit incurs the same cost. It is statistical in nature and is not an actual cost. It is obtained by dividing Total Cost(TC) by Total Output(Q)

$$AC = TC/Q$$

Marginal costs(MC), refers to the additional costs that are incurred when there is an addition to the existing output level of goods ans services. In other words, it is the addition to the Total Cost(TC) on account of producing additional units.

(W) Short Run Cost and Long Run Cost

Both short run and long run costs are related to fixed and variable costs and are often used in economic analysis.

Short Run Cost: These costs are which vary with the variation in the output with size of the firm as same. Short run costs are same as variable costs. Broadly, short run costs are associated with variable inputs in the utilization of fixed plant or other requirements.

Long Run Cost: These costs are which incurred on the fixed assets like land and building, plant and machinery etc., Long run costs are same as fixed costs. Usually, long run costs are associated with variations in size and kind of plant.

3.13 Determinants of Cost

The main determinants of Cost are the following :

(a) Size of Output

(b) Output Level

(c) Price of Inputs

(d) Technology

(e) Managerial Efficiency.

(a) Size of Output

- Plant size is an important variable influencing cost.
- The relation between scale of operations or size of plant to the unit cost is negative in the sense that, as the former increases, per unit cost decreases and vice versa.

(b) Output Level

- Level of output and total cost are obviously related.
- Total cost increasing with increase in output. But average and marginal costs first decline and then increase with the increase in the output.
- The average total cost or marginal costs function are derived by relating the relevant costs with the level of capacity utilization of given sized plant.
- Since such as cost function forms a U-shaped curve, a quadratic or cubic function is more appropriate to use.

(c) Price of Inputs

- Changes in input prices influence costs, depending on the selective usage of the inputs and relative changes in their prices.
- When a factor, which is a major component in production, becomes relatively costly it rises the cost significantly.

(d) Technology

- Technology is often qualified as capital- output ratio. Modern and efficient technology is certainly cost saving and is, therefore, generally found to have higher capital output ratio.

(e) Managerial Efficiency

- Though cost is influenced a great deal by managerial efficiency, it is difficult to quantity it.
- However, a change in cost at two points of time may explain how organizational or marginal changes within the firm have bought labour cost efficiency, provided it is possible to exclude the effect of other factors.

3.13.1 Cost Concepts

- Cost concepts deals and study the behaviour of cost in relation to the size of output, scale of operations, price of factors of production, scale of operations and other related economic activities.
- It is the study of the expenses incurred in manufacturing a product and conducting a business such that the expenses are analyzed and classified to determine actual cost of a product with minimum error.
- It is a process through which cost of products are decided and controlled and also ensures effective inventory control and budgetary control.
- It is important function in managerial decisions.
- It enables the management to evaluate the projects in terms for costs and revenues.
- It is performed by cost accounting methods and procedures.

3.14 Cost-Output Relationship

A proper understanding of the nature and behavior of costs is a must for regulation and control of cost of production. The cost of production depends on money forces and an understanding of the functional relationship of cost to various forces will help us to take various decisions. Output is an important factor, which influences the cost.

The cost-output relationship plays an important role in determining the optimum level of production. Knowledge of the cost-output relation helps the manager in cost control, profit prediction, pricing, promotion etc. The relation between cost and its determinants is technically described as the cost function.

C= f (S, O, P, T ….)

Where;

C= Cost (Unit or total cost)

S= Size of plant/scale of production

O= Output level

P= Prices of inputs

T= Technology

Considering the period the cost function can be classified as (1) short-run cost function and (2) long-run cost function. In economics theory, the short-run is defined as that period during which the physical capacity of the firm is fixed and the output can be

increased only by using the existing capacity allows to bring changes in output by physical capacity of the firm.

3.14.1 Cost-Output Relationship in the Short-Run

The cost concepts made use of in the cost behavior are Total cost, Average cost, and Marginal cost.

Total cost is the actual money spent to produce a particular quantity of output. Total Cost is the summation of Fixed Costs and Variable Costs.

TC=TFC+TVC

Up to a certain level of production Total Fixed Cost i.e., the cost of plant, building, equipment etc, remains fixed. But the Total Variable Cost i.e., the cost of labor, raw materials etc., vary with the variation in output. Average cost is the total cost per unit. It can be found out as follows:

AC=TC/Q

The total of Average Fixed Cost (TFC/Q) keep coming down as the production is increased and Average Variable Cost (TVC/Q) will remain constant at any level of output.

Marginal Cost is the addition to the total cost due to the production of an additional unit of product. It can be arrived at by dividing the change in total cost by the change in total output.

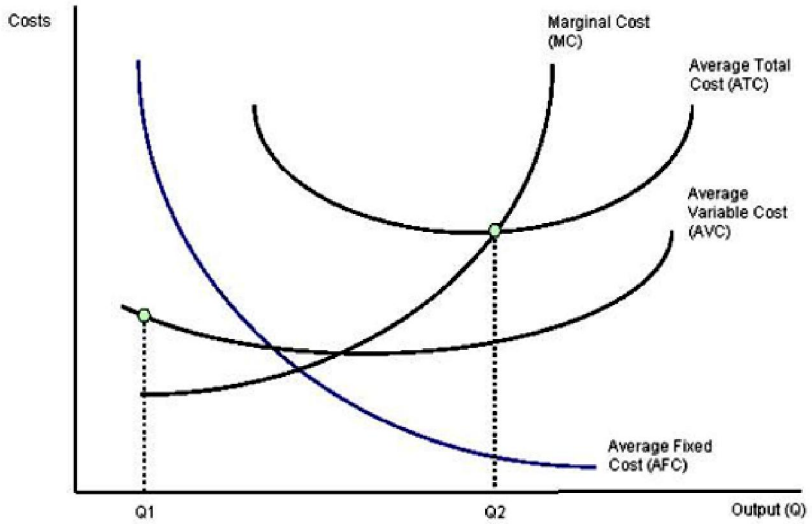
In the short-run there will not be any change in Total Fixed Cost. Hence change in total cost implies change in Total Variable Cost only.

The above table represents the cost-output relationship. The table is prepared on the basis of the law of diminishing marginal returns. The fixed cost Rs. 60 May include rent of factory building, interest on capital, salaries of permanently employed staff, insurance etc. The table shows that fixed cost is same at all levels of output but the average fixed cost, i.e., the fixed cost per unit, falls continuously as the output increases. The expenditure on the variable factors (TVC) is at different rate. If more and more units are produced with a given physical capacity the AVC will fall initially, as per the table declining up to 3rd unit, and being constant up to 4th unit and then rising. It implies that variable factors produce more efficiently near a firm's optimum capacity than at any other levels of output and later rises.

But the rise in AC is felt only after the start rising. In the table 'AVC' starts rising from the 5th unit onwards whereas the 'AC' starts rising from the 6th unit only so long as 'AVC' declines 'AC' also will decline. 'AFC' continues to fall with an increase in Output. When the rise in 'AVC' is more than the decline in 'AFC', the total cost again begin to rise. Thus there will be a stage where the 'AVC', the total cost again begin to rise thus there will be a stage where the 'AVC' may have started rising, yet the 'AC' is still declining because the rise in 'AVC' is less than the drop in 'AFC'.

Thus the table shows an increasing returns or diminishing cost in the first stage and diminishing returns or diminishing cost in the second stage and followed by diminishing returns or increasing cost in the third stage.

The short-run cost-output relationship can be shown graphically as follows.



In the above graph the "AFC' curve continues to fall as output rises an account of its spread over more and more units Output. But AVC curve (i.e. variable cost per unit) first falls and then rises due to the operation of the law of variable proportions. The behaviour of "ATC' curve depends upon the behaviour of 'AVC' curve and 'AFC' curve. In the initial stage of production both 'AVC' and 'AFC' decline and hence 'ATC' also decline. But after a certain point 'AVC' starts rising. If the rise in variable cost is less than the decline in fixed cost, ATC will still continue to decline otherwise AC begins to rise. Thus the lower end of 'ATC' curve thus turns up and gives it a U-shape. That is why 'ATC' curve are U-shaped. The lowest point in 'ATC' curve indicates the least-cost combination of inputs. Where the total average cost is the minimum and where the "MC' curve intersects 'AC' curve, It is not be the maximum output level rather it is the point where per unit cost of production will be at its lowest.

The relationship between 'AVC', 'AFC' and 'ATC' can be summarized up as follows:

If both AFC and 'AVC' fall, 'ATC' will also fall.

When 'AFC' falls and 'AVC' rises

'ATC' will fall where the drop in 'AFC' is more than the raise in 'AVC'.

'ATC' remains constant is the drop in 'AFC' = rise in 'AVC'

'ATC' will rise where the drop in 'AFC' is less than the rise in 'AVC'

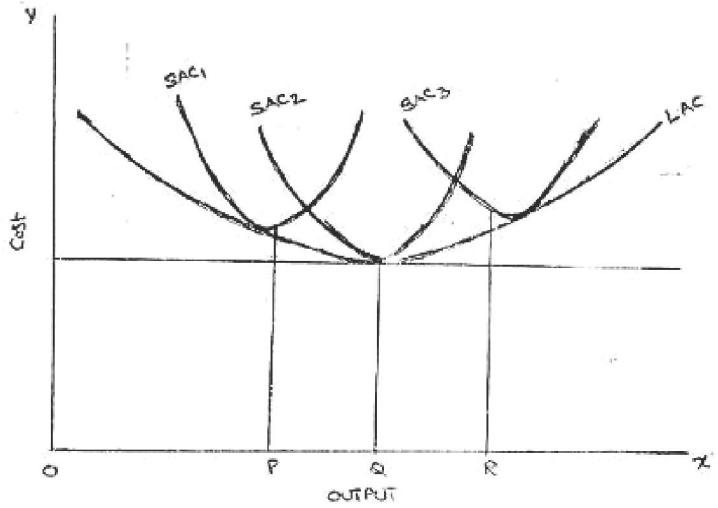
3.14.2 Cost-Output Relationship in the Long-Run

Long run is a period, during which all inputs are variable including the one, which are fixes in the short-run. In the long run a firm can change its output according to its demand. Over a long period, the size of the plant can be changed, unwanted buildings can be sold staff can be increased or reduced. The long run enables the firms to expand and scale of their operation by bringing or purchasing larger quantities of all the inputs. Thus in the long run all factors become variable.

The long-run cost-output relations therefore imply the relationship between the total cost and the total output. In the long-run cost-output relationship is influenced by the law of returns to scale.

In the long run a firm has a number of alternatives in regards to the scale of operations. For each scale of production or plant size, the firm has an appropriate short-run average cost curves. The short-run average cost (SAC) curve applies to only one plant whereas the long-run average cost (LAC) curve takes in to consideration many plants.

The long-run cost-output relationship is shown graphically with the help of "LCA' curve.



To draw on 'LAC' curve we have to start with a number of 'SAC' curves. In the above figure it is assumed that technologically there are only three sizes of plants – small, medium and large, 'SAC', for the small size, 'SAC2' for the medium size plant and 'SAC3' for the large size plant. If the firm wants to produce 'OP' units of output, it will choose the smallest plant. For an output beyond 'OQ' the firm wills optimum for medium size plant. It does not mean that the OQ production is not possible with small plant. Rather it implies that cost of production will be more with small plant compared to the medium plant.

For an output 'OR' the firm will choose the largest plant as the cost of production will be more with medium plant. Thus the firm has a series of 'SAC' curves. The 'LCA' curve drawn will be tangential to the entire family of 'SAC' curves i.e. the 'LAC' curve touches each 'SAC' curve at one point, and thus it is known as envelope curve. It is also known as planning curve as it serves as guide to the entrepreneur in his planning to expand the production in future. With the help of 'LAC' the firm determines the size of plant which yields the lowest average cost of producing a given volume of output it anticipates.

3.15 Short run Vs Long Run

Basis of Difference	Short Run Costs	Long Run Costs
Time Period	The short-run is a period of time in which output can be increased or decreased by changing only variable factors.	The long run is defined as a period in which quantities of all factors are variable. No factor is fixed
Expansion	No increase in short-run output can be made by expanding the existing plants and equipments.	In the long run output can be expanded not only by increasing labour and raw-materials but also by expanding the size of plants and equipments.
Produce Output	In short run a firm produces output at a higher point on its short-run marginal cost curve.	The firms, under long run produce at another cost curve called long period curve. In long period a firm is at will to produce or to leave the industry.
Technology	In Short run costs production technology is given.	Long run can adapt production technology in market.

3.16 Average Cost Curves

Average cost is equal to total cost divided by the number of goods produced (the output quantity, Q). It is also equal to the sum of average variable costs (total variable costs divided by Q) plus average fixed costs (total fixed costs divided by Q). Average costs may be dependent on the time period considered (increasing production may be expensive or impossible in the short term, for example). Average costs affect the supply curve and are a fundamental component of supply and demand.

$$\text{Average Cost} = \text{Total Cost} / \text{Output Quantity}$$

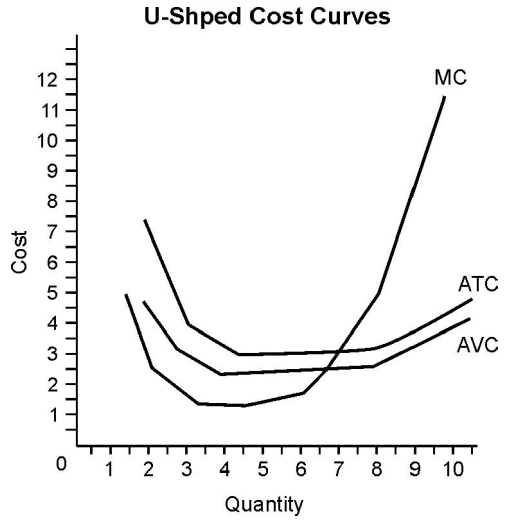
$$AC = TC / Q$$

Average cost will vary in relation to the quantity produced unless fixed costs are zero and variable costs constant. A cost curve can be plotted, with cost on the y-axis and quantity on the x-axis. Marginal costs are often shown on these graphs, with marginal cost representing the cost of the last unit produced at each point; marginal costs are the first derivative of average costs.

U - Shape of Average Cost Curves

A typical average cost curve will have a U-shape, because fixed costs are all incurred before any production takes place and marginal costs are typically increasing, because of diminishing marginal productivity.

In this "typical" case, for low levels of production there are economies of scale: marginal costs are below average costs, so average costs are decreasing as quantity increases.



Each is U-shaped because it begins with relatively high but falling cost for small quantities of output, reaches a minimum value, then has rising cost at large quantities of output. Although the average fixed cost curve is not U-shaped, it is occasionally included with the other three just for sake of completeness.

SHORT ANSWERS

1. Production Function

Production function refers to the functional relationship between the quantity of a good produced (output) and factors of production (inputs).

2. Cobb-Douglas Production Function, given by Charles W. Cobb and Paul H. Douglas is a linear homogeneous production function, which implies, that the factors of production can be substituted for one another up to a certain extent only.

3. Marginal Rate of Technical Substitution (MRTS)

Technical Rate of Substitution (TRS) – is the amount by which the quantity of one input has to be reduced, when one extra unit of another input is used, so that output remains constant

MRTS= (-MP 1/MP2{\displaystyle y={\bar {y}}})

4. Iso-Quant Curve

The term Iso-quant or Iso-product is composed of two words, Iso = equal, quant = quantity or product = output. Thus it means equal quantity or equal product. Different factors are needed to produce a good. These factors may be substituted for one another. A given quantity of output may be produced with different combinations of factors. Iso-quant curves are also known as Equal-product or Iso-product or Production Indifference curves. Since it is an extension of Indifference curve analysis from the theory of consumption to the theory of production. Thus, an Iso-product or Iso-quant curve is that curve which shows the different combinations of two factors yielding the same total product. Like, indifference curves, Iso- quant curves also slope downward from left to right. The slope of an Iso-quant curve expresses the marginal rate of technical substitution (MRTS).

5. Returns to Scale

"The term returns to scale refers to the changes in output as all factors change by the same proportion." Koutsoyiannis

"Returns to scale relates to the behavior of total output as all inputs are varied and is a long run concept". Leibhafsky

6. Returns to scale are of the following three types:

1. Increasing Returns to scale.
2. Constant Returns to Scale
3. Diminishing Returns to Scale

7. Economies of Scale

Economies of scale are an economics term that describes a competitive advantage that large entities have over smaller entities. It means that the larger the business, non-profit or government, the lower its costs. For example, the cost of producing one unit is less when many units are produced at once.

8. Opportunity Cost Concept

It is cost which refers to sacrificing the next best alternative in-order to attain that alternative. This is nothing but the revenue that is lost in not utilizing the best alternative.

UNIT IV

Market Structure and Pricing Practices: Classification of Market Structures - Features - competitive situations - Price-Output determination under Perfect competition, Monopoly, Monopolistic competition and Oligopoly - both the long run and short run. Pricing Practices- Price Discrimination- Pricing Strategies- Pricing Over Product Life Cycle- Break Even Analysis.

4.1 MARKET STRUCTURE

Market, a means by which the exchange of goods and services takes place as a result of buyers and sellers being in contact with one another, either directly or through mediating agents or institutions.

Market consists of all the consumers and producing firms of a particular good or service. We remember that firms are usually trying to maximize their profit and the consumers are always trying to maximize their satisfaction. The firms will decide on what level of output to produce and at what price to sell their product for. The way in which a firm behaves in making these two decisions depends on the type of market in which the firm is operating and the conditions it faces.

- The term 'Market Structure' refers to the type of market in which the firm operate.
- It describes the competitive environment in the market for any goods/ services.
- It refers to the characteristics of a market that influences the behavior and performance of firms that sell in the market.

Market structure refers to the nature and degree of competition in the market for goods and services. The structures of market both for goods market and service (factor) market are determined by the nature of competition prevailing in a particular market.

4.1.1 Market Structure

Meaning

Market structure refers to the nature and degree of competition in the market for goods and services. The structures of market both for goods market and service (factor) market are determined by the nature of competition prevailing in a particular market.

4.1.2 Features of a Market Are

1) An Area

In economics, a market does not mean a particular place but the whole region where sellers and buyers of a product ate spread. Modem modes of communication and transport have made the market area for a product very wide.

2) One Commodity

In economics, a market is not related to a place but to a particular product. Hence, there are separate markets for various commodities. For example, there are separate markets for clothes, grains, jewellery, etc.

3) Buyers and Sellers

The presence of buyers and sellers is necessary for the sale and purchase of a product in the market. In the modem age, the presence of buyers and sellers is not necessary in the market because they can do transactions of goods through letters, telephones, business representatives, internet, etc.

4) Free Competition

There should be free competition among buyers and sellers in the market. This competition is in relation to the price determination of a product among buyers and sellers.

5) One Price

The price of a product is the same in the market because of free competition among buyers and sellers.

4.1.3 Determinants of Market Structure

There are a number of determinants of market structure for a particular good.

They are

1) The number and nature of sellers.
2) The number and nature of buyers.
3) The nature of the product.
4) The conditions of entry into and exit from the market.
5) Economies of scale.

They are discussed as under

1. Number and Nature of Sellers

The market structures are influenced by the number and nature of sellers in the market. They range from large number of sellers in perfect competition to a single seller in pure monopoly, to two sellers in duopoly, to a few sellers in oligopoly, and to many sellers of differentiated products.

2. Number and Nature of Buyers

The market structures are also influenced by the number and nature of buyers in the market. If there is a single buyer in the market, this is buyer's monopoly and is called monopsony market. Such markets exist for local labour employed by one large employer. There may be two buyers who act jointly in the market. This is called duopsony market. They may also be a few organised buyers of a product.

This is known as oligopsony. Duopsony and oligopsony markets are usually found for cash crops such as rice, sugarcane, etc. when local factories purchase the entire crops for processing.

3. Nature of Product

It is the nature of product that determines the market structure. If there is product differentiation, products are close substitutes and the market is characterised by monopolistic competition. On the other hand, in case of no product differentiation, the market is characterised by perfect competition. And if a product is completely different from other products, it has no close substitutes and there is pure monopoly in the market.

4. Entry and Exit Conditions

The conditions for entry and exit of firms in a market depend upon profitability or loss in a particular market. Profits in a market will attract the entry of new firms and losses lead to the exit of weak firms from the market. In a perfect competition market, there is freedom of entry or exit of firms.

But in monopoly and oligopoly markets, there are barriers to entry of new firms. Usually, governments have a monopoly in public utility services like postal, air and road transport, water and power supply services, etc. By granting exclusive franchises, entries of new supplies are barred. In oligopoly markets, there are barriers to entry of firms because of collusion, tacit agreements, cartels, etc. On the other hand, there are no restrictions in entry and exit of firms in monopolistic competition due to product differentiation.

5. Economies of Scale

Firms that achieve large economies of scale in production grow large in comparison to others in an industry. They tend to weed out the other firms with the result that a few firms are left to compete with each other. This leads to the emergency of oligopoly. If only one firm attains economies of scale to such a large extent that it is able to meet the entire market demand, there is monopoly.

4.2 Classification of Market Structure/Competition

The Four Types of Market Structures

There are quite a few different market structures that can characterize an economy. However, if you are just getting started with this topic, you may want to look at the four basic types of market structures first. Namely perfect competition, monopolistic competition, oligopoly, and monopoly. Each of them has their own set of characteristics and assumptions, which in turn affect the decision making of firms and the profits they can make.

It is important to note that not all of these market structures actually exist in reality, some of them are just theoretical constructs. Nevertheless, they are of critical importance, because they can illustrate relevant aspects of competition firms' decision making. Hence, they will help you to understand the underlying economic principles. With that being said, let's look at them in more detail.

a) Perfect Competition

Perfect competition describes a market structure, where a large number of small firms compete against each other. In this scenario, a single firm does not have any significant market power. As a result, the industry as a whole produces the socially optimal level of output, because none of the firms have the ability to influence market prices.

The idea of perfect competition builds on a number of assumptions

1) All firms maximize profits
2) There is free entry and exit to the market,
3) All firms sell completely identical (i.e. homogenous) goods,
4) There are no consumer preferences.

By looking at those assumptions it becomes quite obvious, that we will hardly ever find perfect competition in reality. This is an important aspect, because it is the only market structure that can (theoretically) result in a socially optimal level of output.

Probably the best example of a market with almost perfect competition we can find in reality is the stock market. If you are looking for more information on perfect competition, you can also check our post on perfect competition vs imperfect competition.

b) Monopolistic Competition

Monopolistic competition also refers to a market structure, where a large number of small firms compete against each other. However, unlike in perfect competition, the firms in monopolistic competition sell similar, but slightly differentiated products. This gives them a certain degree of market power which allows them to charge higher prices within a certain range.

Monopolistic competition builds on the following assumptions

1) All firms maximize profits
2) There is free entry and exit to the market;
3) Firms sell differentiated products
4) Consumers may prefer one product over the other.

Now, those assumptions are a bit closer to reality than the ones we looked at in perfect competition. However, this market structure will no longer result in a socially optimal level of output, because the firms have more power and can influence market prices to a certain degree.

An example of monopolistic competition is the market for cereals. There is a huge number of different brands (e.g. Cap'n Crunch, Lucky Charms, Froot Loops, Apple Jacks). Most of them probably taste slightly different, but at the end of the day, they are all breakfast cereals.

c) Oligopoly

An oligopoly describes a market structure which is dominated by only small number firms. This results in a state of limited competition. The firms can either compete against each other or collaborate. By doing so they can use their collective market power to drive up prices and earn more profit.

The oligopolistic market structure builds on the following assumptions:

1) All firms maximize profits,
2) Oligopolies can set prices,
3) There are barriers to entry and exit in the market,
4) Products may be homogenous or differentiated, and
5) There are only a few firms that dominate the market.

Unfortunately, it is not clearly defined what a «few» firms means exactly. As a rule of thumb, we say that an oligopoly typically consists of about 5 dominant firms.

An example of an oligopoly is the market for gaming consoles. There are only three dominant players in this market: Microsoft, Sony, and Nintendo. This gives each of them a significant amount of market power.

d) Monopoly

A monopoly refers to a market structure where a single firm controls the entire market. In this scenario, the firm has the highest level of market power, as consumers do not have any alternatives. As a result, monopolists often reduce output to increase prices and earn more profit.

The following assumptions are made when we talk about monopolies:

1) The monopolist maximizes profit,
2) It can set the price,
3) There are high barriers to entry and exit,
4) There is only one firm that dominates the entire market.

4.3 Features of Market Structure

Market structure is influence by following features

1. Degree of Seller Concentration
2. Degree of Buyers Concentration
3. Degree of Product Differentiation
4. Conditions of Entry to the Market.

1. Degree of Seller Concentration

This refers to the numbers of sellers and their market share for a give product/ service in the market. It refers to the numbers of firms producing a particular type of output.

2. Degree of Buyers Concentration

It refers to the number of buyers and their extent of purchases of given product/ services in the market.

3. Degree of Product Differentiation

It refers to the extent by which the product of each trader is differentiated from that of the other.

Product Differentiation can take several forms such as varieties, brands etc. eg. Cars.

4. Conditions of Entry to the Market

There are certain restrictions to enter into or exit from the market.

The degree of entry/ exit of market, also determine the market structure.

In other words, there could be large number of firms, if the number of restrictions to enter the market is low and vice versa. The behavior of a firm, may influence the performance of other firms in the industry.

4.4 Competitive Situations

On the basis of competition, a market can be classified in the following ways:

1. Perfect Competition
2. Monopoly
3. Duopoly
4. Oligopoly
5. Monopolistic Competition

1. Perfect Competition Market

A perfectly competitive market is one in which the number of buyers and sellers is very large, all engaged in buying and selling a homogeneous product without any artificial restrictions and possessing perfect knowledge of market at a time. In the words of A. Koutsoyiannis, "Perfect competition is a market structure characterised by a complete absence of rivalry among the individual firms." According to R.G. Lipsey, "Perfect competition is a market structure in which all firms in an industry are price- takers and in which there is freedom of entry into, and exit from, industry."

Characteristics of Perfect Competition

The following are the conditions for the existence of perfect competition:

a) Large Number of Buyers and Sellers:

The first condition is that the number of buyers and sellers must be so large that none of them individually is in a position to influence the price and output of the industry as a whole. The demand of individual buyer relative to the total demand is so small that he cannot influence the price of the product by his individual action.

Similarly, the supply of an individual seller is so small a fraction of the total output that he cannot influence the price of the product by his action alone. In other words, the individual seller is unable to influence the price of the product by increasing or decreasing its supply.

Rather, he adjusts his supply to the price of the product. He is "output adjuster". Thus no buyer or seller can alter the price by his individual action. He has to accept the price for the product as fixed for the whole industry. He is a "price taker".

b) Freedom of Entry or Exit of Firms:

The next condition is that the firms should be free to enter or leave the industry. It implies that whenever the industry is earning excess profits, attracted by these profits some new firms enter the industry. In case of loss being sustained by the industry, some firms leave it.

c) Homogeneous Product

Each firm produces and sells a homogeneous product so that no buyer has any preference for the product of any individual seller over others. This is only possible if units of the same product produced by different sellers are perfect substitutes. In other words, the cross elasticity of the products of sellers is infinite.

No seller has an independent price policy. Commodi-ties like salt, wheat, cotton and coal are homogeneous in nature. He cannot raise the price of his product. If he does so, his customers would leave him and buy the product from other sellers at the ruling lower price.

The above two conditions between themselves make the average revenue curve of the individual seller or firm perfectly elastic, horizontal to the X-axis. It means that a firm can sell more or less at the ruling market price but cannot influence the price as the product is homogeneous and the number of sellers very large.

d) Absence of Artificial Restrictions

The next condition is that there is complete openness in buying and selling of goods. Sellers are free to sell their goods to any buyers and the buyers are free to buy from any sellers. In other words, there is no discrimination on the part of buyers or sellers.

Moreo-ver, prices are liable to change freely in response to demand-supply conditions. There are no efforts on the part of the producers, the government and other agencies to control the supply, demand or price of the products. The movement of prices is unfettered.

e) Profit Maximisation Goal

Every firm has only one goal of maximising its profits.

f) Perfect Mobility of Goods and Factors

Another requirement of perfect competition is the perfect mobility of goods and factors between industries. Goods are free to move to those places where they can fetch the highest price. Factors can also move from a low-paid to a high-paid industry.

g) Perfect Knowledge of Market Conditions:

This condition implies a close contact between buyers and sellers. Buyers and sellers possess complete knowledge about the prices at which goods are being bought and sold, and of the prices at which others are prepared to buy and sell. They have also perfect knowledge of the place where the transactions are being carried on. Such perfect knowledge of market conditions forces the sellers to sell their product at the prevailing market price and the buyers to buy at that price.

h) Absence of Transport Costs

Another condition is that there are no transport costs in carry-ing of product from one place to another. This condition is essential for the existence of perfect compe-tition which requires that a commodity must have the same price everywhere at any time. If transport costs are added to the price of the product, even a homogeneous commodity will have different prices depending upon transport costs from the place of supply.

i) Absence of Selling Costs:

Under perfect competition, the costs of advertising, sales-promotion, etc. do not arise because all firms produce a homogeneous product.

2. Monopoly Market

Monopoly is a market situation in which there is only one seller of a product with barriers to entry of others. The product has no close substitutes. The cross elasticity of demand with every other product is very low. This means that no other firms produce a similar product. According to D. Salvatore, "Monopoly is the form of market organisation in which there is a single firm selling a commodity for which there are no close substitutes." Thus the monopoly firm is itself an industry and the monopolist faces the industry demand curve.

The demand curve for his product is, therefore, relatively stable and slopes downward to the right, given the tastes, and incomes of his customers. It means that more of the product can be sold at a lower price than at a higher price. He is a price-maker who can set the price to his maximum advantage.

However, it does not mean that he can set both price and output. He can do either of the two things. His price is determined by his demand curve, once he selects his output level. Or, once he sets the price for his product, his output is determined by what consumers will take at that price. In any situation, the ultimate aim of the monopolist is to have maximum profits.

Characteristics of Monopoly

The main features of monopoly are as follows

1. Under monopoly, there is one producer or seller of a particular product and there is no differ-ence between a firm and an industry. Under monopoly a firm itself is an industry.
2. A monopoly may be individual proprietorship or partnership or joint stock company or a co-operative society or a government company.
3. A monopolist has full control on the supply of a product. Hence, the elasticity of demand for a monopolist's product is zero.
4. There is no close substitute of a monopolist's product in the market. Hence, under monopoly, the cross elasticity of demand for a monopoly product with some other good is very low.
5. There are restrictions on the entry of other firms in the area of monopoly product.
6. A monopolist can influence the price of a product. He is a price-maker, not a price-taker.

7. Pure monopoly is not found in the real world.
8. Monopolist cannot determine both the price and quantity of a product simultaneously.
9. Monopolist's demand curve slopes downwards to the right. That is why, a monopolist can increase his sales only by decreasing the price of his product and thereby maximise his profit. The marginal revenue curve of a monopolist is below the average revenue curve and it falls faster than the average revenue curve. This is because a monopolist has to cut down the price of his product to sell an additional unit.

3. Duopoly

Duopoly is a special case of the theory of oligopoly in which there are only two sellers. Both the sellers are completely independent and no agreement exists between them. Even though they are inde-pendent, a change in the price and output of one will affect the other, and may set a chain of reactions. A seller may, however, assume that his rival is unaffected by what he does, in that case he takes only his own direct influence on the price.

If, on the other hand, each seller takes into account the effect of his policy on that of his rival and the reaction of the rival on himself again, then he considers both the direct and the indirect influences upon the price. Moreover, a rival seller's policy may remain unaltered either to the amount offered for sale or to the price at which he offers his product. Thus the duopoly problem can be considered as either ignoring mutual dependence or recognising it.

4. Oligopoly

Oligopoly is a market situation in which there are a few firms selling homogeneous or differenti-ated products. It is difficult to pinpoint the number of firms in 'competition among the few.' With only a few firms in the market, the action of one firm is likely to affect the others. An oligopoly industry produces either a homogeneous product or heterogeneous products.

The former is called pure or per-fect oligopoly and the latter is called imperfect or differentiated oligopoly. Pure oligopoly is found primarily among producers of such industrial products as aluminium, cement, copper, steel, zinc, etc. Imperfect oligopoly is found among producers of such consumer goods as automobiles, cigarettes, soaps and detergents, TVs, rubber tyres, refrigerators, typewriters, etc.

Characteristics of Oligopoly:

In addition to fewness of sellers, most oligopolistic industries have several common characteris-tics which are explained below:

1) Interdependence:

There is recognised interdependence among the sellers in the oligopolistic market. Each oligopolist firm knows that changes in its price, advertising, product characteristics, etc. may lead to counter-moves by rivals. When the sellers are a few, each produces a considerable fraction of the total output of the industry and can have a noticeable effect on market conditions.

He can reduce or increase the price for the whole oligopolist market by selling more quantity or less and affect the profits of the other sellers. It implies that each seller is aware of the price-moves of the other sellers and their impact on his profit and of the influence of his price-move on the actions of rivals.

Thus there is complete interdependence among the sellers with regard to their price-output policies. Each seller has direct and ascertainable influences upon every other seller in the industry. Thus, every move by one seller leads to counter-moves by the others.

2) Advertisement

The main reason for this mutual interdependence in decision making is that one producer's fortunes are dependent on the policies and fortunes of the other producers in the indus-try. It is for this reason that oligopolist firms spend much on advertisement and customer services.

As pointed out by Prof. Baumol, "Under oligopoly advertising can become a life-and-death matter." For example, if all oligopolists continue to spend a lot on advertising their products and one seller does not match up with them he will find his customers gradually going in for his rival's product. If, on the other hand, one oligopolist advertises his product, others have to follow him to keep up their sales.

3) Competition:

This leads to another feature of the oligopolistic market, the presence of com-petition. Since under oligopoly, there are a few sellers, a move by one seller immediately affects the rivals. So each seller is always on the alert and keeps a close watch over the moves of its rivals in order to have a counter-move. This is true competition.

4) Barriers to Entry of Firms

As there is keen competition in an oligopolistic industry, there are no barriers to entry into or exit from it. However, in the long run, there are some types of barriers to entry which tend to restraint new firms from entering the industry.

They may be

a) Economies of scale enjoyed by a few large firms;

b) Control over essential and specialised inputs;

c) High capital requirements due to plant costs, advertising costs, etc.

d) Exclusive patents and licenses; and

e) The existence of unused capacity which makes the industry unattractive. When entry is restricted or blocked by such natural and artificial barriers, the oligopolistic industry can earn long-run super normal profits.

5) Lack of Uniformity

Another feature of oligopoly market is the lack of uniformity in the size of firms. Finns differ considerably in size. Some may be small, others very large. Such a situation is asymmetrical. This is very common in the American economy. A symmetrical situation with firms of a uniform size is rare.

6) Demand Curve

It is not easy to trace the demand curve for the product of an oligopolist. Since under oligopoly the exact behaviour pattern of a producer cannot be ascertained with certainty, his demand curve cannot be drawn accurately, and with definiteness. How does an individual seller s de-mand curve look like in oligopoly is most uncertain because a seller's price or output moves lead to unpredictable reactions on price-output policies of his rivals, which may have further repercussions on his price and output.

The chain of action reaction as a result of an initial change in price or output, is all a guess-work. Thus a complex system of crossed conjectures emerges as a result of the interdependence- among the rival oligopolists which is the main cause of the indeterminateness of the demand curve.

If the oligopolist seller does not have a definite demand curve for his product, then how does he affect his sales. Presumably, his sales depend upon his current price and those of his rivals. However, a number of conjectural demand curves can be imagined.

For example, in differentiated oligopoly where each seller fixes a separate price for his product, a reduction in price by one seller may lead to an equivalent, more, less or no price reduction by rival sellers. In each case, a demand curve can be drawn by the seller within the range of competitive and monopoly demand curves.

Leaving aside retaliatory price movements, the individual seller's demand curve under oligopoly for both price cuts and increases is neither more elastic than under perfect or monopolistic competition nor less elastic than under mo-nopoly. It may still be indefinite and indeterminate.

This situation is shown in Figure 1 where KD1 is the elastic demand curve and MD is the less elastic demand curve. The oligopolies' demand curve is the dotted kinked KPD. The reason is quite simple. If a seller reduces the price of his product, his rivals also lower the prices of their products so that he is not able to increase his sales.

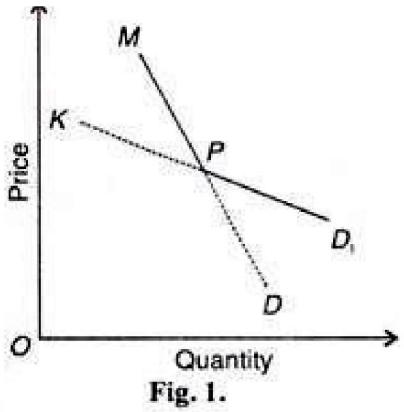


Fig. 1.

The oligopolies' demand curve

So the demand curve for the individual seller's product will be less elastic just below the present price P (where KD1and MD curves are shown to intersect). On the other hand, when he raises the price of his product, the other sellers will not follow him in order to earn larger profits at the old price. So this individual seller will experience a sharp fall in the demand for his product.

Thus his demand curve above the price P in the segment KP will be highly elastic. Thus the imagined demand curve of an oligopolist has a comer or kink at the current price P. Such a demand curve is much more elastic for price increases than for price decreases.

7) No Unique Pattern of Pricing Behaviour

The rivalry arising from interdependence among the oligopolists leads to two conflicting motives. Each wants to remain independent and to get the maximum possible profit. Towards this end, they act and react on the price-output movements of one another in a continuous element of uncertainty.

On the other hand, again motivated by profit maximisation each seller wishes to cooperate with his rivals to reduce or eliminate the element of uncertainty. All rivals enter into a tacit or formal agreement with regard to price-output changes. It leads to a sort of monopoly within oligopoly.

They may even recognise one seller as a leader at whose initiative all the other sellers raise or lower the price. In this case, the individual seller's demand curve is a part of the industry demand curve, having the elasticity of the latter. Given these conflicting attitudes, it is not possible to predict any unique pattern of pricing behaviour in oligopoly markets.

5. Monopolistic Competition

Monopolistic competition refers to a market situation where there are many firms selling a differ-entiated product. "There is competition which is keen, though not perfect, among many firms making very similar products." No firm can have any perceptible influence on the price-output policies of the other sellers nor can it be influenced much by their actions. Thus monopolistic competition refers to competition among a large number of sellers producing close but not perfect substitutes for each other.

The following are the main characteristics of monopolistic competition

1) Large Number of Sellers

In monopolistic competition the number of sellers is large. They are "many and small enough" but none controls a major portion of the total output. No seller by chang-ing its price-output policy can have any perceptible effect on the sales of others and in turn be influenced by them. Thus there is no recognised interdependence of the price-output policies of the sellers and each seller pursues an independent course of action.

2) Product Differentiation

One of the most important features of the monopolistic competi-tion is differentiation. Product differentiation implies that products are different in some ways from each other. They are heterogeneous rather than homogeneous so that

each firm has an absolute monopoly in the production and sale of a differentiated product. There is, however, slight difference between one product and other in the same category.

Products are close substitutes with a high cross-elasticity and not perfect substitutes. Product "differentiation may be based upon certain characteristics of the prod-ucts itself, such as exclusive patented features; trade-marks; trade names; peculiarities of package or container, if any; or singularity in quality, design, colour, or style. It may also exist with respect to the conditions surrounding its sales."

3) Freedom of Entry and Exit of Firms

Another feature of monopolistic competition is the freedom of entry and exit of firms. As firms are of small size and are capable of producing close substitutes, they can leave or enter the industry or group in the long run.

4) Nature of Demand Curve

Under monopolistic competition no single firm controls more than a small portion of the total output of a product. No doubt there is an element of differentiation neverthe-less the products are close substitutes. As a result, a reduction in its price will increase the sales of the firm but it will have little effect on the price-output conditions of other firms, each will lose only a few of its customers.

Likewise, an increase in its price will reduce its demand substantially but each of its rivals will attract only a few of its customers. Therefore, the demand curve (average revenue curve) of a firm under monopolistic competition slopes downward to the right. It is elastic but not perfectly elastic within a relevant range of prices of which he can sell any amount.

5) Independent Behaviour

In monopolistic competition, every firm has independent policy. Since the number of sellers is large, none controls a major portion of the total output. No seller by changing its price-output policy can have any perceptible effect on the sales of others and in turn be influenced by them.

6) Product Groups

There is no any 'industry' under monopolistic competition but a 'group' of firms producing similar products. Each firm produces a distinct product and is itself an industry. Chamberlin lumps together firms producing very closely related products and calls them product groups, such as cars, cigarettes, etc.

7) Selling Costs

Under monopolistic competition where the product is differentiated, selling costs are essential to push up the sales. Besides, advertisement, it includes expenses on salesman, allowances to sellers for window displays, free service, free sampling, premium coupons and gifts, etc.

8) Non-price Competition

Under monopolistic competition, a firm increases sales and profits of his product without a cut in the price. The monopolistic competitor can change his product either by varying its quality, packing, etc. or by changing promotional programmes.

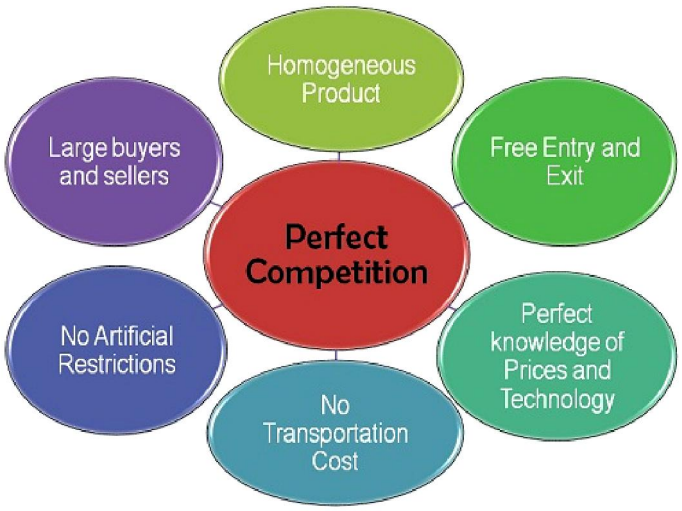
4.5 Perfect Ccompetition

Definition

The Perfect Competition is a market structure where a large number of buyers and sellers are present, and all are engaged in the buying and selling of the homogeneous products at a single price prevailing in the market.

In other words, perfect competition also referred to as a pure competition, exists when there is no direct competition between the rivals and all sell identically the same products at a single price.

Features of Perfect Competition



whole market. Similarly, a single seller cannot influence the levels of output, who is too small in relation to the gamut of sellers operating in the market.

ii) Homogeneous Product

Each competing firm offers the homogeneous product, such that no individual has a preference for a particular seller over the others. Salt, wheat, coal, etc. are some of the homogeneous products for which customers are indifferent and buy these from the one who charges a less price. Thus, an increase in the price would let the customer go to some other supplier.

iii) Free Entry and Exit

Under the perfect competition, the firms are free to enter or exit the industry. This implies, If a firm suffers from a huge loss due to the intense competition in the industry, then it is free to leave that industry and begin its business operations in any of the industry, it wants. Thus, there is no restriction on the mobility of sellers.

iv) Perfect knowledge of Prices and Technology

This implies, that both the buyers and sellers have complete knowledge of the market conditions such as the prices of products and the latest technology being used to produce it. Hence, they can buy or sell the products anywhere and anytime they want.

v) No transportation Cost

There is an absence of transportation cost, i.e. incurred in carrying the goods from one market to another. This is an essential condition of the perfect competition since the homogeneous product should have the same price across the market and if the transportation cost is added to it, then the prices may differ.

vi) Absence of Government and Artificial Restrictions

Under the perfect competition, both the buyers and sellers are free to buy and sell the goods and services. This means any customer can buy from any seller, and any seller can sell to any buyer.Thus, no restriction is imposed on either party. Also, the prices are liable to change freely as per the demand-supply conditions. In such a situation, no big producer and the government can intervene and control the demand, supply or price of the goods and services.

Thus, under the perfect competition, a seller is the price taker and cannot influence the market price.

4.5.1 Price And Output Determination Under Perfect Competition

The market price and output is determined on the basis of consumer demand and market supply under perfect competition. In other words, the firms and industry should be in equilibrium at a price level in which quantity demand is equal to the quantity supplied. They make maximum profit if the firm and industry are in equilibrium.

Price determination has to be shown in the following diagram.

Price of Curd (Rs.)	Quantity Demand (Litre)	Quantity Supplied (Litre)	Conditions
2	90	30	D>S
3	80	40	
4	70	50	
5	60	60	D=S
6	50	70	D<S
7	40	80	
8	30	90	

In this above table, we can say that when a price is low, demand is increased. Talking about the part of supply, as price increases, supply is also increased. When the price is low, the competition between the consumers can raise the price and when the price is high, the competition among the sellers reduces the price. So, the price finally comes to be determined at such a place when the demand and supply of a commodity are equal to each other. At Rs. 5, the demand of curd is 60 litre and supply is also 60 litres.

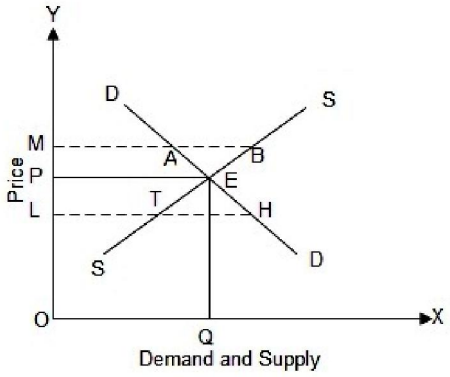


Fig: Price and output determination under perfect competition market

In the given figure, both the demand curve DD and the supply curve SS are intersected at point E. So, the point E is the equilibrium point. The price is fixed at OP. At OP, the demand and supply are equal to OQ. If the price rises from OP to OM, the supply increases. In this price, supply exceeds the demand thus at a higher price OM, the quantity MB is supplied but only the MA quantity is demanded and the quantity AB remains unsold. Due to this the price should be reduced and finally the price comes to remain at OP. If price is decreased form OP to OL than supply decreased upto LT but demand is increased upto LH. Due to this, there is excess demand than supply. So, the demand exceeds the supply the consumer starts to compare them to get the quantities of goods they requires. As a result, price again rises to OP.

Short-Run Equilibrium of Firm and Industry

Whether a firm makes abnormal profit or loss depends on the level of AC in the short run equilibrium. It generally consists of 3 cases i.e abnormal profit, normal profit, and loss.

According to marginal revenue (MR) and marginal cost (MC) approach firm can get equilibrium when it mentioned two conditions which are:

Marginal revenue (MR) must be equal to marginal cost (MC) i.e. MC = MR

Slope of MC curve > Slope of MR curve i.e. MC curve cuts MR curve from below.

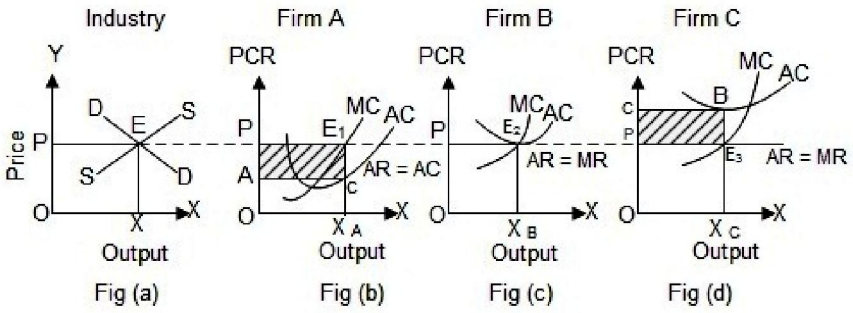


Fig: Short run equilibrium of firm and industry

From the figure, the industry demand curve DD and supply curve SS intersect each other at point 'E' where the market price is P. Firm A enjoys abnormal profit as AC lies below equilibrium of the AR curve. So, the shaded region PACE1 is the abnormal profit enjoyed by the firm. Likewise, firm B faces normal profit, as AC is tangent to AR at equilibrium. Finally, firm C bears loss and the shaded region PCBE3 is the loss faced by the firm.

Long-Run Equilibrium of Firm and Industry

A firm, in the long run, can adjust their fixed inputs. In the long run, under perfect competition, entry and exit are easy and free. All the firms in the perfect competition can earn only normal profit in the long run.

Under perfect competition, the firms could be in long run equilibrium if they fulfill the following conditions:

Long run marginal revenue (LMR) = Long run marginal cost (LMC)

Long run marginal cost (LMC) must cut long run marginal revenue (LMR) from below at equilibrium point.

The slope of LMC must be greater than the slope of LMR.

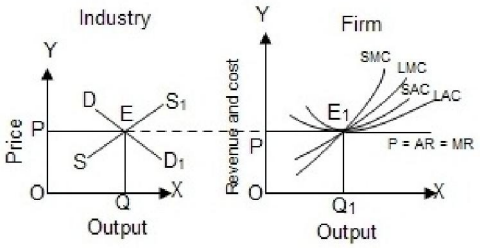


Fig: Long run equilibrium of firm and industry

The given figure shows the equillibrium of firm and industry respectively under perfect competition market. An industry demand curve DD1 and supply curve SS1 intersect each other at point E where the market price is P. At point E, industry determine OP price for OQ quantity of product.

Next figure of firm explains long run equilibrium of competitive firm where LMC and LAC represent long run marginal cost and average cost curves where, at point E, P= LAR = LMR = LMC = LAC respectively. OP price is determined for OQ1 level of output and firm making only normal profit.

4.6 Monopoly

Definition of Monopoly

- The word 'Mono' means single and 'Poly' means Seller. The term Monopoly refers to the market in which a Single firm controls the whole supply or price of a particular product which has no close substitute.

- It cannot control or determine both price and supply as it cannot control demand.
- If the firm sets the price higher, it may have to lose sales, and as such it can either fix the output or price, not both. What it can decide depends on the prevailing demand and costs.

4.6.1 Classification of Monopoly

- The Monopoly firms as a Price makes cam be classified into two types:-

  (a) Simple Monopoly: If the monopoly firm charges the same price from all its clients, it is called simple or single price monopoly.

  E.g.Tata Company charges the same price to all the Tata Indica cars of the same model.

  (b) Discriminating Monopoly:- If the monopoly firm charges different prices to different consumers for the same product, it is called discriminating monopoly.

  E.g.:- A Doctor may take Rs.100/- from a rich man and only Rs.50/- from a poor man for the same treatment.

- The Monopoly on the basis of Ownership of the firm can be classified as two types:

  (a) Private Monopoly:- If a private firm monopolizes the market, it is called private monopoly.

  E.g:-Hindustan Lever Ltd., is having monopoly power to produce LUX Soap.

  (b) Public Monopoly:- If the market for a product is monopolized by a government enterprise, it is called public or social monopoly.

  E.g:- Water, electricity etc.

- **Others**

  (a) Limited Monopoly:- If the monopolist having limited power in fixing the price of his product, it is called Limited Monopoly. It may be due to the fear of distant substitutes or government intervention or the entry of rival firms.

  (b) Unlimited Monopoly:- If the monopolist is having unlimited power in fixing the price of his good or service, it is called Unlimited Monopoly. Ex. A Doctor in a village.

  (c) Natural Monopoly:- Sometimes monopoly may arise due to scarcity of natural resources. Nature provides raw materials in some places only. The owner of the place will become monopolist. For Eg.Diamond mines in South Africa.

(d) Legal Monopoly:- If monopoly arises on account of legal support or as a matter of legal privilege, it is called Legal Monopoly. Ex. Patent rights, special brands, trade names, copyright etc.,

(e) Voluntary Monopoly:- To get the advantages of Monopoly some private firms come together voluntarily to control the supply of commodity. These are called voluntary monopolies. Generally, these monopolies arise with industrial combinations. These voluntary monopolies are of three kinds (a) cartel (b) trust (c) holding company. It may be called artificial monopoly.

4.6.2 Features of Monopoly

The following are the features of the Monopoly

(a) Single Person or a Firm:- the total supply of the commodity is controlled by a single person or a firm. There will be no competition for monopoly firm. The monopolistic firm is the only firm in the whole industry.

(b) No Close Substitutes:- The product sold by the monopolist shall not have close competing substitutes. Even if price of monopoly product increases people will not go for a substitute. Eg., if the price of electric bulb increases slightly, consumer will not go for purchase of kerosene lamp.

(c) Large Number of Buyers:- Under monopoly, there may be a large number of buyers in the market who compete among themselves.

(d) Price Maker:- Since the monopolist controls the whole supply of a commodity, he can alter the price, hence he is price maker.

(e) Supply & Price:- The monopolist can fix either the supply or the price. He cannot fix both. If he chares a very high price, he can sell a small amount. If he wants to sell more, he has to charge low price. He cannot sell as much as he wishes for any price he pleases.

(f) Downward Sloping Demand Curve:- The demand curve (Avg.Revenue curve) of monopolist slopes downward from left to right. It means that he can sell more only by lowering prices.

4.6.3 Causes of Monopoly

There can be several factors that lead to monopoly

- **Government Policies and Legal Provisions** by an act of legislation often create and maintain monopoly. E.g. Indian Railways has absolute monopoly as government of India has restricted others to enter the rail transport business.

Patents, intellectual property rights, trademarks, and so on will enhance the monopoly power for specific period.

- **Mergers and Acquisitions** enable the business organizations to emerge stronger with higher market share. Standard Chartered Bank has acquired ANZ Grindlays Bank and emerged much more stronger and bigger, leading to enlargement of economies of scale, cost advantages, and elimination of competition from Grindlays.
- **Through Research & Development (R&D)** and latest technology, the firm can replace its old products with superior ones. Hewlett & Packard emerged stronger with their laser printers fast replacing the dot matrix printers.
- **Control over key inputs** such as raw material, skilled labour, technology, financial resources and so on also lead to monopoly.

4.6.4 Price and Output Determination Under Monopoly

Monopoly refers to a market structure in which there is a single producer or seller that has a control on the entire market.This single seller deals in the products that have no close substitutes and has a direct demand, supply, and prices of a product.

Therefore, in monopoly, there is no distinction between an one organization constitutes the whole industry.

Demand and Revenue under Monopoly

In monopoly, there is only one producer of a product, who influences the price of the product by making Change m supply. The producer under monopoly is called monopolist. If the monopolist wants to sell more, he/she can reduce the price of a product. On the other hand, if he/she is willing to sell less, he/she can increase the price.

As we know, there is no difference between organization and industry under monopoly. Accordingly, the demand curve of the organization constitutes the demand curve of the entire industry. The demand curve of the monopolist is Average Revenue (AR), which slopes downward.

Figure-9 shows the AR curve of the monopolist:

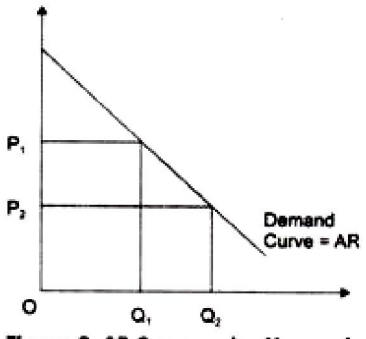


Figure-9: AR Curve under Monopoly

In Figure-9, it can be seen that more quantity (OQ2) can only be sold at lower price (OP2). Under monopoly, the slope of AR curve is downward, which implies that if the high prices are set by the monopolist, the demand will fall. In addition, in monopoly, AR curve and Marginal Revenue (MR) curve are different from each other. However, both of them slope downward.

The negative AR and MR Curve depicts the following facts

i. When MR is greater than AR, the AR rises

ii. When MR is equal to AR, then AR remains constant

iii. When MR is lesser than AR, then AR falls

Here, AR is the price of a product, As we know, AR falls under monopoly; thus, MR is less than AR.

Figure-10 shows AR and MR curves under monopoly:

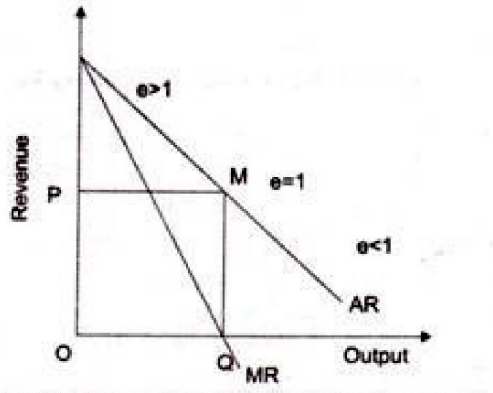


Figure-10: MR and AR Curves under Monopoly

In figure-10, MR curve is shown below the AR curve because AR falls.

Table-1 shows the numerical calculation of AR and MR under Nonopoly

As shown in Table-1, AR is equal to price. MR is less than AR and falls twice the rate than AR. For instance, when two units of

Output are sold, MR falls by Rs. 2, whereas AR falls by Re. 1.

Monopoly Equilibrium

Single organization constitutes the whole industry in monopoly. Thus, there is no need for separate analysis of equilibrium of organization and industry in case of monopoly. The main aim of monopolist is to earn maximum profit as of a producer in perfect competition.

Unlike perfect competition, the equilibrium, under monopoly, is attained at the point where profit is maximum that is where MR=MC. Therefore, the monopolist will go on producing additional units of output as long as MR is greater than MC, to earn maximum profit.

Let us learn monopoly equilibrium through Figure-11

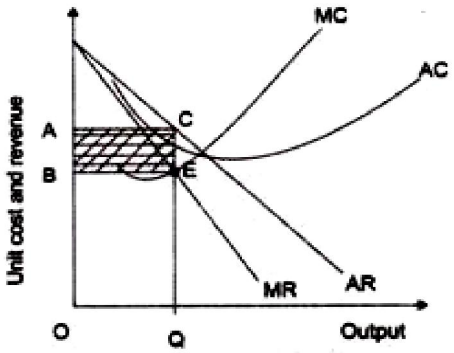


Figure-11: Monopoly Equilibrium

In Figure-11, if output is increased beyond OQ, MR will be less than MC. Thus, if additional units are produced, the organization will incur loss. At equilibrium point, total profits earned are equal to shaded area ABEC. E is the equilibrium point at which MR=MC with quantity as OQ.

It should be noted that under monopoly, price forms the following relation with the MC

Price = AR

MR= AR [(*e*-1)/*e*]

e = Price elasticity of demand

As in equilibrium MR=MC

MC = AR [(*e*-1)/*e*]

Exhibit-2

Determining Price and Output under Monopoly

Suppose demand function for monopoly is Q = 200-0.4Q

Price function is P= 1000-10Q

Cost function is TC= 100 + 40Q + Q2

Maximum profit is achieved where MR=MC

To find MR, TR is derived.

TR= (1000-10Q) Q = 1000Q-10Q2

MR = "TR/"Q= 1000 – 20Q

MC = "TC/"Q = 40 + 2Q

MR = MC

1000 – 20Q = 40 + 2Q

Q = 43.63 (44 approx.) = Profit Maximizing Output

Profit maximizing price = 1000 – 20*44 = 120

Total maximum profit= TR-TC= (1000Q – 10Q2) – (100+ 40Q+Q2)

At Q = 44

Total maximum profit = Rs. 20844

Monopoly Equilibrium in Case of Zero Marginal Cost:

In certain situations, it may happen that MC is zero, which implies that the cost of production is zero. For example, cost of production of spring water is zero. However, the monopolist will set its price to earn profit.

Figure-12 shows the monopoly equilibrium when MC is zero

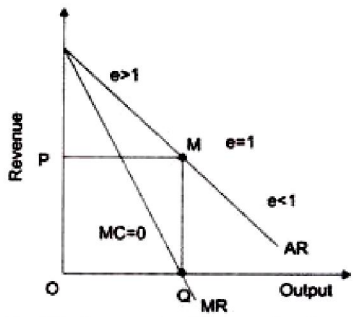


Figure-12: Equilibrium under Monopoly when MC is Zero

In Figure-12, AR is the average revenue curve and MR is the marginal revenue curve. In such a case, the total cost is zero; therefore, AR and MR are also zero. As shown in Figure-12, equilibrium position is achieved at the point where MR equals zero that is at output OQ and price P.We can see that point M is the mid-point of AR curve, where elasticity of demand is unity. Therefore, when MC = 0, the equilibrium of the monopolist is established at the output (OQ) where elasticity of demand is unity.

Short-Run and Long-Run View under Monopoly

Till now, we have discussed monopoly equilibrium without taking into consideration the short-run and long- run period. This is because there is not so much difference under short run and long run analysis in monopoly.

In the short run, the monopolist should make sure that the price should not go below Average Variable Cost (AVC). The equilibrium under monopoly in long-run is same as in short-run. However, in long-run, the monopolist can expand the size of its plants according to demand. The adjustment is done to make MR equal to the long run MC.

In the long-run, under perfect competition, the equilibrium position is attained by entry or exit of the organizations. In monopoly, the entry of new organizations is restricted.

The monopolist may hold some patents or copyright that limits the entry of other players in the market. When a monopolist incurs losses, he/she may exit the business. On the other hand, if profits are earned, then he/she may increase the plant size to gain more profit.

4.7 Monopolistic Competition

Meaning/ Definition of Monopolistic

- In the real world, one can find neither perfect competition nor imperfect competition. Instead almost every market seems to exhibit characteristics of both perfect competition and monopoly.
- The term Monopolistic Competition was coined by Edward H.Chamberlin to signify imperfections in the real world market structure.
- Monopolistic competition is the blend of perfect competition and monopoly.
- Thus in Monopolistic competition there is co-existence of completion and monopoly in some degrees.

Monopolistic Competition refers to a market situation in which there are large numbers of firms which sell closely related but differentiated products. Markets of products like soap, toothpaste AC, etc. are examples of monopolistic competition.

Monopoly + Competition = Monopolistic Competition

Under monopolistic competition, each firm is the sole producer of a particular brand or "product".

i. It enjoys 'monopoly position' as far as a particular brand is concerned.

ii. However, since the various brands are close substitutes, its monopoly position is influenced due to stiff 'competition' from other firms.

So, monopolistic competition is a market structure, where there is competition among a large number of monopolists.

Example of Monopolistic Competition

Toothpaste Market

When you walk into a departmental store to buy toothpaste, you will find a number of brands, like Pepsodent, Colgate, Neem, Babool, etc.

i. On one hand, the market for toothpaste seems to be full of competition, with thousands of competing brands and freedom of entry.

ii. On the other hand, its market seems to be monopolistic, due to uniqueness of each toothpaste and power to charge different price.

Such a market for toothpaste is a monopolistic competitive market.

4.7.1 Features of Monopolistic Competition

1. Large Number of Sellers

There are large numbers of firms selling closely related, but not homogeneous products. Each firm acts independently and has a limited share of the market. So, an individual firm has limited control over the market price. Large number of firms leads to competition in the market.

2. Product Differentiation

Each firm is in a position to exercise some degree of monopoly (in spite of large number of sellers) through product differentiation. Product differentiation refers to differentiating the products on the basis of brand, size, colour, shape, etc. The product of a firm is close, but not perfect substitute of other firm.

Implication of 'Product differentiation' is that buyers of a product differentiate between the same products produced by different firms. Therefore, they are also willing to pay different prices for the same product produced by different firms. This gives some monopoly power to an individual firm to influence market price of its product.

Explore More about Product Differentiation

1. The product of each individual firm is identified and distinguished from the products of other firms due to product differentiation.

2. To differentiate the products, firms sell their products with different brand names, like Lux, Dove, Lifebuoy, etc.

3. The differentiation among different competing products may be based on either 'real' or 'imaginary' differences.

   i) Real Differences may be due to differences in shape, flavour, colour, packing, after sale service, warranty period, etc.

   ii) Imaginary Differences mean differences which are not really obvious but buyers are made to believe that such differences exist through selling costs (advertising).

4. Product differentiation creates a monopoly position for a firm.

5. Higher degree of product differentiation (i.e. better brand image) makes demand for the product less elastic and enables the firm to charge a price higher than its competitor's products. For example, Pepsodent is costlier than Babool.

6. Some more examples of Product Differentiation:

   i) Toothpaste: Pepsodent, Colgate, Neem, Babool, etc.

   ii) Cycles: Atlas, Hero, Avon, etc.

   iii) Tea: Brooke Bond, Tata tea, Today tea, etc.

   iv) Soaps: Lux, Hamam, Lifebuoy, Pears, etc.

3. Selling costs

Under monopolistic competition, products are differentiated and these differences are made known to the buyers through selling costs. Selling costs refer to the expenses incurred on marketing, sales promotion and adver-tisement of the product. Such costs are incurred to persuade the buyers to buy a particular brand of the product in preference to competitor's brand. Due to this reason, selling costs constitute a substantial part of the total cost under monopolistic competition.

It must be noted that there are no selling costs in perfect competition as there is perfect knowledge among buyers and sellers. Similarly, under monopoly, selling costs are of small amount (only for informative purpose) as the firm does not face competition from any other firm.

4. Freedom of Entry and Exit

Under monopolistic competition, firms are free to enter into or exit from the industry at any time they wish. It ensures that there are neither abnormal profits

nor any abnormal losses to a firm in the long run. However, it must be noted that entry under monopolistic competition is not as easy and free as under perfect competition.

5. Lack of Perfect Knowledge

Buyers and sellers do not have perfect knowledge about the market conditions. Selling costs create artificial superiority in the minds of the consumers and it becomes very difficult for a consumer to evaluate different products available in the market. As a result, a particular product (although highly priced) is preferred by the consumers even if other less priced products are of same quality.

6. Pricing Decision

A firm under monopolistic competition is neither a price- taker nor a price-maker. However, by producing a unique product or establishing a particular reputation, each firm has partial control over the price. The extent of power to control price depends upon how strongly the buyers are attached to his brand.

7. Non-Price Competition:

In addition to price competition, non-price competition also exists under monopolistic competition. Non-Price Competition refers to competing with other firms by offering free gifts, making favourable credit terms, etc., without changing prices of their own products.

Firms under monopolistic competition compete in a number of ways to attract customers. They use both Price Competition (competing with other firms by reducing price of the product) and Non-Price Competition to promote their sales.

Demand Curve under Monopolistic Competition:

Under monopolistic competition, large number of firms selling closely related but differentiated products makes the demand curve downward sloping. It implies that a firm can sell more output only by reducing the price of its product.

As seen in Fig. 10.4, output is measured along the X-axis and price and revenue along the Y-axis. At OP price, a seller can sell OQ quantity. Demand rises to OQ1, when price is reduced to OP1. So, demand curve under monopolistic competition is negatively sloped as more quantity can be sold only at a lower price.

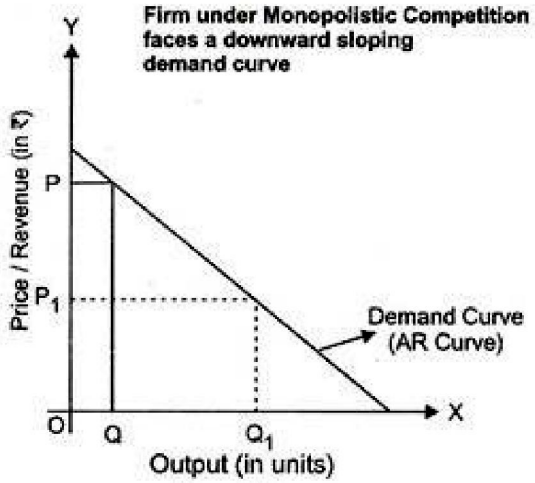


Fig. 10.4

MR < AR under Monopolistic Competition

Like monopoly, MR is also less than AR under monopolistic competition due to negatively sloped demand curve.

4.7.2 Demand Curve: Monopolistic Competition Vs. Monopoly

At first glance, the demand curve of monopolistic competition (Fig. 10.4) looks exactly like the demand curve under monopoly (Fig. 10.3) as both faces downward sloping demand curves. However, demand curve under monopolistic competition is more elastic as compared to demand curve under monopoly. This happens because differentiated products under monopolistic competition have close substitutes, whereas there are no close substitutes in case of monopoly.

Let us prove this with the help of Fig. 10.5 (Proof is given just for reference).

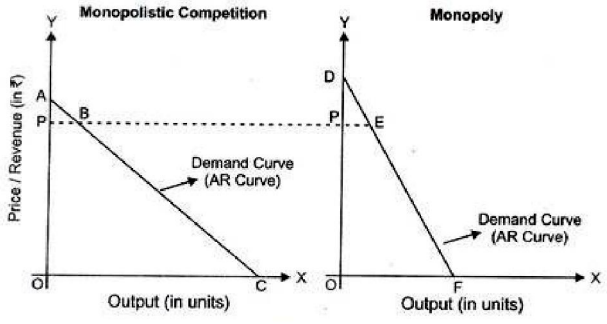


Fig. 10.5

We know, price elasticity of demand (by geometric method) at a point on the demand curve is given by: Ed = Lower segment of demand curve / Upper segment of demand curve.

At price 'OP', price elasticity of demand under monopolistic competition is BC/AB and under monopoly is EF/DE. Fig. 10.5 reveals that BC > EF and DE > AB. So, BC/AB > EF/DE.

It means, demand curve in case of monopolistic competition is more elastic as compared to demand curve under monopoly.

4.7.3 Price-Output under Monopolistic Competition

It is common that every firm whether operating under perfect market or imperfect market, wants to maximize the profits. It means that the firm under monopolistic competition also will reach equilibrium when its marginal cost equals its marginal revenue (MC = MR). The demand curve for the firm in case of monopolistic competition is just similar to that of monopolist.

As the products are differentiated, the demand curve has a downward slope, In other words, each firm has a limited control over price. These firms are price makers as far a given group of customers is concerned. The demand for their products and services is relatively inelastic. The degree of elasticity of demand of a firm in monopolistic competition depends upon the extent to which the firm can resort to product differentiation. The greater the ability of the firm to differentiate the product, the less elastic the demand is. The firm's influence to increase the price depends upon the extent to which it can differentiate the product. At lower prices, the firm can sell more. There is no significant variant in the cost functions also.

A. Price-Output Determination in Short-run

In the short-run, firms may experience supernormal or normal profits or even losses. When there is a fall in costs or increase in demand, the firms may enjoy supernormal profits. In other words, if the firm satisfies the following two conditions, it may take supernormal profits.

a) where marginal cost is equal to marginal revenue (MC = MR)

b) where a average revenue is less than average cost (AR < AC)

The firm may be in losses when the costs rise or demand decreases.

Figure below reveals that the demand curve is a downward sloping curve because of product differentiation. The cost functions of a firm are not different from those of earlier market situations. At F, marginal cost (MC) is equal to marginal revenue (MR), extend F to point B on average revenue (AR) curve and Point Q on X axis.

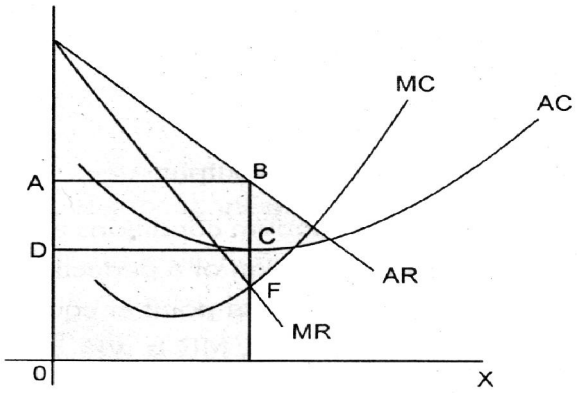


Fig.: Price-Output Determination in Monopolistic Competition in the Short-run

OQ is the equilibrium output, OA = OB = Equilibrium price and QC is the average cost. Average profit = average revenue minus average cost. BC is the average profit. Profit x Quantity = Total profit.

The area ABCD represents the supernormal profits earned by a firm under monopolistic competition in the short-run.

B. Price-Output Determination in Long-run

More and more firms will be entering the market having been attracted by supernormal profits enjoyed by the existing firms in the industry. As a result, competition becomes intensive on one hand, firms will compete with one another for acquiring scarce inputs pushing up the prices of factor inputs. On the other hand, on the entry of several firms the supply in the market will increase, pulling down the selling price of the products.

In order to cope with the competition, the firms will have to increase the budget on advertising. The entry of new firms continue till the supernormal profits of the firms completely get eroded and ultimately firms in the industry will earn only normal profits. Those firms which are not able to earn at least normal profits will get closed.

Thus in the long-run, every firm in the monopolistic competitive industry will earn only normal profits, which are just sufficient to stay in the business. It is to be noted that normal profits are part of average costs.

In the long-run, in order to achieve equilibrium position, the firm has to fulfil the following two conditions:

a) MR = MC

b) AR = AC at the equilibrium level of output.

Thus, the firm has to fulfil dual equilibrium conditions as mentioned above. But when compared to long run equilibrium position of a perfectly competitive firm, even though AR = AC, AC will not be at its minimum point at equilibrium level of output. And also, MR is not equal to either AR or AC, MR is well below AR in the case of monopolistic competitive firm.

4.8 Oligopoly Competition

Meaning/ Definition

- The term oligopoly is derived from two Greek words, Oligos means a few and Pollen means to sell.
- Oligopoly is a form of imperfect competition where there are a few firms in the market, producing either a homogeneous product or producing products which are close but not perfect substitutes to each other.
- The automobile industry in India is oligopolistic in structure as only few firms produce and supply automobiles.
- In fact competition among few firms is the basic ingredient of the oligopolistic market structure.

Oligopoly is that market situation in which the number of firms is small but each firm in the industry takes into consideration the reaction of the rival firms in the formulation of price policy. The number of firms in the industry may be two or more than two but not more than 20. Oligopoly differs from monopoly and monopolistic competition in this that in monopoly, there is a single seller; in monopolistic competition, there is quite a larger number of them; and in oligopoly, there are only a small number of sellers.

4.8.1 Features of Oligopoly Competition

1. **Few Firms:-** Oligopoly is the market in which few firms compete with each other. Each firm contributes a sizeable share of the total market. Any decision taken by one firm influences the actions of other firms in the industry.

2. **Nature of the Product:-** All the few firms produce an identical product, such market is called pure or perfect oligopoly. Where product differentiation is there then it is called imperfect oligopoly.

3. **Interdependence of Firms:-** There is interdependence among firms. Each firm treats the other firms as its rivals. As there are only few firms, any steps taken by one firm to increase sales, by reducing price or by changing product design or by increasing advertisement expenditure will naturally affect the sales of other firms in the industry. An immediate retaliatory action can be anticipated from the other firms in the industry every time when one firm takes such a decision.

4. **Selling Costs:-** Each firm pursues an aggressive and defensive marketing strategy to gain a greater share in the market. Advertisement is an important method used by oligopolists to gain larger share in the market. The costs incurred on advertisement are selling costs.

5. **Price Rigidity:-** In the Oligopoly market price remains rigid. If one firm reduces price it is with the intention or attracting the customers of other firms in the industry. In order to retain their consumers they will also reduce price. Thus the pricing decision of one firm results in a loss to all the firms in the industry. If one firm increases price, other firms will remain silent thereby allowing that firm to lost its customers. Hence, no firm will be ready to change the prevailing price. It causes price rigidity in the oligopoly market.

4.8.2 Classification of Oligopoly

The oligopolistic industries are classified in a number of ways:

a) **Duopoly**: If there are two giant firms in an industry it is called duopoly. Duopoly is further classified as below:

   i) **Perfect or Pure Duopoly**: If the duopolists in an industry are producing identical products it is called perfect or pure duopoly.

   ii) **Imperfect or Impure Duopoly**: If the duopolists in an industry are producing differentiated products it is called imperfect or impure duopoly.

b) Oligopoly: If there are more than two firms in an industry and each firm takes consideration the reactions of the rival firms in formulating its own price policy it is called oligopoly. Oligopoly is further classified as below:

i) Perfect or Pure Oligopoly: If the oligopolists in an industry are producing identical products it is called perfect or pure oligopoly.

ii) Imperfect or Impure Oligopoly: If the oligopolists in an industry are producing differentiated products it is called imperfect or impure oligopoly.

4.8.3 Causes of Oligopoly

Economies of Scale

The firms in the industry, with heavy investment, using improved technology and reaping economies of scale in production, sales, promotion, etc, will compete and stay in the market.

Barrier to Entry

In many industries, the new firms cannot enter the industry as the big firms have ownership of patents or control of essential raw material used in the production of an output. The heavy expenditure on advertising by the oligopolistic industries may also be a financial barrier for the new firms to enter the industry.

Merger

If the few firms in the industry smell the danger of entry of new firms, they then immediately merge and formulate a joint policy in the pricing and production of the products. The joint action of the few big firms discourages the entry of new firms into the industry.

Mutual Interdependence

As the number of firms is small in an oligopolistic industry, therefore, they keep a strict watch of the price charged by rival firms in the industry. The firm generally avoid price ware and try to create conditions of mutual interdependence.

4.8.4 Characteristics Oligopoly

1. Every seller can exercise an important influence on the price-output policies of his rivals. Every seller is so influential that his rivals cannot ignore the likely adverse effect on them of a given change in the price-output policy of any single manufacturer. The rival consciousness or the recognition on the part of the seller is because of the fact of interdependence.

2. The demand curve under oligopoly is indeterminate because any step taken by his rivals may change the demand curve. It is more elastic than under simple monopoly and not perfectly elastic as under perfect competition.

3. It is often noticed that there is stability in price under oligopoly. This is because the oligopolist avoids experimenting with price changes.He knows that if raises the price, he will lose his customers and if he lowers it he will invite his rivals to price war.

4.8.5 Effects of Oligopoly

1. **Small output and high prices**: As compared with perfect competition, oligopolist sets the prices at higher level and output at low level.

2. **Restriction on the entry**: Like monopoly, there is a restriction on the entry of new firms in an oligopolistic industry.

3. **Prices exceed Average Cost**: Under oligopoly, the firms fixed the prices at the level higher than the AC. The consumers have to pay more than it is necessary to retain the resources in the industry. In other words, the economy's productive capacity is not utilised in conformity with the consumers' preferences.

4. **Lower efficiency**: Some economists argued that there is a low level of production efficiency in oligopoly. There is no tendency for the oligopolists to build optimum scales of plant and operate them at the optimum rates of output. However, the Schumpeterian hypothesis states that there is high tendency of innovation and technological advancement in oligopolistic industries. As a result, the product cost decreases with production capacity enhancement. It will offset the loss of consumer surplus from too high prices.

5. **Selling Costs**: In order to snatch markets from their rivals, the oligopolistic firms may engage in aggressive and extensive sales promotion effort by means of advertisement and by changing the design and improving the quality of their products.

6. **Wider range of products**: As compared with pure monopoly or pure competition, differentiated oligopoly places at the consumers' disposal a wider variety of commodities.

7. **Welfare Effect**: Under oligopoly, vide sums of money are poured into sales promotion to create quality and design differentiations. Hence, from the point of view of economic welfare, oligopoly fares fairly badly. The oligopolists push non-price competition beyond socially desirable limits.

4.8.6 Price Determination Under Oligopoly

The price and output behaviour of the firms operating in oligopolistic or duopolistic market condition can be studied under two main heads:

1. Price and Output Determination under Duopoly:

a) If an industry is composed of two giant firms each selling identical or homogenous products and having half of the total market, the price and output policy of each is likely to affect the other appreciably, therefore there is every likelihood of collusion between the two firms. The firms may agree on a price, or divide the total market, or assign quota, or merge themselves into one unit and form a monopoly or try to differentiate their products or accept the price fixed by the leader firm, etc.

b) In case of perfect substitutes the two firms may be engaged in price competition. The firm having lower costs, better goodwill and clientele will drive the rival firm out of the market and then establish a monopoly.

c) If the products of the duopolists are differentiated, each firm will have a close watch on the actions of its rival firms. The firm good quality product with lesser cost will earn abnormal profits. Each firm will fix the price of the commodity and expand output in accordance with the demand of the commodity in the market.

2. Price and Output Determination under Oligopoly:

a) If an industry is composed of few firms each selling identical or homogenous products and having powerful influence on the total market, the price and output policy of each is likely to affect the other appreciably, therefore they will try to promote collusion.

b) In case there is product differentiation, an oligopolist can raise or lower his price without any fear of losing customers or of immediate reactions from his rivals. However, keen rivalry among them may create condition of monopolistic competition.

There is no single theory which satisfactorily explains the oligopoly behaviour regarding price and output in the market. There are set of theories like Cournot Duopoly Model, Bertrand Duopoly Model, the Chamberlin Model, the Kinked Demand Curve Model, the Centralised Cartel Model, Price Leadership Model, etc., which have been developed on particular set of assumptions about the reaction of other firms to the action of the firm under study.

Collusive Oligopoly

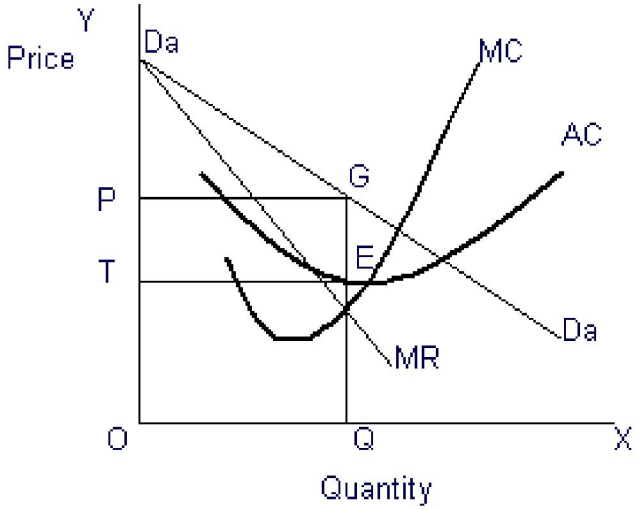
The degree of imperfect competition in a market is influenced not just by the number and size of firms but by how they behave. When only a few firms operate in a market, they see what their rivals are doing and react. 'Strategic interaction' is a term that describes how each firm's business strategy depends upon its rivals' business behaviour.

When there are only a small number of firms in a market, they have a choice between 'cooperative' and 'non-cooperative' behaviour:

Firms act non-cooperatively when they act on their own without any explicit or implicit agreement with other firms. That's what produces 'price wars'.

Firms operate in a cooperative mode when they try to minimise competition between them. When firms in an oligopoly actively cooperate with each other, they engage in 'collusion'. Collusion is an oligopolistic situation in which two or more firms jointly set their prices or outputs, divide the market among them, or make other business decisions jointly.

A 'cartel' is an organisation of independent firms, producing similar products, which work together to raise prices and restrict output. It is strictly illegal in Pakistan and most countries of the world for companies to collude by jointly setting prices or dividing markets. Nonetheless, firms are often tempted to engage in 'tacit collusion', which occurs when they refrain from competition without explicit agreements. When firms tacitly collude, they often quote identical (high) prices, pushing up profits and decreasing the risk of doing business. The rewards of collusion, when it is successful, can be great. It is more illustrated in the following diagram:



The above diagram illustrates the situation of oligopolist A and his demand curve DaDa assuming that the other firms all follow firm A's lead in raising and lowering prices. Thus the firm's demand curve has the same elasticity as the industry's DD curve. The optimum price for the collusive oligopolist is shown at point G on DaDa just above point E. This price is identical to the monopoly price, it is well above marginal cost and earns the colluding oligopolists a handsome monopoly profit.

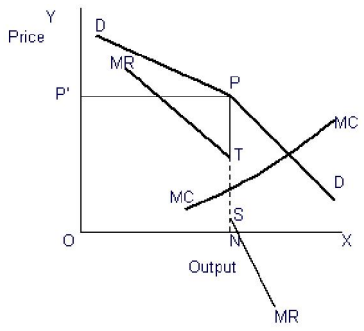
4.8.7 Price Determinatin model of Oligopoly

1. Kinky Demand Curve

The kinky demand curve model tries to explain that in non-collusive oligopolistic industries there are not frequent changes in the market prices of the products. The demand curve is drawn on the assumption that the kink in the curve is always at the ruling price. The reason is that a firm in the market supplies a significant share of the product and has a powerful influence in the prevailing price of the commodity. Under oligopoly, a firm has two choices:

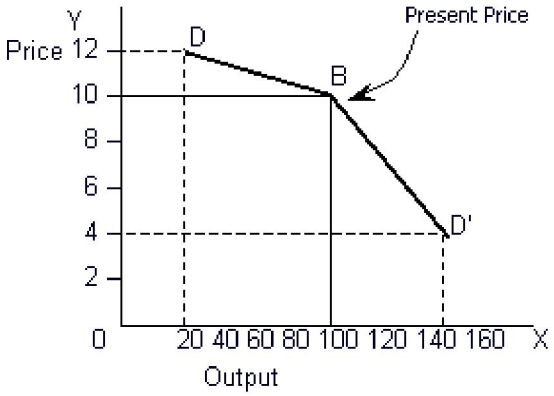
a) The first choice is that the firm increases the price of the product. Each firm in the industry is fully aware of the fact that if it increases the price of the product, it will lose most of its customers to its rival. In such a case, the upper part of demand curve is more elastic than the part of the curve lying below the kink.

(b) The second option for the firm is to decrease the price. In case the firm lowers the price, its total sales will increase, but it cannot push up its sales very much because the rival firms also follow suit with a price cut. If the rival firms make larger price cut than the one which initiated it, the firm which first started the price cut will suffer a lot and may finish up with decreased sales. The oligopolists, therefore avoid cutting price, and try to sell their products at the prevailing market price. These firms, however, compete with one another on the basis of quality, product design, after-sales services, advertising, discounts, gifts, warrantees, special offers, etc.



In the above diagram, we shall notice that there is a discontinuity in the marginal revenue curve just below the point corresponding to the kink.During this discontinuity the marginal cost curve is drawn. This is because of the fact that the firm is in equilibrium at output ON where the MC curve is intersecting the MR curve from below.

The kinky demand curve is further explained in the following diagram:



In the above diagram, the demand curve is made up of two segments DB and BD'. The demand curve is kinked at point B. When the price is Rs. 10 per unit, a firm sells 120 units of output. If a firm decides to charge Rs. 12 per unit, it loses a large part of the market and its sales come down to 40 units with a loss of 80 units. In case, the producer lowers the price to Rs. 4 per unit, its competitors in the industry will match the price cut. Its sales with a big price cut of Rs. 6 increases the sale by only 40 units. The firm does not gain as its total revenue decreases with the price cut.

2. Price Leadership Model

Under price leadership, one firm assumes the role of a price leader and fixes the price of the product for the entire industry. The other firms in the industry simply follow the price leader and accept the price fixed by him and adjust their output to this price. The price leader is generally a very large or dominant firm or a firm with the lowest cost of production. It often happens that price leadership is established as a result of price war in which one firm emerges as the winner.

In oligopolistic market situation, it is very rare that prices are set independently and there is usually some understanding among the oligopolists operating in the industry. This agreement may be either tacit or explicit.

Types of Price Leadership

There are several types of price leadership. The following are the principal types:

(a) Price leadership of a dominant firm, i.e., the firm which produces the bulk of the product of the industry. It sets the price and rest of the firms simply accepts this price.

(b) Barometric price leadership, i.e., the price leadership of an old, experienced and the largest firm assumes the role of a leader, but undertakes also to protect the interest of all firms instead of promoting its own interests as in the case of price leadership of a dominant firm.

(c) Exploitative or Aggressive price leadership, i.e., one big firm built its supremacy in the market by following aggressive price leadership. It compels other firms to follow it and accept the price fixed by it. In case the other firms show any independence, this firm threatens them and coerces them to follow its leadership.

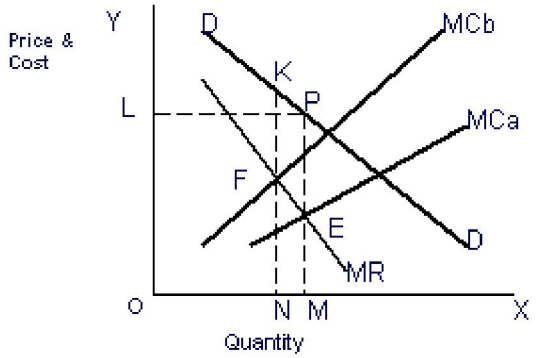
Price Determination under Price Leadership

There are various models concerning price-output determination under price leadership on the basis of certain assumptions regarding the behaviour of the price leader and his followers. In the following case, there are few assumptions for determining price-output level under price leadership:

(a) There are only two firms A and B and firm A has a lower cost of production than the firm B.

(b) The product is homogenous or identical so that the customers are indifferent as between the firms.

(c) Both A and B have equal share in the market, i.e., they are facing the same demand curve which will be the half of the total demand curve.



In the above diagram, MCa is the marginal cost curve of firm A and MCb is the marginal cost curve of firm B. Since we have assumed that the firm A has a lower cost of production than the firm B, therefore, the MCa is drawn below MCb.

Now let us take the firm A first, firm A will be maximising its profit by selling OM level of output at price MP, because at output OM the firm A will be in equilibrium as its marginal cost is equal to marginal revenue at point E. Whereas the firm B will be in equilibrium at point F, selling ON level of output at price NK, which is higher than the price MP. Two firms have to charge the same price in order to survive in the industry. Therefore, the firm B has to accept and follow the price set by firm A. This shows that firm A is the price leader and firm B is the follower.

Since the demand curve faced by both firms is the same, therefore, the firm B will produce OM level of output instead of ON. Since the marginal cost of firm B is greater than the marginal cost of firm A, therefore, the profit earned by firm B will be lesser than the profit earned by firm A.

Difficulties of Price Leadership

The following are the challenges faced by a price leader:

(a) It is difficult for a price leader to correctly assess the reactions of his followers.

(b) The rival firms may secretly charge lower prices when they find that the leader charged unduly high prices. Such price cutting devices are rebates, favourable credit terms, money back guarantees, after delivery free services, easy instalment sales, etc.

(c) The rivals may indulge in non-price competition. Such non-price competition devices are heavy advertisement and sales promotion.

(d) The high price set by the price leader may also attract new entrants into the industry and these new entrants may not accept his leadership.

4.9 Pricing Practices

4.9.1 Pricing Methods

The following are the different types of pricing methods:

1. Cost Based Pricing Method
   a) Cost Plus Pricing
   b) Marginal Cost Pricing

2. Competition- Oriented Pricing

a) Sealed Bid Pricing

b) Going Rate Pricing

3. Demand-Oriented Pricing

a) Price Discrimination

b) Perceived Value Pricing

4. Strategy-Based Pricing

a) Market Skimming

b) Market Penetration

c) Two-Part Pricing

d) Block Pricing

e) Commodity Bundling

f) Peak Load Pricing

1. Cost Based Pricing Methods

(a) Cost Plus Pricing:- This is also called 'full cost or mark up' pricing. Here the average cost at normal capacity of output is ascertained and then a conventional margin of profit is added to the cost to arrive at the price. In other words, find out the product units total cost and add a percentage of profit to arrive at the selling price. This method is suitable where cost keeps fluctuation from time to time. It is commonly followed in departmental stores and other retail shops.

(b) Marginal Cost Pricing:- In this, selling price is fixed in such a way that it covers fully the variable or marginal cost and contributes towards recovery of fixed costs fully or partly, depending upon the market situations. It offers a guideline as how far the selling price can be lowered. This is also called break-even pricing or target profit pricing.

2. Competition-Oriented Pricing

- Here pricing is very complex task. Here the price of product is set based on what the competitor charges for a similar product. In other words, a reduction in the price of products by the competitor will force the other firm to follow it. Therefore how far a firm can go on reducing the price, thus the firm can continue to sell the product as long as the price covers the marginal cost and firm stops selling the product when price is less than the marginal cost.

(a) Sealed Bid Pricing:- This method is more popular in tenders and contracts. Each contracting firm quotes its price in a sealed cover called 'tender'. All the tenders are opened on a scheduled date and the person, who quotes the lowest price, other things remaining the same, is awarded the contract. The objective of bidding firm is to bad the contract and hence it will quote lower than others. Any price quoted less than marginal price results in loss. Any price quoted ambitiously, no doubt, results in profit but suffers from the danger of losing the contract.

(b) Going Rate Pricing:- Here the price charged by the firm is in tune with the price charged in the industry as a whole. In other words, the prevailing market price at a given point of time is the guiding factor. When one wants to buy or sell gold, the prevailing market rate at a given point of time is taken as the basis to determine the price. Normally the market leaders keep announcing the prevailing prices at a given point of time based on demand and supply positions.

3. Demand-Oriented Pricing:-

(a) Price Discrimination:- It refers to the practice of charging different prices to customers for the same good or service. Customers of different profiles can be separated in various ways, such as by different consumer requirements (eg., bulk and low gas supply to industrial and household consumers), by nature of product itself (eg., original and replacement components of pressure cookers), by geographical areas (domestic and international markets), by income group(in government hospital the patients are charged a fee based on their income groups) and so on. The objects of price discrimination are.

- Develop a new market including for export,
- Utilize the maximum capacity,
- Meet competition
- Increase market share.

(b) Perceived Value Pricing:- It refers to where the price is fixed on the basis of the perception of the buyer of the value of the product.

4. Strategy Based Pricing

(a) Market Skimming:- When the product is introduced for the first time in the market, the company fixes a very high price for the product and as the time passes by, the price comes down. The main idea is to charge the customer maximum possible. This strategy is mostly found in case of technology products. When sony introduces a particular TV Model, it fixes a very high price initially where only few can afford to buy and later when the price comes down more customer afford to buy.

This method can be followed only when

(i) the demand for the product is inelastic,

(ii) there is no threat from competitors,

(iii) a high price is coupled with high technology or quality.

(b) Market Penetration:- This is exactly opposite to the market skimming method. Here the price of the product is fixed so low that the company can increase its market share. The company attains profits with increasing volumes and increase in the market share.

(c) Two-Part Pricing: - Here the firms charges a fixed fee for the right to purchase its goods, plus a per unit charge for reach unit purchased. Entertainment houses such as country clubs, athletic clubs, golf courses, and health clubs usually adopt this strategy. They chare a fixed initiation fee plus a charge, per month or per visit, to use the facilities. There are also organizations that charge membership fee and offer their products and services cost-to-cost basis.

(d) Block Pricing:- it is seen in our day to day life very frequently. Six lux soaps in a single pack illustrates this method. By selling certain number of units of a product as one package, the firm earns more than by selling unit wise.

(e) Commodity Bundling:- It refers to the practice of bundling two or more different products together and selling them at a single 'bundle price'. The package deals offered by tourist companies, airlines hold testimony to this practice. The package includes the airfare hotel, meals, sightseeing and so on at a bundle price instead of pricing each of these services separately.

- it is a viable pricing strategy to enhance profits when consumers differ with respect to the amounts they are willing to pay for multiple products sold by a firm.

(f) Peak Load Pricing:- During seasonal period when demand is likely to be higher, a firm may enhance profits by peak load pricing. The firm's philosophy is to charge a higher price during peak times than is charged during off-peak times. Airliners such as Air India, Indian Airlines, Jet Air and so on, keep revising their fares every three months to charge higher fares during festival/ holiday seasons.

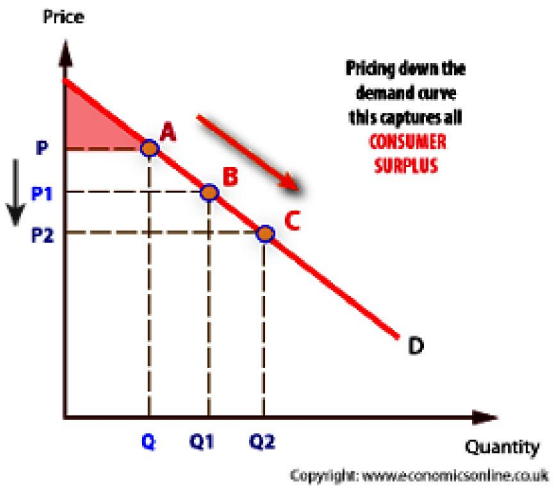
4.10 Price Discrimination

Price discrimination is the practice of charging a different price for the same good or service. There are three of types of price discrimination – first-degree, second-degree, and third-degree price discrimination.

First degree

First-degree discrimination, alternatively known as perfect price discrimination, occurs when a firm charges a different price for every unit consumed.

The firm is able to charge the maximum possible price for each unit which enables the firm to capture all available consumer surplus for itself. In practice, first-degree discrimination is rare.



Second Degree

Second-degree price discrimination means charging a different price for different quantities, such as quantity discounts for bulk purchases.

Third degree

Third-degree price discrimination means charging a different price to different consumer groups. For example, rail and tube travellers can be subdivided into commuter and casual travellers, and cinema goers can be subdivide into adults and children. Splitting the market into peak and off peak use is very common and occurs with gas, electricity, and telephone supply, as well as gym membership and parking charges. Third-degree discrimination is the commonest type.

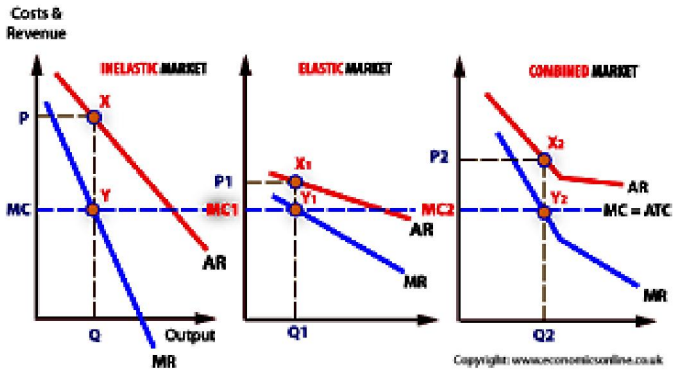
Necessary conditions for successful discrimination

Price discrimination can only occur if certain conditions are met.

1. The firm must be able to identify different market segments, such as domestic users and industrial users.
2. Different segments must have different price elasticities (PEDs).
3. Markets must be kept separate, either by time, physical distance and nature of use, such as Microsoft Office 'Schools' edition which is only available to educational institutions, at a lower price.
4. There must be no seepage between the two markets, which means that a consumer cannot purchase at the low price in the elastic sub-market, and then re-sell to other consumers in the inelastic sub-market, at a higher price.
5. The firm must have some degree of monopoly power.

Diagram for price discrimination

If we assume marginal cost (MC) is constant across all markets, whether or not the market is divided, it will equal average total cost (ATC). Profit maximisation will occur at the price and output where MC = MR. If the market can be separated, the price and output in the inelastic sub-market will be P and Q and P1 and Q1 in the elastic sub-market.



When the markets are separated, profits will be the area MC, P,X,Y + MC1,P1,X1,Y1. If the market cannot be separated, and the two submarkets are combined, profits will be the area MC2,P2,X2,Y2.

If the profit from separating the sub-markets is greater than for combining the sub-markets, then the rational profit maximizing monopolist will price discriminate.

4.11 Pricing Strategies

Pricing is the process of determining what a company will receive in exchange for its product or service. A business can use a variety of pricing strategies when selling a product or service. The price can be set to maximize profitability for each unit sold or from the market overall. It can be used to defend an existing market from new entrants, to increase market share within a market or to enter a new market.

There is a need to follow certain guidelines in pricing of the new product. Following are the common pricing strategies "

i) Pricing a New Product

Most companies do not consider pricing strategies in a major way, on a day-today basis. The marketing of a new product poses a problem because new products have no past information.

Fixing the first price of the product is a major decision. The future of the company depends on the soundness of the initial pricing decision of the product. In large multidivisional companies, top management needs to establish specific criteria for acceptance of new product ideas.

The price fixed for the new product must have completed the advanced research and development, satisfy public criteria such as consumer safety and earn good profits. In pricing a new product, below mentioned two types of pricing can be selected "

ii) Skimming Price

Skimming price is known as short period device for pricing. Here, companies tend to charge higher price in initial stages. Initial high helps to "Skim the Cream" of the market as the demand for new product is likely to be less price elastic in the early stages.

iii) Penetration Price

Penetration price is also referred as stay out price policy since it prevents competition to a great extent. In penetration pricing lowest price for the new product is charged. This helps in prompt sales and keeping the competitors away from the market. It is a long term pricing strategy and should be adopted with great caution.

iv) Multiple Products

As the name indicates multiple products signifies production of more than one product. The traditional theory of price determination assumes that a firm produces a single homogenous product. But firms in reality usually produce more than one product and then there exists interrelationships between those products. Such products are joint products or multi–products. In joint products the inputs are common in the production process and in multi-products the inputs are independent but have common overhead expenses. Following are the pricing methods followed "

v) Full Cost Pricing Method

Full cost plus pricing is a price-setting method under which you add together the direct material cost, direct labor cost, selling and administrative cost, and overhead costs for a product and add to it a markup percentage in order to derive the price of the product. The pricing formula is "

$$\text{Pricing Formula} = \frac{\text{Total production cost} - \text{Selling and administration costs} - \text{Markup}}{\text{Number of units expected to sell}}$$

This method is most commonly used in situations where products and services are provided based on the specific requirements of the customer. Thus, there is reduced competitive pressure and no standardized product being provided. The method may also be used to set long-term prices that are sufficiently high to ensure a profit after all costs have been incurred.

vi) Marginal Cost Pricing Method

The practice of setting the price of a product to equal the extra cost of producing an extra unit of output is called marginal pricing in economics. By this policy, a producer charges for each product unit sold, only the addition to total cost resulting from materials and direct labor. Businesses often set prices close to marginal cost during periods of poor sales.

For example, an item has a marginal cost of $2.00 and a normal selling price is $3.00, the firm selling the item might wish to lower the price to $2.10 if demand has waned. The business would choose this approach because the incremental profit of 10 cents from the transaction is better than no sale at all.

vii) Transfer Pricing

Transfer Pricing relates to international transactions performed between related parties and covers all sorts of transactions.

The most common being distributorship, R&D, marketing, manufacturing, loans, management fees, and IP licensing.

All intercompany transactions must be regulated in accordance with applicable law and comply with the "arm's length" principle which requires holding an updated transfer pricing study and an intercompany agreement based upon the study.

Some corporations perform their intercompany transactions based upon previously issued studies or an ill advice they have received, to work at a "cost plus X%". This is not sufficient, such a decision has to be supported in terms of methodology and the amount of overhead by a proper transfer pricing study and it has to be updated each financial year.

viii) Dual Pricing

In simple words, different prices offered for the same product in different markets is dual pricing. Different prices for same product are basically known as dual pricing. The objective of dual pricing is to enter different markets or a new market with one product offering lower prices in foreign county.

There are industry specific laws or norms which are needed to be followed for dual pricing. Dual pricing strategy does not involve arbitrage. It is quite commonly followed in developing countries where local citizens are offered the same products at a lower price for which foreigners are paid more.

Airline Industry could be considered as a prime example of Dual Pricing. Companies offer lower prices if tickets are booked well in advance. The demand of this category of customers is elastic and varies inversely with price.

As the time passes the flight fares start increasing to get high prices from the customers whose demands are inelastic. This is how companies charge different fare for the same flight tickets. The differentiating factor here is the time of booking and not nationality.

ix) Priceix) Effect

Price effect is the change in demand in accordance to the change in price, other things remaining constant. Other things include " Taste and preference of the consumer, income of the consumer, price of other goods which are assumed to be constant. Following is the formula for price effect "

$$\text{Pricing effect} = \frac{\text{Proportionate change in quality demanded of X}}{\text{Proportionate change in price of X}}$$

Price effect is the summation of two effects, substitution effect and income effect

Price effect = Substitution effect – Income effect

x) Substitution Effect

In this effect the consumer is compelled to choose a product that is less expensive so that his satisfaction is maximized, as the normal income of the consumer is fixed. It can be explained with the below examples "

Consumers will buy less expensive foods such as vegetables over meat.

Consumers could buy less amount of meat to keep expenses in control.

xi) Income Effect

Change in demand of goods based on the change in consumer's discretionary income. Income effect comprises of two types of commodities or products "

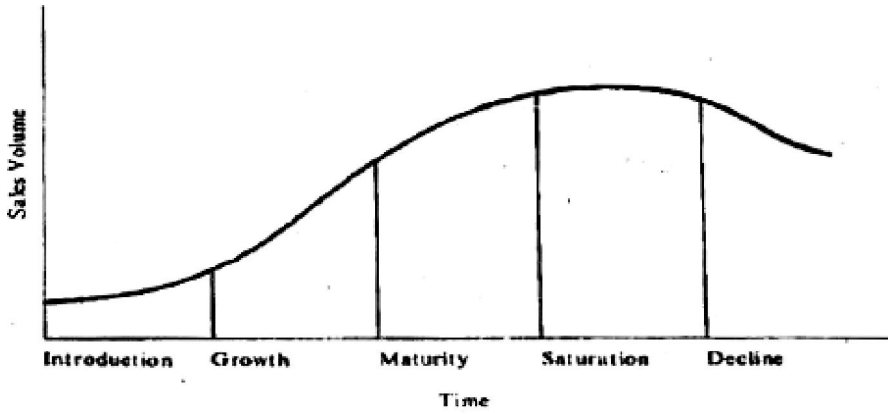
Normal goods – If there is a price fall, demand increases as real income increases and vice versa.

Inferior goods – In case of inferior goods, demand increases due to an increase in the real income.

4.12 Pricing Over Product Life-Cycle

Many products generally have a characteristic known as 'perishable distinctiveness'. This means that a product which is distinct when new, degenerates over the years into a common commodity. The process by which the distinctiveness gradually disappears as the product merges with other competitive products has been rightly termed by Joel Dean as "the cycle of competitive degeneration". The cycle begins with the invention of a new product, and is often followed by patent protection, and further development to make it saleable. This is usually followed by a rapid expansion in its sales as the product gains market acceptance. Then competitors enter the field with imitation and rival products and the distinctiveness of the new product starts diminishing. The speed of degeneration differs from product to product. The innovation of a new product and its degeneration into a common product is termed as the life-cycle of a product.

There are five distinct stages in the life-cycle of a product as shown in Figure I.



1. **Introduction**: Research or engineering skill leads to product development. The product is put on the market; awareness and acceptance are minimal. There are high promotional costs. Volume of sales is low and there may be heavy losses.

2. **Growth**: The product begins to make rapid sales gains because of the cumulative effects of introductory promotion, distribution, and word-of-mouth influence. High and sharply rising profits may be witnessed. But, to sustain growth, consumer satisfaction must be ensured at this stage.

3. **Maturity**: Sales growth continues, but at a diminishing rate, because of the declining number of potential customers who remain unaware of the product or who have taken no action. There is no improvement in the product but changes in selling effort are common. Profit margins slip despite rising sales.

4. **Saturation**: Sales reach and remain on a plateau marked by the level of replacement demand. There is little additional demand to be stimulated.

5. **Decline**: Sales begin to diminish absolutely as the customers begin to tire of the product and the product is gradually edged out by better products or substitutes.

It may be noted that products may begin in new-cycle or revert to an early stage as a result of

a) the discovery of new uses,

b) the appearance of new users, and

c) introduction of new features.

As the distinctiveness of the products fades, the pricing discretion enjoyed by their producers gradually declines. This is what happened in the case of many products like television, laptop, mobile phones etc. Throughout the cycle, changes take place in price and promotional elasticity of demand as also in the production and distribution costs of the product. Pricing policy, therefore, must be adjusted over the various phases of the cycle. Let us know the pricing policy in the pioneering stage and the maturity stage of a product.

4.12.1 Pricing a New Product

The basic question is whether to charge a high skimming (initial) price or a low penetration price.

If a skimming price is adopted, the initial price is very high. The policy may be held for varying periods of time, indefinitely if the product enjoys valid and defensible patent protection. But usually, it is not longer than the time necessary for competitors to study the product's usefulness, to decide what to do about it, and to prepare for making it, a period ranging from a few weeks to as much as two years. After this period, the price is apt to drop precipitately and over a period of a few years to approach the usual or customary margin above cost that is common in the industry.

In case of penetration pricing, the initial price of the new product is apt to be somewhere near what may be expected to be the usual or customary level once competitors enter the field, generally only slightly above the level. If the initial price is properly fixed, only minor adjustment would have to be made if and when competition develops.

A) A high initial price (skimming price), together with heavy promotional expenditure, may be used to launch a new product if conditions are appropriate.

For example:

i) Demand is likely to be less price elastic in the early stages than later, since high prices are unlikely to deter pioneering consumers. A new product being a novelty commands a better price. Again, at least in the early stages, the product has so few close rivals that cross elasticity of demand is low.

ii) If the life of product promises to be a short one, a high initial price helps in getting as much of it and as fast as possible.

iii) Such a policy can provide the basis for dividing the market into segments of differing elasticities. Hard bound edition of a book is usually followed by a paperback.

iv) A high initial price may be useful if a high degree of production skill is needed to make the product so that it is difficult and time-consuming for competitors to enter on an economical basis.

v) It is a safe policy where elasticity is not known and the product not yet accepted. High initial price may finance the heavy costs of introducing a new product when uncertainties block the usual sources of capital. The benefits of reduction in product costs due to larger volume and technological developments, can be passed onto consumers by a gradual reduction in prices. Penicillin and streptomycin were introduced at a high initial price but are now very reasonably priced. Internationally, the first ball point pen produced in 1945 at a cost of 80 cents, sold at $ 12.50. Now they are available at less than 50 cents. So is the case with most electronic components.

B) A low penetration price: In certain conditions, it can be successful in expanding the market rapidly thereby obtaining larger sales volume and lower unit costs. It is appropriate where:

i) Sales respond quickly and strongly to low prices;

ii) There are substantial cost savings from volume production;

iii) The product is acceptable to the mass of consumers;

iv) There is no strong patent protection; and

v) There is a threat of potential competition so that a big share of the market must be captured quickly.

The objective of low penetration price is to raise barriers against the entry of prospective competitors.

4.12.2 Change in Price

A) Reduction in prices: A reduction price may be made to achieve the following objectives:

1. Prices may be reduced to offset a possible loss of sales resulting from a lower advertising budget.
2. When a firm is expanding its capacity, temporary price cut may help the new plant to reach capacity operation more quickly.
3. Lower prices may help the firm to broaden the market for its products.
4. Prices may have to be reduced to meet competitive pressures from domestic or foreign companies producing the same product or substitute products.
5. Prices may be reduced drastically to prevent the entry of potential competitors.
6. Technological developments may lead to reduce costs and manufacturers may wish to pass on the benefit to the consumers.

Shrirain Chemicals have often reduced their prices as a result of advanced promotion techniques and better utilisation of installed capacity. DCM Data Products dramatically reduced the prices of their calculators in September, 1976 because of economies of scale.

Price reduction in individual drugs have always been a normal feature of the operations of the drugs industry both in India and abroad. Competition among drug manufacturers is becoming an increasingly important factor leading to voluntary price reductions wherever cost reduction of greater', efficiency has made them possible.

Whether a reduction in price would help a firm to increase sales depends upon how the consumers react to the reduction. As has been pointed out earlier, consumers rely on prices as an indicator of quality. Reduction in price may give rise to an apprehension that quality has gone down. And a reduction in price may decrease sales unless special steps are taken to prove that the quality is maintained.

B) Increase in prices: Very often a company might face a situation where costs may have increased, and it might wonder whether to increase prices or not. The decision would depend on how demand would be affected by such an increase in prices. In fact, prices are usually increased where the market demand is strong

and the business is having a boom. Prices are normally never increased during periods of depression and falling incomes. Thus while it may be true that costs may be rising at the time prices are increased, it is the rising demand that makes it possible to pass on the increase in costs to customers without any adverse effect on sales.

4.13 Break Even Analysis

Introduction to Break Even Analysis (BEA)

- The study of Cost-Volume Profit Analysis (CVP= it is a technique for studying the relationship between Cost, volume and profit) is often referred to as 'break-even analysis' and the two terms are used interchangeably by many.
- This is so, because break-even analysis is the most widely known form of cost-volume-profit analysis.
- The term "break even analysis is used in two senses
  - Broad Sense: It refers to the study of relationship between cost, volume and profit at different levels of sales or production.
  - Narrow Sense: It refers to a technique of determining that level of operations where total revenues equal total expenses, i.e., the point of no profit, no loss.

Break Even Point

- The Break-Even Point may be defined as that point of sales volume at which total revenue is equal to total cost.
- It is the point of no profit, no loss.
- A business is said to break-even when its total sales are equal to its total costs.
- At this point, contribution i.e., sales minus variable cost, equals to its total costs. If production/ sales is increased beyond this level, there shall be loss to the organization.
- **Break-Even Point can be stated in the form of an equation:**

  Sales Revenue at Break Even Point= Fixed Cost + Variable Costs

➢ **Computation of the Break Even Point :**

The Break Even Point can be computed by the following methods:

A) The Algebraic Formula Method

B) Graphic or Chart Method

A) The Algebraic Formula Method:

Here the Break Even Point can be computed in terms of

Break Even Point in Units: As the breakeven point is the point of no profits no loss, it is that level of output at which the total contribution equals the total fixed costs. It can be calculated as follows:

$$\text{Break Even Point} = \frac{\text{Fixed Costs}}{\text{Selling price per unit} - \text{Variable Cost per unit}}$$

$$= \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

Break Even Point in Terms of Money Value:

$$= \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variables Cost}} \times \text{Sales}$$

$$= \frac{\text{Fixed Cost}}{\text{Contribution}} \times \text{Sales}$$

$$= \frac{\text{Fixed Cost}}{\text{P / V ratio}}$$

Break Even Point as a Percentage of Estimated Capacity:

Break Even Point can also be computed as a percentage of the estimated sales or capacity by dividing the break – even sales by the capacity sales.

For example, if a firm has an estimated capacity of 1,00,000 units of products and its break-even point is reached at 50,000 units, then the break- even point is at 50% of capacity (1,00,000/50,000). If information as to total contribution at full capacity is available, the break-even point as a percentage of estimated capacity can be found as under:

$$\text{B.E.P (as \% age of capacity)} = \frac{\text{Fixed Cost}}{\text{Total Contribution}}$$

B) GRAPHIC OR CHART METHOD

- The breakeven point can also be computed graphically.
- There are three methods of drawing a break even chart.
- They are (a) Margin of Safety (b) Angle of Incidence

a) Margin of Safety:

- The margin of safety is the difference between the actual sales and the sales at the breakeven point.
- It is the sales beyond the breakeven point. The management is always interested to know how close to the breakeven point the company is operating.
- Margin of safety helps to know how much sales revenue can fall before a loss is incurred.
- If the margin of safety is small, any fall in sales may be a threat to the business.

  Margin of Safety = Actual Sales – Break Even Sales

- The margin of safety can be expressed as

$$\text{Margin of Safety} = \frac{\text{Profit}}{\text{P / V Ratio}}$$

b) Angle of Incidence:

- This is the angle formed by the sales and the total cost line at the breakeven point.
- The angle of incidence shows the rate at which profit is being earned.
- Large angle of incidence indicates a high rate of profit on the other hand a small angle indicates a low rate of profit.
- A large angle of incidence with a high margin of safety indicates a very favorable position.

Assumptions of BEA

Some of the assumptions of BEA are as follows:

1. All costs can be separated into fixed and variable costs
2. Fixed cost remains constant at all levels of activity

3. Variable cost fluctuates directly in proportion to changes in the volume of output.
4. Selling prices per unit remain constant at all levels of activity.
5. There is no opening or closing stock (which means all the goods produced are sold)
6. Product mix remains unchanged or there is only one product. (which means there is only one product available for sale. In case of multi-product firms, the product mix does not change)
7. The volume of output or production is the only factor which influences the cost.

Advantages of BEA

Some of the advantages of Break Even Analysis are as follows

1. Information provided by the break even chart is in a simple form and is clearly understandable even to a layman.
2. It is very much useful to the management for taking managerial decisions.
3. It helps in knowing and analyzing the profitability of different products under various circumstances.
4. Helps to determination of costs and revenue at various levels of output
5. It is very useful for forecasting (the costs and profits) planning and growth
6. It is a managerial tool for control of costs.
7. It calculate sales required to earn a particular desired level of profit
8. To decide what promotion mix will yield optimum sales.

Limitations of BEA

1. It provides only limited information. We have to draw a number of charts to study the effects of changes in the fixed costs, variable costs and selling price on the profitability. It becomes rather more complicated and difficult to understand.
2. It presents only cost-volume profit relationships but ignore other important considerations such as the amount of capital investment, marketing problems etc.,
3. It does not suggest any action or remedies to the management as a tool of management decisions
4. It presents only a static view of the problem under consideration.

Terminologies used in BEA:

1. Breakeven point: It is the point of sales/ output at which total revenue would be equal to total cost.
2. Total Cost: It is the total of fixed and variable costs.
3. Fixed Cost: The cost that remains constant for a given level of output. Eg., rent, insurance, depreciation, factory supervisors salaries, directors salaries and so on.
4. Variable cost: The cost that varies proportionately to sales. The variable costs include cost of direct materials, direct labour, direct expenses, operating supplies such lubricating oil and so on.
5. Total Revenues: The Total sales proceeds (Selling price per unit x Number of units sold)
6. Contribution: The difference between total sales and total variable cost.
7. Profit = Contribution – Fixed Cost (or) Total Revenue – Total Costs
8. Margin of Safety in units= The excess of actual sales (in units) minus the breakeven point (in units)
9. Margin of Safety in sales in Volume= The excess of actual sales (in rupess) minus the breakeven point (in rupees)
10. Angle of Incidence: The angle formed where total cost curve cuts the total revenue curve.
11. P/V ratio: The ratio between the contribution and sales.

The following are the key terms used in determination of breakeven point:

Selling Price = Fixed Cost + Variable Cost + Profit.

Selling Price – Variable Cost = Fixed Cost + Profit.

= Contribution

Contribution per unit= Selling price per unit - Variable Cost per unit

SHORT ANSWERS

1. Market Structure

Market Structure refers to the characteristics of the market either organizational or competitive, that describes the nature of competition and the pricing policy followed in the market.

2. Perfect Competition

The **Perfect Competition** is a market structure where a large number of buyers and sellers are present, and all are engaged in the buying and selling of the homogeneous products at a single price prevailing in the market.

3. Monopoly

The word 'Mono' means single and 'Poly' means Seller. The term Monopoly refers to the market in which a Single firm controls the whole supply or price of a particular product which has no close substitute.

It cannot control or determine both price and supply as it cannot control demand.

If the firm sets the price higher, it may have to lose sales, and as such it can either fix the output or price, not both. What it can decide depends on the prevailing demand and costs.

4. Monopolistic Competition

There are a large number of firms that produce differentiated products which are close substitutes for each other. In other words, large sellers selling the products that are similar, but not identical and compete with each other on other factors besides price.

5. Oligopoly Competition

Oligopoly is a form of imperfect competition where there are a few firms in the market, producing either a homogeneous product or producing products which are close but not perfect substitutes to each other.

The automobile industry in India is oligopolistic in structure as only few firms produce and supply automobiles.

In fact competition among few firms is the basic ingredient of the oligopolistic market structure.

6. Pricing

Pricing is an important exercise. Under pricing will result in losses and over-pricing will make the customers run away.

Pricing process for any management is not a simple affair. While undertaking such an exercise, a complex of factors and considerations has to be entertained.

7. Market Penetration

This is exactly opposite to the market skimming method. Here the price of the product is fixed so low that the company can increase its market share. The company attains profits with increasing volumes and increase in the market share.

8. Two-Part Pricing

Here the firms charges a fixed fee for the right to purchase its goods, plus a per unit charge for reach unit purchased. Entertainment houses such as country clubs, athletic clubs, golf courses, and health clubs usually adopt this strategy. They chare a fixed initiation fee plus a charge, per month or per visit, to use the facilities. There are also organizations that charge membership fee and offer their products and services cost-to-cost basis.

9. Block Pricing

it is seen in our day to day life very frequently. Six lux soaps in a single pack illustrate this method. By selling certain number of units of a product as one package, the firm earns more than by selling unit wise.

10. Break Even Point

The Break-Even Point may be defined as that point of sales volume at which total revenue is equal to total cost.It is the point of no profit, no loss.A business is said to break-even when its total sales are equal to its total costs. At this point, contribution i.e., sales minus variable cost, equals to its total costs. If production/ sales is increased beyond this level, there shall be loss to the organization.

UNIT V

Introduction to Business Environment: Macro Economic Analysis (PESTEL MODEL); Industrial Policy of 1991 and recent developments, Fiscal Policy, Monetary Policy, Export - Import Policy, Foreign Direct Investment in India.

5.1 Business Environment

Business Environment means all of the internal and external factors that affect how the company functions including employees, customers, and management, supply and demand and business regulations.

Definition of Business Environment

Business Environment means a collection of all individuals, entities and other factors, which may or may not be under the control of the organisation, but can affect its performance, profitability, growth and even survival. Every business organisation operates in a distinctive environment, as it cannot exist in isolation. Such an environment influence business and also gets affected by its activities.

According to Arthur M. Weimer, "Business Environment encompasses the -climate' or set of conditions, economic, social, political or institutional in which business operations are Conducted."

According to William Gluck and Jauch ,"Environment contains the external factors that create opportunities and threats to the business. This includes socio-economic conditions, technology and political conditions."

According to Keith Davis, ''Business environment is the aggregate of all conditions, events and influences that surround and affect it."

According to Reinecke and Schoell, "The environment of business consists of all those external things to which it is exposed and by which it may be influenced directly or indirectly".

From the above definitions we can extract that business environment consists of factors that are internal and external which poses threats to a firm or these provide opportunities for exploitation.

5.1.1 Features of Business Environment

1. **Totality of external forces**: Business environment is the sum total of all things external to business firms and, as such, is aggregative in nature.
2. **Specific and general forces**: Business environment includes both specific andgeneral forces. Specific forces affect individual enterprises directly and immediately in their day-to-day working. General forces have impact on all business enterprises and thus may affect an individual firm only indirectly.
3. **Dynamic nature**: Business environment is dynamic in that it keeps on changing whether in terms of technological improvement, shifts in consumer preferences or entry of new competition in the market.
4. **Uncertainty**: Business environment is largely uncertain as it is very difficult to predict future happenings, especially when environment changes are taking place too frequently as in the case of information technology or fashion industries.
5. **Relativity**: Business environment is a relative concept since it differs from country to country and even region to region. Political conditions in the USA, for instance, differ from those in China or Pakistan. Similarly, demand for sarees may be fairly high in India whereas it may be almost non-existent in France.

5.1.2 Types of Business Environment

Business environment may be defined as the set of external and internal factors which affects the decisions of business. Business Environment is of two types

1. Micro Environment of Business/Internal Environment of Business
2. Macro Environment of Business/External Environment of Business

1. The Micro Environment of Business/Internal Environment of Business

These are powers which are deeply related with company and company can control these type of environment by improving its capacity and efficiency.

1. **Suppliers**: Suppliers are the persons who supply raw material to company.
2. **Customers**: Customers are the persons who buy goods from company.

3. **Market Intermediaries** : Market intermediaries are those person who helps company to sell its products.
4. **Financial Intermediaries** : Financial intermediaries are those institutions who provide loan, credit and advance to company.
5. **Competitors** : Competitors are those who also sell same product of company.
6. **Public** : Public is those group of people who can buy or who can show their interest to buy the products of company.

2. The Macro Environment of Business/External Environment of Business

Macro environment of business means all external factors which affects company and its business and there is no control of company on these factors.

1. **Economic Environment**: In economic environment, we can include govt. budget, import and export policies, economic system and economic conditions.
2. **Political and Governmental Environment**: In political and government environment, we can include legislature's decisions, executive's decisions and judiciary decision which affect company's business.
3. **Socio cultural Environment**: Socio-cultural environment includes morality, religion, education, health of peoples and family importance.
4. **Natural Environment**: In natural environment, we can include season, place elements, natural resources etc.
5. **Demographic Environment**: In demographic environment, we can include size of population, growth rate of population, age composition, sex composition and family size.
6. **Technological Environment**: In technological environment, we can include e-commerce technology, online payment, Internet technology, mobile banking and 3G technology and all other new technology which affect company's business.
7. **International Environment**: In international environment, we can include rules and regulation of WTO, WB and MNC's affect on our company's business.

5.1.3 Importance of Business Environment

There is a close and continuous interaction between the business and its environment. This interaction helps in strengthening the business firm and using its resources more effectively.

As stated above, the business environment is multifaceted, complex, and dynamic in nature and has a far-reaching impact on the survival and growth of the business. To be more specific, proper understanding of the social, political, legal and economic environment helps the business in the following ways:

a) **Determining Opportunities and Threats**: The interaction between the business and its environment would identify opportunities for and threats to the business. It helps the business enterprises for meeting the challenges successfully.

b) **Giving Direction for Growth**: The interaction with the environment leads to opening up new frontiers of growth for the business firms. It enables the business to identify the areas for growth and expansion of their activities.

c) **Continuous Learning**: Environmental analysis makes the task of managers easier in dealing with business challenges. The managers are motivated to continuously update their knowledge, understanding and skills to meet the predicted changes in realm of business.

d) **Image Building**: Environmental understanding helps the business organizations in improving their image by showing their sensitivity to the environment within which they are working. For example, in view of the shortage of power, many companies have set up Captive Power Plants (CPP) in their factories to meet their own requirement of power.

e) **Meeting Competition**: It helps the firms to analysis the competitors' strategies and formulates their own strategies accordingly.

f) **Identifying Firm's Strength and Weakness**: Business environment helps to identify the individual strengths and weaknesses in view of the technological and global developments.

5.1.4 Factors of Business Environment

a) Social Environment

The social environment of business includes social factors like customs, traditions, values, beliefs, poverty, literacy, life expectancy rate etc. The social structure and

the values that a society cherishes have a considerable influence on the functioning of business firms.

For example, during festive seasons there is an increase in the demand for new clothes, sweets, fruits, flower, etc. Due to increase in literacy rate the consumers are becoming more conscious of the quality of the products. Due to change in family composition, more nuclear families with single child concepts have come up. This increases the demand for the different types of household goods. It may be noted that the consumption patterns, the dressing and living styles of people belonging to different social structures and culture vary significantly.

b) Political Environment

This includes the political system, the government policies and attitude towards the business community and the unionism. All these aspects have a bearing on the strategies adopted by the business firms. The stability of the government also influences business and related activities to a great extent. It sends a signal of strength, confidence to various interest groups and investors. Further, ideology of the political party also influences the business organization and its operations. You may be aware that Coca-Cola, a cold drink widely used even now, had to wind up operations in India in late seventies. Again the trade union activities also influence the operation of business enterprises.

Most of the labour unions in India are affiliated to various political parties. Strikes, lockouts and labour disputes etc. also adversely affect the business operations. However, with the competitive business environment, trade unions are now showing great maturity and started contributing positively to the success of the business organization and its operations through workers participation in management.

c) Legal Environment

This refers to set of laws, regulations, which influence the business organizations and their operations. Every business organization has to obey, and work within the framework of the law. The important legislations that concern the business enterprises include :

i) Companies Act, 1956

ii) Foreign Exchange Management Act, 1999

iii) The Factories Act, 1948

iv) Industrial Disputes Act, 1972

v) Payment of Gratuity Act, 1972

vi) Industries (Development and Regulation) Act, 1951

vii) Prevention of Food Adulteration Act, 1954

viii) Essential Commodities Act, 2002

ix) The Standards of Weights and Measures Act, 1956

x) Monopolies and Restrictive Trade Practices Act, 1969

xi) Trade Marks Act, 1999

xii) Bureau of Indian Standards Act, 1986

xiii) Consumer Protection Act, 1986

xiv) Environment Protection Act

xv) Competition Act, 2002

d) Technological Environment

Technological environment include the methods, techniques and approaches adopted for production of goods and services and its distribution. The varying technological environments of different countries affect the designing of products. For example, in USA and many other countries electrical appliances are designed for 110 volts. But when these are made for India, they have to be of 220 volts.

In the modern competitive age, the pace of technological changes is very fast. Hence, in order to survive and grow in the market, a business has to adopt the technological changes from time to time. It may be noted that scientific research for improvement and innovation in products and services is a regular activity in most of the big industrial organisations. Now a days infact, no firm can afford to persist with the outdated technologies.

e) Demographic Environment

This refers to the size, density, distribution and growth rate of population. All these factors have a direct bearing on the demand for various goods and services. For example a country where population rate is high and children constitute a large section of population, then there is more demand for baby products. Similarly the demand of the people of cities and towns are different than the people of

rural areas. The high rise of population indicates the easy availability of labour. These encourage the business enterprises to use labour intensive techniques of production. Moreover, availability of skill labour in certain areas motivates the firms to set up their units in such area. For example, the business units from America, Canada, Australia, Germany, UK, are coming to India due to easy availability of skilled manpower. Thus, a firm that keeps a watch on the changes on the demographic front and reads them accurately will find opportunities knocking at its doorsteps.

f) Natural Environment

The natural environment includes geographical and ecological factors that influence the business operations. These factors include the availability of natural resources, weather and climatic condition, location aspect, topographical factors, etc. Business is greatly influenced by the nature of natural environment. For example, sugar factories are set up only at those places where sugarcane can be grown. It is always considered better to establish manufacturing unit near the sources of input. Further, government's policies to maintain ecological balance, conservation of natural resources etc. put additional responsibility on the business sector.

5.2 Macro Environment Analysis (PESTEL MODEL)

A detailed analysis of the macro-environment or the environment as a whole is called PESTEL analysis, which precisely means a bird's eye view of the PESTLE analysis business conduct. The PESTEL analysis ascertains for the managers and the strategy builders as to where their market currently stands and where it will head off in the future.

PESTEL analysis consists of components that influence the business environment and each letter in the acronym denotes a set of factors that directly or indirectly affect every industry. The letters denote the following things :

1. **P for Political factors** : These factors take into account the political situation of a country and the world in relation to the country. For example, what sort of government leadership is affecting what decisions of a country? All the policies, all the taxes laws and every tariff that a government levies over a trade falls under this category of factors.

2. **E for Economic factors** : Economic factors include all the determinants of an economy and its condition. The inflation rate, the interest rates, the monetary or fiscal policies, the foreign exchange rates that affect imports and exports, all these determine the direction in which an economy might move, therefore businesses analyze this factor based on their environment so as to build strategies that fall in line with all the changes that are about to occur.
3. **S for Social factors**: Every country is different and every country has a unique mindset. These mindsets cast an impact on the businesses and the sales of their products and services; therefore PESTLE analysis includes these factors as well. The cultural implications, the gender and connected demographics, the social lifestyles, the domestic structures; all of these are studied by companies to understand the market and the consumer better.
4. **T for Technological factors**: Technology greatly influence a business, therefore PESTLE analysis is conducted upon these factors too. Technology changes every minute and therefore companies need to stay connected along the way and integrate as and when needed. Also, these factors are analyzed to understand how the consumers react to technological trends and how they utilize them for their benefit.
5. **E for Environmental factors**: The location of countries influence on the trades that businesses do. Adding to that, many climatic changes alter the trade of industries and the way consumers react towards a certain offering that is launched in the market. The environmental factors include geographical location, the climate, weather and other such factors that are not just limited to climatic conditions. These in particular affect the agri-businesses, farming sectors etc.
6. **L for Legal factors**: Legislative changes occur from time to time and many of them affect the business environment. For example, if a regulatory body would set up a regulation for the industries, then that law would impact all the industries and business that strife in that economy, therefore businesses also analyze the legal developments happening in their environment.

5.2.1 Advantages of PEST analysis

- Provides an understanding of the wider business environment.
- Encourages the development of strategic thinking.

- May raise awareness of threats to an organisations ongoing profitability.
- Can help an organisation to anticipate future difficulties and take action to avoidor minimise their effect.
- Can help an organisation to spot business opportunities and exploit them successfully.

5.2.2 Disadvantages of PEST Analysis

- The rapid pace of change in society makes it increasingly difficult to anticipate developments that may affect an organisation in the future.
- Collecting large amounts of information may make it difficult to see the wood for the trees and lead to "paralysis by analysis.
- The analysis may be based on assumptions that prove to be unfounded.
- PEST analysis only covers the remote environment and the results need to be considered in conjunction with other factors, such as the organisation itself, competitors and the industry in which it is operating. Additional tools and techniques will be needed to cover these areas.

5.3 INDUSTRIAL POLICY

Introduction

The industrial policy means the procedures, principles, policies rules and regulations which control the industrial undertaking of the country and pattern of industrialization. It explains the approach of Government in context to the development of industrial sector. In India the key objective of the economic policy is to achieve self-reliance in all sectors of the economy and to develop socialistic pattern of society.

The industrial policy in the pre-reform period i.e. before1991 put greater emphasis on the state intervention in the field of industrial development. These policies no doubt have resulted into the creation of diversified industrial structure but caused a number of inefficiencies, distortions and rigidities in the system. Thus during late 70's and 80's, Government initiated liberalization measures in the industrial policy framework. The drastic liberalization measures were however, carried out in 1991.

New industrial policy was applied on 24th July 1991. There were many amendments in this industrial policy. New industrial policy is very different from old industrial policy.

5.3.1 Objectives of New Industrial Policy

1. Main objective of new industrial policy is to free industrial economy from unnecessary control of Indian administrators.
2. To reduce the weak points of different industries in India.
3. To start liberalization for connecting Indian Industries to foreign industries.
4. To remove the restrictions on direct foreign investment.
5. To remove the restrictions of MRTP act on domestic trades.
6. To try best to increase employment in industries.
7. To increase competitiveness in international trade.
8. To make the provision for increasing the profit of public organisations.
9. To 100% use of domestic resources of India.
10. To do more research for effective use of internal resources.

5.4 Industrial Policies Prior to 1991

5.4.1 Industrial Policy Resolution, 1948

The first important industrial policy statement was made in the Industrial policy Resolution (IPR), 1948. The main thrust of IPR, 1948 was to lay down the foundation of mixed economy whereby the private and public sector was accepted as important components in the development of industrial economy of India. The policy divided the industries into four broad categories :

i) **Industries with Exclusive State Monopoly**: It included industries engaged in the activity of atomic energy, railways and arms and ammunition.

ii) **Industries with Government Control**: It included the industries of national importance and so needs to be registered. 18 such industries were put under this category eg. fertilizers, heavy chemical, heavy machinery etc.

iii) **Industries in the Mixed Sector:** It included the industries where private and public sector were allowed to operate. Government was allowed to review the situation to acquire any existing private undertaking.

iv) **Industries under Private Sector**: Industries not covered by above categories fell in this category.

IPR, 1948 gave public sector vast area to operate. Government took the role of catalytic agent of industrial development. The resolution assigned complementary role to small-scale and cottage industries. The foreign capital which was seen with suspect in the pre-independent era was recognized as an important tool to speedup up industrial development.

5.4.2 Industries (Development and Regulation) Act (IDRA), 1951

IDRA, 1951 is the key legislation in the industrial regulatory framework. IDRA, 1951 gave powers to the government to regulate industry in a number of ways. The main instruments were the regulation of capacity (and hence output) and power to control prices. It specified a schedule of industries that were subject to licensing. Even the expansion of these industries required prior permission of the government which means the output capacity was highly regulated.

The Government was also empowered to control the distribution and prices of output produced by industries listed in the schedule. The IDR Act gave very wide powers to the Government. This resulted in more or less complete control by the bureaucracy on the industrial development of the country.

The main provisions of the IDRA, 1951 were

a) All existing undertakings at the commencement of the Act, except those owned by the Central Government were compulsorily required to register with the designated authority.

b) No one except the central Government would be permitted to set up any new industrial undertaking "except under and in accordance with a licence issued in that behalf by the Central Government."

c) Such a license or permission prescribed a variety of conditions, such as, location, minimum standards in respect of size and techniques to be used, which the Central Government may approve.

d) Such licenses and clearances were also required in cases of 'substantial expansion' of an existing industrial undertaking.

5.4.3 Industrial Policy Resolution, 1956

IPR, 1956 is the next important policy statement. The important provisions are as follows :

1) **New classification of Industries**: IPR, 1956 divided the industries into the following three categories :

   a) **Schedule A industries:** The industries that were the monopoly of state or Government. It included 17 industries. The private sector was allowed to operate in these industries if national interest so required.

   b) **Schedule B industries:** In this category of industries state was allowed to establish new units but the private sector was not denied to set up or expand existing units e.g. chemical industries, fertilizer, synthetic, rubber, aluminum etc.

   c) **Schedule C industries:** The industries not mentioned in the above category formed pat of Schedule C. Thus the IPR, 1956 emphasized the mutual existence of public and private sector industries.

2) **Encouragement to Small-scale and Cottage Industries**: In order to strengthen the small-scale sector supportive measures were suggested in terms of cheap credit, subsidies, reservation etc.

3) **Emphasized on Reduction of Regional Disparities**: Fiscal concessions were granted to open industries in backward regions. Public sector enterprises were given greater role to develop these areas.

The basic rationale of IPR, 1956 was that the state had to be given primary role for industrial development as capital was scarce and entrepreneurship was not strong. The public sector was enlarged dramatically so as to allow it to hold commanding heights of the economy.

Monopolies Commission

In April 1964, the Government of India appointed a Monopolies Inquiry Commission "to inquire into the existence and effect of concentration of economic power in private hands." The Commission looked at concentration of economic power in the area of industry. On the basis of recommendation of the commission, Monopolistic and Restrictive Trade Practices Act (MRTP Act), 1969 was enacted. The act sought to control the establishment and expansion of all industrial units that have asset size over a particular limit.

5.4.4 Industrial Policy Statement, 1973

The Policy Statement of 1973 drew up a list of industries to be started by large business houses so that the competitive effort of small industries was not affected. The entry of competent small and medium entrepreneurs was encouraged in all industries. Large industries were permitted to start operations in rural and backward areas with a view to developing those areas and enabling the growth of small industries around.

Industrial Policy Statement, 1977: The main elements of the new policy were:

1. **Development of Small-Scale Sector**: The main thrust of the new industrial policy was an effective promotion of cottage and small industries. Government initiated wide-spread promotional and supportive measures to encourage small sector. The small sector was classified into 3 categories viz. Cottage and household industries which provide self-employment; tiny sector and small-scale industries. The purpose of the classification was to specifically design policy measures for each category. The policy statement considerably expanded the list of reserved items for exclusive manufacture in the small-scale sector.
2. **Restrictive Approach towards Large Business Houses:** The large scale sector was allowed in basic, capital goods and high-tech industries. The policy emphasized that the funds from financial institutions should be made available largely for the development of small sector. The large sector should generate internal finance for financing new projects or expansion of existing business.
3. **Expanding Role of Public sector**: The industrial policy stated that the public sector would be used not only in the strategic areas but also as a stabilizing force for maintaining essential supplier for the consumer.

Further, the policy statement reiterated restrictive policy towards foreign capital whereby the majority interest in ownership and effective control should rest in Indian hands.

5.4.5 Industrial Policy, 1980

The industrial policy 1980 emphasized that the public sector is the pillar of economic infrastructure for reasons of its greater reliability, for the large investments required and the longer gestation periods of the projects crucial for economic development. The IPR1956 forms the basis of this statement. The important features of the policy were :

1. **Effective Management of Public Sector** : The policy emphasized the revival of efficiency of public sector undertaking.

2. **Liberalization of Industrial licensing :** The policy statement provided liberalized measures in the licensing in terms of automatic approval to increase capacity of existing units under MRTP and FERA. The asset limit under MRTP was increased. The relaxation from licensing was provided for large number of industries. The broad-banding concept was introduced so that flexibility is granted to the industries to decide the product mix without applying for a new license.

3. **Redifining Small-Scale Industries :** The investment limit to define SSI was increased to boost the development of this sector. In case of tiny sector the investment limit was raised to Rs.1 lakh; for small scale unit the investment limit was raised from Rs.10 lakh to Rs.20 lakh and for ancillaries from Rs.15 lakh to Rs. 25 lakh.

Industrial policy, 1980 focused attention on the need for promoting competition in the domestic market, technological up gradation and modernization. The policy laid the foundation for an increasingly competitive export based industries and for encouraging foreign investment in high-technology areas.

Era of Liberalization after 80's:

After 1980, an era of liberalization started, and the trend was gradually to dilute the strict licensing system and allow more freedom to the entrepreneurs. The steps that were taken in accordance with the policy included:

i) **Re-endorsement of licenses:** The capacity indicated in the licenses could be re-endorsed, provided it was 25 percent more than the licensed capacity (1984).

ii) **Liberalization of 1990**: The measures were as follows :

a) Exemption from licensing for specific new units.

b) Investment of foreign equity up to 40 percent was freely allowed.

c) Location restrictions were removed.

5.4.5.1 Major Features of Pre-1991 Industrial Policy

1. Protection to Indian Industries

Local industries were given shelter from international competition by introducing partial physical ban on the imports of products and high imports tariffs. Protection from imports encouraged Indian industry to undertake the manufacture of a variety of products. There was a ready market for all these products.

2. Import-Substitution Policy

Government used its import policy for the healthy development of local industries. Barring the first few years after Independence, the country was facing a shortage of foreign exchange, and so save scarce foreign exchange imports-substitution policy was initiated i.e. Government encouraged the production of imported goods indigenously.

3. Financial Infrastructure

In order to provide the financial infrastructure necessary for industry, the Government set up a number of development banks. The principal function of a development bank is to provide medium and long-term investments. They have to also play a major role in promoting the growth of enterprise. With this objective, Government established the Industrial Finance Corporation of India (IFCI) (1948), Industrial Credit and Investment Corporation of India (ICICI) (1955), Industrial Development Bank of India (IDBI) (1964), Industrial Reconstruction Corporation of India (1971), Unit Trust of India (UTI) (1963), and the Life Insurance Corporation of India (LIC).

4. Control over Indian Industries

Indian industries were highly regulated through legislations such as Industrial licensing, MRTP Act, 1969 etc. These legislations restricted the production, expansion and pricing of output of almost all kinds of industries in the country.

5. Regulations on Foreign Capital under the Foreign Exchange and Regulation Act (FERA)

FERA restricted foreign investment in a company to 40percent. This ensured that the control in companies with foreign collaboration remained in the hands of Indians. The restrictions were also imposed on technical collaborations and repatriations of foreign exchange by foreign investors.

6. Encouragement to Small Industries

Government encouraged small-scale industries (SSIs) by providing a number of support measures for its growth. Policy measures addressed the basic requirements of the SSI like credit, marketing, technology, entrepreneurship development, and fiscal, financial and infrastructural support.

7. Emphasis on Public Sector

The Government made huge investments in providing infrastructure and basic facilities to industries. This was achieved by establishing public sector enterprises in the key sectors such as power generation, capital goods, heavy machineries, banking, tele- communication, etc.

5.4.5.2 Review of Pre-1991 Industrial Policy

The pre1991 industrial policies created a climate for rapid industrial growth in the country. It has helped to create a broad-base infrastructure and basic industries. A diverse industrial structure with self-reliance on a large number of items had been achieved. At the time of independence the consumer goods industry accounted for almost half of the industrial production.

In 1991 such industries accounted for only about 20 percent. In contrast capital goods production was less than 4 percent of the total industrial production. In 1991 it had gone up to 24 percent. Industrial investment took place in a large variety of new industries. Modern management techniques were introduced. An entirely new class of entrepreneurs has come up with the support system from the Government, and a large number of new industrial centers have developed in almost all parts of the country.

Over the years, the Government has built the infrastructure required by the industry and made massive investments to provide the much-needed facilities of power, communications, roads etc. A good number of institutions were promoted to help entrepreneurship development, provide finance for industry and to facilitate development of a variety of skills required by the industry.

However, the implementation of industrial policy suffered from shortcomings. It is argued that the industrial licensing system has promoted inefficiency and resulted in the high-cost economy. Licensing was supposed to ensure creation of capacities according to plan priorities and targets. However, due to considerable discretionary powers vested in the licensing authorities the system tended to promote corruption and rent-seeking. It resulted into pre-emption of entry of new enterprises and adversely affected the competition.

The system opposite to its rationale favored large enterprises and discriminate against backward regions. Government announced a number of liberalization measures in the industrial policy of 1970, 1973 and 1980. However, the dramatic liberalization efforts were made in the industrial policy, 1991.

5.4.6 New Industrial Policy, 1991

India's New Industrial Policy announced in July 1991 (hereafter NIP) was radical compared to its earlier industrial policies in terms of objectives and major features. It emphasized on the need to promote further industrial development based on consolidating the gains already made and correct the distortion or weaknesses that might have crept in, and attain international competitiveness. (Ministry of Industry, 1991). The liberalized Industrial Policy aims at rapid and substantial economic growth, and integration with the global economy in a harmonized manner. The Industrial Policy reforms have reduced the industrial licensing requirements, removed restrictions on investment and expansion, and facilitated easy access to foreign technology and foreign direct investment.

Pre vs. Post 1991 Policy

1. **Distinctive Objectives of New Industrial Policy (NIP), 1991:** NIP had two distinctive objectives compared to the earlier industrial policies :

   i) **Redefinition of Concept of Self-Reliance**: NIP redefined the concept of economic self-reliance. Since 1956 till 1991, India had always emphasized on Import Substitution Industrialization (ISI) strategy to achieve economic-self reliance. Economic self-reliance meant indigenous development of production capabilities and producing indigenously all industrial goods, which the country would demand rather than importing from outside. The goal of economic self-reliance necessitated the promotion of ISI strategy. It helped to built up the vast base of capital goods, intermediate goods and basic goods industries over a period of time. NIP redefined economic self-reliance to mean the ability to pay for imports through foreign exchange earnings through exports and not necessarily depending upon the domestic industries.

   ii) **International Competitiveness:** NIP emphasized the need to develop indigenous capabilities in technology and manufacturing to world standards. None of the earlier industrial policies, either explicitly or implicitly, had made reference to international technology and manufacturing capabilities in the context of domestic industrial development (Ministry of Commerce and Industry, 2001). For the first time, NIP explicitly underlined the need for domestic industry to achieve international competitiveness.

To achieve these objectives, among others, NIP initiated changes in India's industrial policy environment, which gained momentum gradually over the decade. The important elements of NIP can be classified as follows :

1. Public Sector De-Reservation and Privatization through Dis-Investment

Till 1991, Public Sector was assigned a pre-eminent position in Indian Industry to enable it to achieve "commanding heights of the economy" under the Industrial Policy Resolution (IPR), 1956. Accordingly, areas of strategic importance and core sectors were exclusively reserved for public sector enterprises. Public enterprises were accorded preference even in areas where private investments were possible.

Since 1991, the public sector policy consists of :

i) **Reduction in the number of industries reserved for public sector**: Now only two industries (atomic energy and railway transport) are reserved for the Public Sector. They are known as "Annexure I" industries (Ministry of Commerce and Industry, 2001). The essence of government's Public Sector Undertakings (PSUs) policy since 1991 has been that government should not operate any commercial enterprises. The policy emphasized to bring down government equity in all non-strategic PSUs to 26 percent or lower, restructure or revive potentially viable PSUs, close down PSUs, which cannot be revived and fully protect the interests of workers. Government's withdrawal from non-core sectors is indicated on considerations of long-term efficient use of capital, growing financial un-viability and the compulsions for these PSUs to operate in an increasingly competitive and market oriented environment (Disinvestment Commission, 1997).

ii) **Implementation of Memorandum of Understanding (MOU)**: As a part of the measures to improve the performance of public enterprises, more and more of public sector units have been brought under the purview of Memorandum of Understanding (MoU) system. A memorandum of understanding is a performance contract, a freely negotiated document between the Government and a specific public enterprise.

iii) **Referral to BIFR**: Many sick public sector units have been referred to the Board for Industrial and Financial Reconstruction (BIFR) for rehabilitation or, where necessary, for winding up.

iv) **Manpower Rationalization**: In order to make manpower rationalization Voluntary Retirement Scheme (VRS) has been introduced in a number of PSUs to shed the surplus manpower.

v) **Private Equity Participation**: PSUs have been allowed to raise equity finance from the capital market. This has provided market pressure on PSUs to improve their performance.

vi) **Disinvestment and Privatization**: Disinvestment and privatization of existing PSUs has been adopted to improve corporate efficiency, financial performance and competition amongst PSUs. It involves transfer of Government holding in PSUs to the private shareholders.

2. Industrial Delicensing

The removal of licensing requirements for industries, domestic as well as foreign, commonly known as "de-licensing of industries" is another important feature of NIP. Till the 1990s, licensing was compulsory for almost every industry, which was not reserved for the public sector. This licensing system was applicable to all industrial enterprises having investment in fixed assets (which include land, buildings, plant & machinery) above a certain limit. With progressive liberalization and deregulation of the economy, industrial license is required in very few cases. Industrial licenses are regulated under the Industries (Development and Regulation) Act 1951. At present, industrial license is required only for the following :

i) Industries retained under compulsory licensing (five industries are reserved under this category).

ii) Manufacture of items reserved for small scale sector by larger units: An industrial undertaking is defined as small scale unit if the capital investment does not exceed Rs. 10 million (approximately $ 222,222). The Government has reserved certain items for exclusive manufacture in the small-scale sector. Non small-scale units can manufacture items reserved for the small-scale sector if they undertake an obligation to export 50 percent of the production after obtaining an industrial license.

iii) When the proposed location attracts locational restriction: Industrial undertakings to be located within 25 kms of the standard urban area limit of 23 cities having a population of 1 million as per 1991 census require an industrial license.

Thus, excluding these, investors are free to set up a new industrial enterprise, expand an industrial enterprise substantially, change the location of an existing industrial enterprise and manufacture a new product through an already established industrial

enterprise. The objective of industrial delicencing would be to enable business enterprises to respond to the fast changing external conditions. Entrepreneurs will be free to make investment decisions on the basis of their own commercial judgment. This will facilitate the technological dynamism and international competitiveness. Further industries will have freedom to take advantage of 'economies of scale' as well as 'economies of scope' in the current industrial policy environment.

3. Amendment of Monopolies and Restrictive Trade Practices (MRTP) Act, 1969

An important objective of India's earlier industrial policies was to prevent emergence of private monopolies and concentration of economic power in a few individuals. Accordingly, Monopolies and Restrictive Trade Practices (MRTP) Act, 1969 was enacted and MRTP Commission was set up as a permanent body to periodically review industrial ownership, advice the government to prevent concentration of economic power, investigate monopolistic trade practices and inquire into restrictive trade practices, which are prejudicial to public interest. An MRTP firm was mainly defined in terms of asset size. An MRTP company had to obtain prior approval of the government for setting up a new enterprise as well as for expansion. However, MRTP Act was applicable only to private sector companies.

Since 1991 MRTP Act has been restructured and pre-entry restrictions have been removed with regard to prior approval of the government for the establishment of a new undertaking, expansion, amalgamation, merger, take over, and appointment of directors of companies. The asset restriction and market share for defining an MRTP firm has been done away with. MRTP Act is now applicable to both private and public sector enterprises and financial institutions. Today only restrictive trade practices of companies are monitored and controlled. The MRTP act has been replaced by the Competition Act, 2002. This law aims at upholding competition in the Indian market. The competition commission has been established in 2003 which mainly control the practice that have an adverse impact on competition.

4. Liberalized Foreign Investment Policy

India's earlier industrial policies welcomed FDI but emphasized that ownership and control of all enterprises involving foreign equity should be in Indian hands. The Balance of Payments (BoP) difficulties in the mid 1960s forced the country to adopt a more restrictive approach towards FDI through the setting up of a Foreign Investment Board, which classified industries into two groups: banned and favored for foreign

technical collaboration and FDI. The number of industries for foreign investment was steadily narrowed down and by 1973 there were only 19 industries where FDI was permitted (Kucchal, 1983).

The enactment of FERA, 1973 marked the beginning of the most restrictive phase of India's foreign investment policy. The NIP radically reformed foreign investment policy to attract foreign investment. The important foreign investment policy measures are as follows :

i) **Repeal of FERA, 1973 :** FERA, 1973 has been repealed and Foreign Exchange Management Act (FEMA) has come into force with effect from June 2000 (RBI, 2003). Investment and returns can be freely repatriated except where the approval is subject to specific conditions such as lock-in period on original investment, dividend cap, foreign exchange neutrality, etc. as specified in the sector specific policies. The condition of 'dividend balancing' was withdrawn for dividends declared. A foreign investor can freely enter, invest and operate industrial enterprises in India,

ii) **Dilution of Restrictions on Foreign Direct Investment (FDI) :** FDI is allowed in all sectors including the services sector except atomic energy and railway transport. FDI in small scale industries is allowed up to 24 percent equity. Use of brand names/trade marks is allowed. Further, FDI up to 100 percent is allowed under the automatic route in all activities/sectors except the following which require prior approval of the Government :

- Sectors prohibited for FDI;
- Activities/items that require an industrial license;
- Proposals in which the foreign collaborator has an existing financial/technical collaboration in India in the same field;
- Proposals for acquisitions of shares in an existing Indian company in financial service sector and where Securities and Exchange Board of India (substantial acquisition of shares and takeovers) regulations, 1997 is attracted;
- All proposals falling outside notified sectoral policy/CAPS under sectors in which FDI is not permitted.

Thus most of the sectors fall under the automatic route for FDI.

5. Foreign Technology Agreement

The automatic approvals for technology agreement are allowed to industries within specified parameters. Indian companies are free to negotiate the terms of technology transfer with their foreign counterparts according to their own commercial judgment.

6. Dilution of Protection to Small Scale Industries (SSI) and Emphasis on Competitiveness

SSIs enjoyed a unique status in Indian economy due to its diversified presence across the country and thereby utilizing resources and skills, which would have otherwise remained unutilized. Due to their potential to generate large-scale employment, produce consumer goods of mass consumption, alleviate regional disparities, etc., industrial policies protected the sector for its growth. The principal protective measures for SSI comprised :

i) Demarcating SSI from the rest of industry through a definition under the IDR Act, 1951,

ii) Concessional credit from the banking system,

iii) Fiscal concessions,

iv) Exemption from industrial licensing and labor legislations,

v) Preferential access to scarce raw materials, both domestic and imported,

vi) Market support from the government through reservation of products for government purchase and price preferences, and

vii) Reservation of products for exclusive manufacturing in SSIs and restrictions on the growth of output and capacity in the large-scale sector for products reserved for SSI manufacturing. These policy measures protected SSIs from both internal and external competition.

However, since 1991 the protective emphasis of SSI policy has undergone dilution. In August 1991, government of India brought out an exclusive policy for SSI. The policy marked: (i) the beginning of an end to protective measures to small industry and (ii) promotion of competitiveness by addressing the basic concerns of the sector namely technology, finance and marketing.

Subsequently, the number of items reserved exclusively for small industry manufacturing has been gradually brought down. This policy has lost its relevance to

a large extent because though these products could not be manufactured by large enterprises domestically, they can be imported from abroad due to the removal quantitative and non-quantitative restrictions on most imports by April 1, 2001 (Ministry of Finance, 2002).

Concession element in lending rates for small industry has been largely withdrawn during the 1990s (RBI, 2003). The number of products reserved exclusively for purchase from small industry by the government has been reduced to 358 items from 409 items. Measures have been adopted to improve technology and export capabilities of SSIs. Thus the overall promotion orientation of SSI has shifted from protection towards competitiveness.

5.4.7 Impact of Industrial Policy, 1991

The all-round changes introduced in the industrial policy framework have given a new direction to the future industrialization of the country. There are encouraging trends on diverse fronts. Industrial growth was 1.7 per cent in 1991-92 that has increased to 9.2 percent in 2007-08.The industrial structure is much more balanced. The impact of industrial reforms is reflected in multiple increases in investment envisaged, both domestic and foreign. This is due to encouraging response from the private sector. There has been dramatic increase in FDI since 1991.

The foreign investment as a percentage of total GDP has increased from 0.5 percent in 1990-91 to 5.7 percent in 2006.Investments in infrastructure sector such as power generation have surged from players of various sizes in different states. The capital goods have grown at an accelerated pace, over a high base attained in the previous years, which augurs well for the required industrial capacity addition.

5.5 Fiscal Policy

Introduction

Fiscal policy is the government spending and taxation that influences the economy. Elected officials should coordinate with monetary policy to create healthy economic growth. They usually don't. Why? Fiscal policy reflects the priorities of individual lawmakers. They focus on the needs of their constituencies. These local needs overrule national economic priorities. As a result, fiscal policy is hotly debated, whether at the federal, state, county or municipal level.

According to Arthur Smithies, fiscal policy aims primarily at controlling aggregate demand and leaves private enterprise its traditional field- the allocation of resources among alternative us.

5.5.1 Objectives of a fiscal policy

i) To accelerate the rate of economic growth by stepping up the rate of investment and capital formation

ii) To increase savings and discourage luxury consumption

iii) To allocate existing resources to desired and priority sectors so that a rapid economic growth can be achieved

iv) To reduce inequalities in income and wealth.

v) To maintain reasonable price stability

5.5.2 Types of Fiscal Policy

There are two main types of fiscal policy: expansionary and contractionary.

1. **Expansionary fiscal policy** : Expansionary fiscal policy, designed to stimulate the economy, is most often used during a recession, times of high unemployment or other low periods of the business cycle. It entails the government spending more money, lowering taxes, or both. The goal is to put more money in the hands of consumers so they spend more and stimulate the economy.

2. **Contractionary fiscal policy :** Contractionary fiscal policy is used to slow down economic growth, such as when inflation is growing too rapidly. The opposite of expansionary fiscal policy, contractionary fiscal policy raises taxes and cuts spending.

5.5.3 Tools of Fiscal Policy

- Taxation Policy
- Government Expenditure
- Public Debt Policy
- Deficit Financing

1. Taxation

That includes income, capital gains from investments, property, sales or just about anything else. Taxes provide the major revenue source that funds the government. The downside of taxes is that whatever or whoever is taxed has less income to spend on themselves.

That makes taxes unpopular. Find out how the U.S. federal budget is funded in Federal Income and Taxes.

2. Government Expenditure

That includes subsidies, transfer payments including welfare programs, public works projects and government salaries. Whoever receives the funds has more money to spend. That increases demand and economic growth.

5.5.4 Fiscal Policy Advantages

1. Unemployment Reduction

When unemployment is high, the government can employ an expansionary fiscal policy. This involves increasing spending or purchases and lowering taxes. Tax cuts, for example, mean people have more disposable income, which according to Princeton University, should lead to increased demand for goods and services. To meet the growing demand, the private sector will increase production, creating more job opportunities in the process.

2. Budget Deficit Reduction

A country has a budget deficit when its expenditures exceeds revenue. Since the economic effects of this deficit include increased public debt, the country then can pursue a contraction fiscal policy. It will, therefore, reduce public spending and increase taxes rates to raise more revenue and ultimately lower the budget deficit.

3. Economic Growth Increase

The various fiscal measures a country employs facilitate expansion of the national economy. For example, when the government reduces tax rates, businesses and individuals will have a greater incentive to invest and steer the economy forward. To boost the U.S. economy during the Great Recession in 2008, for instance, the government enacted the Economic Stimulus Act of 2008, which provided a range of fiscal measures, including tax incentives to encourage business investment.

5.5.5 Fiscal Policy Disadvantages

1. Conflict of Objectives

When the government uses a mix of expansionary and contractionary fiscal policy, a conflict of objectives can occur. If the national government wants to raise more

money to increase its spending and stimulate economic growth , it can issue bonds to the public. Since government bonds offer a range of benefits to buyers, individuals and businesses will buy them heavily. According to the Michigan Institute of Technology, the private sector consequently will have little money left to invest. With reduced investment activity, the economy can slow down.

2. Inflexibility

There are usually delays in the implementation of fiscal policy, because some proposed measures may have to go through legislative processes. A good demonstration of implementation delays is illustrated by the Great Recession.

5.5.6 Suggestions for Reforms in fiscal policy in India

Suggestions for Reforms in fiscal policy in India.

- Improving tax Administration to raise Larger Revenue
- Reducing Subsidies
- Downsizing of government
- Privatization Reprioritize plan schemes
- Agricultural taxation
- Reduction of non- development expenditure
- Progressive tax structure
- Public Sector Performance to be Improved
- Check on Black Money.

5.6 Monetary Policy

Monetary policy refers to the measures which the central bank of the country takes in controlling the money and credit supply in the country with a view to achieving certain specific economic objectives.

Monetary policy is that part of economic policy in which central bank controls the cost and supply of money and credit by applying different techniques. It is also main function of central bank.

We all know, if supply and cost of money are not controlled. Then both are harmful for development of economy. In India RBI is sole institute who is taking steps

to regulate money and credit by controlling its supply. Monetary policy regulates both volume and value of currency and credit.

5.6.1 Objective of Monetary Policy

The objectives of monetary policy differ from country to country according to their economic conditions. In the less developing countries like India or Pakistan its objective may be the maintenance of monetary stability and help in the process of economic development. In the developed countries its objective may be to achieve full employment, without inflation. Anyhow following are the main objectives of the monetary policy.

1. **Control of Inflation and Deflation :** Inflation and deflation both are not suitable for the economy. If the price level is reasonable and there is an adjustment between the price and cost, rate of out put can increase. Monetary policy is used to coordinate the cost and price. So price stability is achieved through the monetary policy.
2. **Exchange Stability :** Monetary policy second objective is to achieve the stable foreign exchange rate. If the rate of exchange is stable it shows that economic condition of the country is stable.
3. **Economic Development :** Monetary policy plays very effective role in promoting economic growth by providing adequate credit to productive sectors.
4. **Increase in the Rate of Employment :** Monetary policy another objective is to achieve full employment but without inflation.
5. **Equal Distribution of Credit :** Monetary policy should also ensure that distribution of credit should be equitable and purposeful. The credit priority should be given to backward areas.
6. **Improvement in Standard of Living :** It is also the major objective of the monetary policy that it should improve the quality of life in the country.

These are the objectives of the monetary policy but efforts should be made to minimize the conflicts.

5.6.2 Instruments or Technique of Credit Control/Methods of Monetary Policy of RBI

1. Bank Rate

Bank rate is that rate which is charged by Central bank for issue loan to the member banks. By changing it, central bank can control the credit.

- If Central bank increase this bank rate, all commercial banks will increase their interest rate by this loan become costly and flow of fund in the form of credit will decrease.
- If central bank wants to expand credit, then Central bank will decrease bank rate, after this commercial bank can get advance and loan at cheap rate and by this way, they also decrease their interest rate. After this flow of cash in the form of loan will increases.

2. Open Market Operation

Open market operation is the all action which is done by central bank for purchase and sale of member banks' security in open market. If RBI wants to contract the credit, then RBI will sell the security of member bank and member bank's flow of cash will stop. If RBI wants to expand credit in recession, then RBI will start to buy the security of member banks and member banks get cash and they can now use it for providing more loans to customers.

3. Cash Reserve Ratio/Statutory Minimum Reserve

Cash reserve ratio is the minimum percentage of the deposit to be kept as reserve by the banks with central bank. It can be used as the technique of monetary policy. By changing cash reserve ratio, RBI can contract or expand credit in Indian economy.

- If RBI wants to contract credit, and then RBI will increase this ratio. After this all banks have to keep more fund as reserve with RBI. So, they will decrease the amount of loan due to decrease the total fund available for enterprises.
- If RBI wants to expand credit, then RBI will decrease this ratio, after this all banks have to keep less fund as reserve with RBI. So, they will issue more credit to public.

4. Changes in Marginal Requirement of Loan

Marginal requirement is the difference between value of security and actual loan accepted by bank. Suppose a person wants to take loan of Rs. 80 , we has to give security of Rs. 100 then marginal requirement is Rs. 100 - Rs. 80 = Rs. 20.

- If RBI wants to contract the credit , this rate will increase suppose , if RBI fixes it as 40 % , then customer can get loan of Rs. 60 after giving security of Rs. 100 . So , trend of getting loan will decrease .
- If RBI wants to expand the credit, this rate will decrease suppose, if RBI fixes it as 10% more people will take loan , if they get Rs. 90 in cash after giving security of Rs. 100 .

So, by this way RBI controls credit .

5. Moral Persuasion / Inspiration

RBI as central bank of country can control credit with moral persuasion. Under this persuasion, RBI can call a meeting of all commercial bank and give advice in discussion that they should not give loan for speculative purposes.

6. Rationing of Credit

RBI has right to create ration of credit under monetary policy. It can be done by following way :

- To fix the amount of loan for a particular bank.
- To fix Quota for all banks.
- To fix Quota for different traders.

7. Regulation of consumer credit

- In case inflation, prices are increased. To control prices central bank contract credit to reduce the total amount of instalment for payment.
- In case of deflation, prices are decreased to control prices central bank expand credit to increase the amount of instalment.

5.6.3 Evaluation of Monetary Policy of the RBI

One of the important objectives of monetary policy of the RBI is 'growth with stability'. The RBI assists the Government by providing nec-essary finance. But at the same time it controls and regulates total money supply to ensure price stability. The

RBI's policy has been named 'controlled monetary expansion'. However, the RBI has not always come out gloriously in holding the price line. The main reason for price rise during the entire Plan Period has been an enormous expansion of M, and M3. This has resulted in an expansion of credit—thereby causing 'hangover of excess liquidity'. This always has fanned inflationary price rise.

After bank nationalisation in 1969 we ex-perienced a state of excess liquidity in the different monetary spheres. Non-banking financial intermediaries like mutual funds and capital market have witnessed a massive increase in deposits. Thus, it is clear that no longer commercial banks alone determine the overall liquidity position of the economy. Because of the proliferation of non-banking financial companies in recent years, supply of credit money increased enormously. But unlike com-mercial banks, these institutions are not con-trolled and regulated by the RBI.

Therefore, RBI's monetary policy in such a set-up cannot be successful in holding the price line. Further, for this, the RBI is not to be blamed alone. Inflation, in India, is caused by the Govern-ment's deficit financing, chronic shortages of consumer goods and, above all, black money. In these circumstances, the RBI's policy of controlling credit is likely to be ineffective. In spite of this, the performance of the RBI is not altogether unsatisfactory. It is largely due to the RBI's effort that the volume of un-organised segment of money market has been awarded.

The monetary policy of the RBI is not the magic wand for the fundamental problem of the Indian economy the problem of low eco-nomic growth. Yet, it can control inflationary tendencies. And, its role in this direction is no less in significant. The year 2008-09 sees threats to growth and stability mainly from the global developments. This has raised the domestic inflation rate to a high of nearly 13 p.c. in September-October, 2008. It is because of monetary policy measures taken by the RBI, inflation rate has come down to 5.6 p.c. by end January, 2009.

The overall stance of monetary policy of the RBI stated in its Annual Monetary Policy, 2008-09, aims at ensuring a monetary and in-terest rate environment that accords high pri-ority in stability, well-anchored inflation expectations and orderly conditions in finan-cial markets while being conducive to continu-ation of the growth momentum.

The RBI Says

"The conduct of monetary policy in the con-text of bringing down inflationary pressures and anchoring inflation expectation is, how-ever, complicated by global developments and domestic demand pressures." Recent recessionary tendencies

developed all over the globe including India have put a brake on the rising inflation rates. Fall in oil prices to even less than $ 35 per barrel from a high of $ 147 per barrel six months back and other factors have brought down the inflation rate to less than 6 p.c. in January 2009.

The current problem is the credit crunch and lack of confidence of investors to invest in businesses. The RBI has been putting great and sincere efforts to arrest the recessionary tendencies. However, measures so far adopted by the RBI and the Government are believed to be inadequate to minimise the impact of global recession in the country.

5.6.4 Limitations of the Monetary Policy

The following are the main limitations of the monetary policy adopted by the Reserve Bank :

1. Restricted Scope of Monetary Policy in Economic Development

In reality the monetary policy has been assigned only a minor role in the process of economic development. The monetary policy is not given any predominant role in the process of economic development. The role assigned to the Reserve Bank is minor indeed. The Reserve Bank in expected to see that the process of economic development should not be hindered for want of availability of adequate funds.

2. Limited Role in Controlling Prices

The monetary policy of Reserve bank has played only a limited role in controlling the inflationary pressure. It has not succeeded in achieving the objective of growth with stability. The former Governor of Reserve Bank, I.G. Patel states,' the role of monetary policy in combating inflation is strictly limited and that monetary policy can be effective only if it is a part of an overall framework of policy which includes not only fiscal and foreign exchange policy but also what is described as an income policy'. In India, however, the monetary policy of the Reserve Bank is not appropriately integrated with fiscal, foreign exchange and income policies.

3. Unfavourable Banking Habits

An important limitation of the monetary policy is unfavourable banking habits of Indian masses. People in India prefer to make use of cash rather than cheque. This means that a major portion of the cash generally continues to circulate in the economy without returning to the banks in the form of deposits. This reduces

the credit creation capacity of the banks. Moreover in India there is predominance of currency in the money supply. This hampers the credit creating capacity of the banks. Due to high proportion of currency in money supply, banks have to face the problem of large withdrawals of currency every time they create credit. Fortunately, the recent trend is increasing deposit ratio in money supply. It is expected to make money policy more effective.

4. Underdeveloped Money Market

Another limitation of monetary policy in India is underdeveloped money market. The weak money market limits the coverage, as also the efficient working of the monetary policy. The money market comprises of the parts, the organised money market and unorganised money market. The money policy works only in organised money market. It fails to achieve the desired results in unorganised money market.

5. Existence of Black Money

The existence of black money in the economy limits the working of the monetary policy. The black money is not recorded since the borrowers and lenders keep their transactions secret. Consequently the supply and demand of money also not remain as desired by the monetary policy. In the words of V. Pandit, 'Black money is rightly regarded as a threat to the official money credit policy mechanism to manage demand and price in several sectors of the economy.

6. Conflicting Objectives

An important limitation of monetary policy arises from its conflicting objectives. To achieve the objective of economic development the monetary policy is to be expansionary but contrary to it to achieve the objective of price stability a curb on inflation can be realised by contracting the money supply. The monetary policy generally fails to achieve a proper coordination between these two objectives.

7. Influence of Non-Monetary Factors

An important limitation of monetary policy is its ignorance of non-monetary factors. The monetary policy can never be the primary factor in controlling inflation originating in real factors, deficit financing and foreign exchange resources. The Reserve Bank has no control over deficit financing. It cannot regulate the deficit financing, which affects money supply considerably.

8. Limitations of Monetary Instruments

An important limitation of monetary policy is related to the inherent limitations in the various instruments of credit control. There are limitations regarding

frequent and sharp changes in the bank rate, as these are supposed to conflict with the development objectives.

Most bank rates are virtually fixed and mutually unrelated so that the scope for adjustment is very limited. The margin requirements have tended to be so high for most of time due to prolonged inflation, that the scope for further increase in them is limited. The CRR and SLR have also been fixed very high locking most of the funds in low yielding assets. These limitations of monetary instruments hamper the smooth working of monetary policy.

9. Not Proper Implementation of the Monetary Policy

Successful application of monetary policy is not merely a question of availability of instruments of credit control. It is also a question of judgement with regard to timing and the degree of restraint employed or relaxation allowed. However, past experience shows that Reserve Bank's credit restrictions have always fallen short of the required extent of restraint. The Bank has adopted a hesitant attitude in the field of monetary control.

5.7 EXIM POLICY

Introduction

Trade policy governs exports from and imports into a country. It is one of the various policy instruments used by a country to attain goals of economic development. This policy is thus, formulated keeping in view, the national priorities for economic development and the international commitments made by the country. It is essential that the entrepreneurs and the export managers understand the trade policy as it provides the vital inputs for the formulation of their business growth strategies.

In India, the trade policy Le., export-import policy is formulated by the Ministry of Commerce, Government of India in terms of section 5 of the Foreign Trade (Development and Regulation) Act,1992Besides, the Government of India also announced on January 30,2002 a Medium Term Export strategy, to guide the formulation the Export-Import Policy: 2002 - 07 with the, objective of achieving a share of 1 % in world trade by the end of 2006 - 07 from the present I share of 0.6% (2000 - 01).

The text of this strategy is given as Appendix VII at the end of the book. The present Export -Import Policy was announced on 31.3.2002 for a period of 5 years

with effect from 1.4.2002 to 31.3.2007 co-terminus with Tenth Five Year Plan. It covers both the trade in merchandise and services. The present chapter explains legal framework affecting foreign trade of India particularly with reference to Export-Import Policy; 2002 - 2007.It also discusses the preferential trading arrangements affecting exports and imports of India.

Meaning of Exim Policy

The foreign trade of India is guided by the Export-Import (EXIM) Policy of the government of India arid is regulated by the Foreign Trade(Development and Regulation) Act, 1992.EXIM Policy contains various policy decisions taken by the government in the sphere of foreign trade, i.e., with respect to imports and exports from the country and more especially export promotion measures, policies and procedures related thereto. It is prepared and announced by the Central Government (Ministry of Commerce). India's EXIM policy, in general, aims at developing export potential, improving export performance, encouraging foreign trade and creating favourable balance of payments position

Exim Policy

At the same time, all-out efforts are made to promote exports. Thus, there are two aspects of Exim Policy; the import policy which is concerned with regulation and management of imports and the export policy which is concerned with exports not only promotion but also regulation. The main objective of the Government's EXIM Policy is to promote exports to the maximum extent. Exports should be promoted in such a manner that the economy of the country is not affected by unregulated exportable items specially needed within the country. Export control is, therefore, exercised in respect of a limited number of items whose supply position demands that their exports should be regulated in the larger interests of the country. In other words, the main objective of the Exim Policy is:

5.7.1 Objectives of the Exim Policy 1997-2002

The principal objectives of the EXIM Policy 1997 -2002 areas under :

- To accelerate the economy from low level of economic activities to high level of economic activities by making it a globally oriented vibrant economy and to derive maximum benefits from expanding global market opportunities.
- To stimulate sustained economic growth by providing access to essential raw materials, intermediates, components,' consumables and capital goods required for augmenting production.

- To enhance the technoloca1 strength and efficiency of Indian agriculture, industry and services, thereby, improving their competitiveness.
- To generate new employment. Opportunities and encourage the attainment of internationally accepted standards of quality.
- To provide quality consumer products at reasonable prices.

5.7.2 Governing Body of Exim Policy

The Government of India notifies the Exim Policy for a period of five years (1997-2002) under Section 5 of the Foreign Trade (Development and Regulation Act), 1992. The current Export Import Policy covers the period 2002-2007. The Exim Policy is updated every year on the 31st of March and the modifications, improvements and new schemes became effective from 1st April of every year.

All types of changes or modifications related to the EXIM Policy is normally announced by the Union Minister of Commerce and Industry who co-ordinates with the Ministry of Finance, the Directorate General of Foreign Trade and network of Dgft Regional Offices.

5.7.3 Different EXIM Policies of India

1. Exim Policy 1992 -1997

In order to liberalize imports and boost exports, the Government of India for the first time introduced the Indian Exim Policy on April I, 1992. In order to bring stability and continuity, the Export Import Policy was made for the duration of 5 years. However, the Central Government reserves the right in public interest to make any amendments to the trade Policy in exercise of the powers conferred by Section-5 of the Act. Such amendment shall be made by means of a Notification published in the Gazette of India.

Export Import Policy is believed to be an important step towards the economic reforms of India.

2. Exim Policy 1997 -2002

With time the Exim Policy 1992-1997 became old, and a New Export Import Policy was need for the smooth functioning of the Indian export import trade. Hence, the Government of India introduced a new Exim Policy for the year 1997-2002. This policy has further simplified the procedures and educed the interface

between exporters and the Director General of Foreign Trade (DGFT) by reducing the number of documents required for export by half. Import has been further liberalized and better efforts have been made to promote Indian exports in international trade.

Highlights of the Exim Policy 1997-2002 :

1. Period of the Exim Policy

- This policy is valid for five years instead of three years as in the case of earlier policies. It is effective from 1st April 1997 to 31st March 2002.

2. Liberalization

- A very important feature of the policy is liberalization.
- It has substantially eliminated licensing, quantitative restrictions and other regulatory and discretionary controls. All goods, except those coming under negative list, may be freely imported or exported.

3. Imports Liberalization

- Of 542 items from the restricted list 150 items have been transferred to Special Import Licence (SIL) list and remaining 392 items have been transferred to Open General Licence (OGL) List.

4. Export Promotion Capital Goods (EPCG) Scheme

- The duty on imported capital goods under EPCG Scheme has been reduced from 15% to 10%.
- Under the zero duty EPCG Scheme, the threshold limit has been reduced from Rs. 20 crore to Rs. 5 crore for agricultural and allied Sectors

5. Advance Licence Scheme

- Under Advance License Scheme, the period for export obligation has been extended from 12 months to 18 months.
- A further extension for six months can be given on payment of 1 % of the value of unfulfilled exports.

6. Duty Entitlement Pass Book (DEPB) Scheme

- Under the DEPB Scheme an exporter may apply for credit, as a specified percentage of FOB value of exports, made in freely convertible currency.

- Such credit can be can be utilized for import of raw materials, intermediates, components, parts, packaging materials, etc. for export purpose.

Impact of Exim Policy 1997 –2002

a) **Globalization of Indian Economy** : The Exim Policy 1997-02 proposed with an aim to prepare a framework for globalizations of Indian economy. This is evident from the very first objective of the policy, which states. "To accelerate the economy from low level of economic activities to- high level of economic activities by making it a globally oriented vibrant economy and to derive maximum benefits from expanding global market opportunities."

b) **Impact on the Indian Industry :** In the EXIM policy 1997-02, a series of reform measures have been introduced in order to give boost to India's industrial growth and generate employment opportunities in non-agricultural sector. These include the reduction of duty from 15% to 10% under EPCG scheme that enables Indian firms to import capital goods and is an important step in improving the quality and productivity of the Indian industry.

c) **Impact on Agriculture :** Many encouraging steps have been taken in the Exim Policy 1997-2002 in order to give a boost to Indian agricultural sector. These steps includes provision of additional SIL of 1 % for export of agro products, allowing EOU's and other units in EPZs in agriculture sectors to 50% of their output in the domestic tariff area (DTA) on payment of duty.

d) **Impact on Foreign Investment :** In order to encourage foreign investment in India, the Exim Policy 1997-02 has permitted 100% foreign equity participation in the case of 100% EOUs, and units set up in EPZs.

e) **Impact on Quality up gradation :** The SIL entitlement of exporters holding ISO 9000 certification has been increased from 2% to 5% of the FOB value of exports, which has encouraged Indian industries to undertake research and development programmers and upgrade the quality of their products.

f) **Impact on Self-Reliance :** The Exim Policy 1997-2002 successfully fulfills one of the India's long terms objective of Self-reliance. The Exim Policy has achieved this by encouraging domestic sourcing of raw materials, in order to build up a strong domestic production base. New incentives added in the Exim Policy have also added benefits to the exporters.

3. Exim Policy 2002 – 2007

The Exim Policy 2002 - 2007 deals with both the export and import of merchandise and services. It is worth mentioning here that the Exim Policy: 1997 - 2002 had accorded a status of exporter to the business firm exporting services with effect from1.4.1999. Such business firms are known as Service Providers.

Objectives of the Exim Policy: 2002 - 2007

The main objectives of the Export Import Policy 2002-2007 are as follows :

- To encourage economic growth of India by providing supply of essential raw materials, intermediates, components, consumables and capital goods required for augmenting production and providing services.
- To improve the technological strength and efficiency of Indian agriculture, industry and services, thereby improving their competitive strength while generating new employment opportunities and encourage the attainment of internationally accepted standards of quality; and
- To provide consumers with good quality products and services at internationally competitive prices while at the same time creating a level playing field for the domestic producers.

4. Main Elements of Exim Policy 2004-2009 : The new Exim Policy 2004-2009 has the following main elements :

- Preamble
- Legal Framework
- Special Focus Initiatives
- Board Of Trade
- General Provisions Regarding Imports And Exports
- Promotional Measures
- Duty Exemption / Remission Schemes
- Export Promotion Capital Goods Scheme
- Export Oriented Units (EOUs),Electronics Hardware Technology Parks (EHTPS), Software Technology Parks (STPs) and Bio-Technology Parks (BTPs)

- Special Economic Zones
- Free Trade & Warehousing Zones
- Deemed Exports
- Permeable of Exim Policy 2004-2009: It is a speech given by the Ministry of Commerce and Industries. The speech for the Exim Policy 2004-2009 was given by Kamal Nath, on 31ST AUGUST, 2004.

Legal Framework of Exim Policy 2004-2009

1. Preamble

The Preamble spells out the broad framework and is an integral part of the Foreign Trade Policy.

2. Duration

In exercise of the powers conferred under Section 5 of The Foreign Trade (Development and Regulation Act), 1992 (No. 22 of 1992), the Central Government hereby notifies the Exim Policy for the period 2004-2009 incorporating the Export Import Policy for the period 2002-2007, as modified. This Policy shall come into force with effect from 1st September, 2004 and shall remain in force up to 31st March, 2009, unless as otherwise specified.

3. Amendments

The Central Government reserves the right in public interest to make any amendments to this Policy in exercise of the powers conferred by Section-5 of the Act. Such amendment shall be made by means of a Notification published in the Gazette of India.

4. Transitional Arrangements

Notifications made or Public Notices issued or anything done under the previous Export / Import policies and in force immediately before the commencement of this Policy shall, in so far as they are not inconsistent with the provisions of this Policy, continue to be in force and shall be deemed to have been made, issued or done under this Policy.

Licenses, certificates and permissions issued before the commencement of this Policy shall continue to be valid for the purpose and duration for which such licence; certificate or permission was issued unless otherwise stipulated.

5. Free Export Import

In case an export or import that is permitted freely under Export Import Policy is subsequently subjected to any restriction or regulation, such export or import will ordinarily be permitted notwithstanding such restriction or regulation, unless otherwise stipulated, provided that the shipment of the export or import is made within the original validity of an irrevocable letter of credit established before the date of imposition of such restriction.

Special Focus Initiative of Exim Policy 2004-2009

With a view to doubling our percentage share of global trade within 5 years and expanding employment opportunities, especially in semi urban and rural areas, certain special focus initiatives have been identified for agriculture, handlooms, handicraft, gems & jewellery, leather and Marine sectors.

Government of India shall make concerted efforts to promote exports in these sectors by specific sectoral strategies that shall be notified from time to time.

Board of Trade of Exim Policy 2004-2009

BOT has a clear and dynamic role in advising government on relevant issues connected with foreign trade.

- To advise Government on Policy measures for preparation and implementation of both short and long term plans for increasing exports in the light of emerging national and international economic scenarios;
- To review export performance of various sectors, identify constraints and suggest industry specific measures to optimize export earnings;
- To examine existing institutional framework for imports and exports and suggest practical measures for further streamlining to achieve desired objectives;
- To review policy instruments and procedures for imports and exports and suggest steps to rationalize and channelize such schemes for optimum use;
- To examine issues which are considered relevant for promotion of India's foreign trade, and to strengthen international competitiveness of Indian goods and services; and
- To commission studies for furtherance of above objectives.

Promotional Measures of Exim Policy 2004-2009

The Government of India has set up several institutions whose main functions are to help an exporter in his work. It would be advisable for an exporter to acquaint him with these institutions and the nature of help that they can provide so that he can initially contact them and have a clear picture of what help he can expect of the organized sources in his export effort. Some of these institution are as follows.

- Export Promotion Councils
- Commodity Boards
- Marine Products Export Development Authority
- Agricultural & Processed Food Products Export Development Authority
- Indian Institute of Foreign Trade
- India Trade Promotion Organization (ITPO)
- National Centre for Trade Information (NCTI)
- Export Credit Guarantee Corporation (ECGC)
- Export-Import Bank
- Export Inspection Council
- Indian Council of Arbitration
- Federation of Indian Export
- Organizations
- Department of Commercial Intelligence and Statistics
- Directorate General of Shipping
- Freight Investigation Bureau

Duty Exemption/Remission Schemes of Exim Policy 2004-2009

The Duty Exemption Scheme enables import of inputs required for export production. It includes the following exemptions :

1. **Duty Drawback** : The Duty Drawback Scheme is administered by the Directorate of Drawback, Ministry of Finance. Under Duty Drawback scheme, an exporter is entitled to claim Indian Customs Duty paid on the imported goods and Central Excise Duty paid on indigenous raw materials or components.

2. **Excise Duty Refund** : Excise Duty is a tax imposed by the Central Government on goods manufactured in India. Excise duty is collected at source, i.e., before removal of goods from the factory premises. Export goods are totally exempted from central excise duty.

3. **Octroi Exemption** : Octroi is a duty paid on manufactured goods, when they enter the municipal limits of a city or a town. However, export goods are exempted from Octroi.The Duty Remission Scheme enables post export replenishment/ remission of duty on inputs used in the export product.

5.8 Foreign Direct Investment

A foreign direct investment (FDI) is an investment in the form of a controlling ownership in a business in one country by an entity based in another country.It is thus distinguished from foreign portfolio investment by a notion of direct control.

The origin of the investment does not impact the definition as an FDI: the investment may be made either "inorganically" by buying a company in the target country or "organically" by expanding operations of an existing business in that country.

Definition of Foreign Direct Investment

Foreign direct investment (FDI) is an investment in a business by an investor from another country for which the foreign investor has control over the company purchased. The Organization of Economic Cooperation and Development (OECD) defines control as owning 10% or more of the business. Businesses that make foreign direct investments are often called multinational corporations (MNCs) or multinational enterprises (MNEs). An MNE may make a direct investment by creating a new foreign enterprise, which is called a greenfield investment, or by the acquisition of a foreign firm, either called an acquisition or brownfield investment.

5.8.1 Types of FDI

1. **Horizontal FDI** arises when a firm duplicates its home country-based activities at the same value chain stage in a host country through FDI.

2. **Platform FDI** Foreign direct investment from a source country into a destination country for the purpose of exporting to a third country.

3. **Vertical FDI** takes place when a firm through FDI moves upstream or downstream in different value chains i.e., when firms perform value-adding activities stage by stage in a vertical fashion in a host country.

5.8.2 Advantages of FDI

1. Economic Development Stimulation

Foreign direct investment can stimulate the target country's economic development, creating a more conducive environment for you as the investor and benefits for the local industry.

2. Easy International Trade

Commonly, a country has its own import tariff, and this is one of the reasons why trading with it is quite difficult. Also, there are industries that usually require their presence in the international markets to ensure their sales and goals will be completely met. With FDI, all these will be made easier.

3. Employment and Economic Boost.

Foreign direct investment creates new jobs, as investors build new companies in the target country, create new opportunities. This leads to an increase in income and more buying power to the people, which in turn leads to an economic boost.

4. Development of Human Capital Resources

One big advantage brought about by FDI is the development of human capital resources, which is also often understated as it is not immediately apparent. Human capital is the competence and knowledge of those able to perform labor, more known to us as the workforce. The attributes gained by training and sharing experience would increase the education and overall human capital of a country. Its resource is not a tangible asset that is owned by companies, but instead something that is on loan. With this in mind, a country with FDI can benefit greatly by developing its human resources while maintaining ownership.

5. Tax Incentives

Parent enterprises would also provide foreign direct investment to get additional expertise, technology and products. As the foreign investor, you can receive tax incentives that will be highly useful in your selected field of business.

6. Resource Transfer

Foreign direct investment will allow resource transfer and other exchanges of knowledge, where various countries are given access to new technologies and skills.

7. Reduced Disparity Between Revenues and Costs

Foreign direct investment can reduce the disparity between revenues and costs. With such, countries will be able to make sure that production costs will be the same and can be sold easily.

8. Increased Productivity

The facilities and equipment provided by foreign investors can increase a workforce's productivity in the target country.

9. Increment in Income

Another big advantage of foreign direct investment is the increase of the target country's income. With more jobs and higher wages, the national income normally increases. As a result, economic growth is spurred. Take note that larger corporations would usually offer higher salary levels than what you would normally find in the target country, which can lead to increment in income.

5.8.3 Disadvantages of Foreign Direct Investment

1. Hindrance to Domestic Investment

As it focuses its resources elsewhere other than the investor's home country, foreign direct investment can sometimes hinder domestic investment.

2. Risk from Political Changes

Because political issues in other countries can instantly change, foreign direct investment is very risky. Plus, most of the risk factors that you are going to experience are extremely high.

3. Negative Influence on Exchange Rates

Foreign direct investments can occasionally affect exchange rates to the advantage of one country and the detriment of another.

4. Higher Costs

If you invest in some foreign countries, you might notice that it is more expensive than when you export goods. So, it is very imperative to prepare sufficient money to set up your operations.

5. Economic Non-Viability

Considering that foreign direct investments may be capital-intensive from the point of view of the investor, it can sometimes be very risky or economically non-viable.

6. Expropriation

Remember that political changes can also lead to expropriation, which is a scenario where the government will have control over your property and assets.

7. Negative Impact on the Country's Investment

The rules that govern foreign exchange rates and direct investments might negatively have an impact on the investing country. Investment may be banned in some foreign markets, which means that it is impossible to pursue an inviting opportunity.

8. Modern-Day Economic Colonialism

Many third-world countries, or at least those with history of colonialism, worry that foreign direct investment would result in some kind of modern day economic colonialism, which exposes host countries and leave them vulnerable to foreign companies' exploitations.

5.9 FDI Culture

Many economists in the country have now realized the advantages of FDI to India. While the achievements of the Indian government are to be lauded, a willingness to attract FDI has resulted in what could be termed an "FDI Industry". While researching the economic reforms on FDI, it was discovered that there exists a plethora of boards, committees, and agencies that have been constituted to ease the flow of FDI. A call to one agency about their mandate and scope usually results in the quintessential response to call someone else. Reports from FICCI and the Planning Commission place investor confidence and satisfaction at an all time high; citizens too deserve to be clued in on the government bodies are doing.

According to the current policy FDI can come into India in two ways. Firstly FDI up to 100% is allowed under the automatic route in all activities/ sectors except a small list that require approval of the Government. FDI in sectors/ activities under automatic route does not require any prior approval either by the Government or RBI. The investors are required to notify the Regional office concerned of RBI within 30 days of receipt of inward remittances and file the required documents with that office within 30 days of issue of shares to foreign investors.

All proposals for foreign investment requiring Government approval are considered by the Foreign Investment Promotion Board (FIPB). The FIPB also grants composite

approvals involving foreign investment/foreign technical collaboration.52 As this clarity is useful for future investors, it has to be seen if these bodies are effective. The Initial research revealed four major bodies that have been constituted and could provide data pertaining to FDI -

- **1991 Foreign Investment Promotion Board FIPB :** Consider and recommend Foreign Direct Investment (FDI) proposals, which do not come under the automatic route. It is chaired by Secretary Industry (Department of Industrial Policy & Promotion).
- **1996 Foreign Investment Promotion Council FIPC :** Constituted under the chairmanship of Chairman ICICI, to undertake vigorous investment promotion and marketing activities. The Presidents of the three apex business associations such as ASSOCHAM, CII and FICCI are members of the Council.
- **1999 Foreign Investment Implementation Authority FIIA :** Functions for assisting the FDI approval holders in obtaining various approvals and resolving their operational difficulties. FIIA has been interacting periodically with the FDI approval holders and following up their difficulties for resolution with the concerned Administrative Ministries and State Governments.
- **2004 Investment Commission :** Headed by Ratan Tata, this commission seeks meetings and visits industrial groups and houses in India and large companies abroad in sectors where there was dire need for investment.

Attempting to research directives and results of the above bodies resulted in no direct contact but instead a list of various other sub bodies.

- Project Approval Board (PAB) for approving foreign technology transfer proposals not falling under the automatic route.
- Licensing Committee (LC) for considering and recommending proposals for grant of industrial license.
- In addition, concerned Ministries/ Departments issue various approvals as per the allocation of business and various Acts being administered by them.
- At the State level, State Investment Promotion Agency and, at the district level,
- District Industries Centres, generally look after projects.
- Concerned departments of the State Government handle sectoral projects.
- Fast Track Committees (FTCs) have been set up in 30 Ministries/Departments for close monitoring of projects with estimated investment of Rs. 100 crores and above and for resolution of issues hampering implementation.

- "Investment Promotion and Infrastructure Development Cell" gives further impetus to facilitation and monitoring of investment, as well as for better coordination of infrastructural requirements for industry
- SIA has been set up by the Government of India in the Department of Industrial Policy and Promotion in the Ministry of Commerce and Industry to provide a single window for entrepreneurial assistance, investor facilitation, receiving and processing all applications which require Government approval, conveying Government decisions on applications filed, assisting entrepreneurs and investors in setting up projects, (including liaison with other organizations and State Governments) and in monitoring implementation of projects.
- CCFI Cabinet Committee on Foreign Investment- meets at the ministerial level and is guided by the prime Minister, considers foreign investment exceeding Rs 3 billion as requiring special political attention.
- Indian Missions Abroad- can also receive project proposal and will forward them the institutions in New Delhi.
- Indian Investment Centre- (This was supposed to be closed after the Planning Commission was established but still continues to operate) established as an autonomous organization in 1960 with the objective of doing promotional work abroad to attract foreign private investment into India and establishment of joint ventures, technical collaborations and third country ventures between Indian and foreign entrepreneurs.

The face of FDI usually resides with pamphlets and amalgamation of facts and figures that are circulated through many conferences. From these it can be deciphered that officially FDI policy is reviewed on an ongoing basis and measures for its further liberalization are taken. The change in sectoral policy/ sectoral equity cap is notified from time to time through Press Notes by the Secretariat for Industrial Assistance (SIA) in the Department of Industrial Policy & Promotion. Policy announcement by SIA are subsequently notified by Reserve Bank of India (RBI) under Foreign Exchange Management Act (FEMA).

Thus while clear procedures have been established for FDI, government needs to seriously evaluate how much resources and money is being poured to what is becoming the FDI industry. The fluidity of bodies has resulted in the monetary value of FDI feeding a makeshift industry that deals with dealing with the concept and procedures of FDI.

SHORT ANSWERS

1. Business Environment

Business Environment means all of the internal and external factors that affect how the company functions including employees, customers, and management, supply and demand and business regulations.

2. Micro Environment of Business/Internal Environment of Business

These are powers which are deeply related with company and company can control these type of environment by improving its capacity and efficiency.

a. Suppliers: Suppliers are the persons who supply raw material to company.

b. Customers: Customers are the persons who buy goods from company.

c. Market Intermediaries: Market intermediaries are those person who helps company to sell its products.

d. Financial Intermediaries: Financial intermediaries are those institutions who provide loan, credit and advance to company.

e. Competitors: Competitors are those who also sell same product of company.

f. Public: Public is those group of people who can buy or who can show their interest to buy the products of company.

3. Macro Environment of Business/External Environment of Business

Macro environment of business means all external factors which affects company and its business and there is no control of company on these factors.

1. Economic Environment: In economic environment, we can include govt. budget, import and export policies, economic system and economic conditions.

2. Political and Governmental Environment: In political and government environment, we can include legislature's decisions, executive's decisions and judiciary decision which affect company's business.

3. Socio cultural Environment: Socio-cultural environment includes morality, religion, education, health of peoples and family importance.

4. **Natural Environment**: In natural environment, we can include season, place elements, natural resources etc.

5. **Demographic Environment**: In demographic environment, we can include size of population, growth rate of population, age composition, sex composition and family size.

6. **Technological Environment**: In technological environment, we can include e-commerce technology, online payment, Internet technology, mobile banking and 3G technology and all other new technology which affect company's business.

7. **International Environment**: In international environment, we can include rules and regulation of WTO, WB and MNC's affect on our company's business.

4. Macro Environment Analysis (Pestel Model)

A detailed analysis of the macro-environment or the environment as a whole is called PESTEL analysis, which precisely means a bird's eye view of the PESTLE analysis business conduct. The PESTEL analysis ascertains for the managers and the strategy builders as to where their market currently stands and where it will head off in the future.

PESTEL analysis consists of components that influence the business environment and each letter in the acronym denotes a set of factors that directly or indirectly affect every industry. The letters denote the following things :

- P for Political factors
- E for Economic factors
- S for Social factors
- T for Technological factors
- E for Environmental factors
- L for Legal factors

5. Fiscal Policy

Fiscal policy is the government spending and taxation that influences the economy. Elected officials should coordinate with monetary policy to create healthy economic growth. They usually don't. Why? Fiscal policy reflects the priorities of

individual lawmakers. They focus on the needs of their constituencies. These local needs overrule national economic priorities. As a result, fiscal policy is hotly debated, whether at the federal, state, county or municipal level.

- **According to Arthur Smithies**, fiscal policy aims primarily at controlling aggregate demand and leaves private enterprise its traditional field- the allocation of resources among alternative use.

6. Industrial Policy

The industrial policy means the procedures, principles, policies rules and regulations which control the industrial undertaking of the country and pattern of industrialization. It explains the approach of Government in context to the development of industrial sector. In India the key objective of the economic policy is to achieve self-reliance in all sectors of the economy and to develop socialistic pattern of society.

The industrial policy in the pre-reform period i.e. before1991 put greater emphasis on the state intervention in the field of industrial development. These policies no doubt have resulted into the creation of diversified industrial structure but caused a number of inefficiencies, distortions and rigidities in the system. Thus during late 70's and 80's, Government initiated liberalization measures in the industrial policy framework. The drastic liberalization measures were however, carried out in 1991.

7. Monetary Policy

Monetary policy refers to the measures which the central bank of the country takes in controlling the money and credit supply in the country with a view to achieving certain specific economic objectives

Monetary policy is that part of economic policy in which central bank controls the cost and supply of money and credit by applying different techniques. It is also main function of central bank.

We all know, if supply and cost of money are not controlled. Then both are harmful for development of economy. In India RBI is sole institute who is taking steps to regulate money and credit by controlling its supply. Monetary policy regulates both volume and value of currency and credit.

8. Foreign Direct Investment

A foreign direct investment (FDI) is an investment in the form of a controlling ownership in a business in one country by an entity based in another country. It is thus distinguished from foreign portfolio investment by a notion of direct control.

The origin of the investment does not impact the definition as an FDI: the investment may be made either "inorganically" by buying a company in the target country or "organically" by expanding operations of an existing business in that country.

9. Exim Policy

At the same time, all-out efforts are made to promote exports. Thus, there are two aspects of Exim Policy; the import policy which is concerned with regulation and management of imports and the export policy which is concerned with exports not only promotion but also regulation.

The main objective of the Government's EXIM Policy is to promote exports to the maximum extent. Exports should be promoted in such a manner that the economy of the country is not affected by unregulated exportable items specially needed within the country. Export control is, therefore, exercised in respect of a limited number of items whose supply position demands that their exports should be regulated in the larger interests of the country.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.B.A I - Semester Examination

Model Paper - I

BUSINESS ECONOMICS

Time: 3 hours | Max. Marks: 75

*Answer any **five** questions, All questions carry equal marks*

PART - A (5 × 5 = 25 Marks)

ANSWERS

1. a) Business Economics **(Refer to Unit - I, S.Ans.1)**
   b) Demand Function **(Refer to Unit - II, S.Ans.2)**
   c) Production Function **(Refer to Unit - III, S.Ans.1)**
   d) Monopoly **(Refer to Unit - IV, S.Ans.3)**
   e) Macro Environment Analysis ((Pestel Model) **(Refer to Unit - V, S.Ans.4)**

PART - B (5 × 10 = 50 Marks)

2. a) Explain the nature and scope of Business Economics. **(Refer to Unit - I, Topic-1.1.6 & 1.1.7)**

   Or

   b) What are the basic economic tools/principles used in Business Economics ? Explain. **(Refer to Unit - I, Topic-1.5)**

3. a) Discuss about Elasticity of Demand **(Refer to Unit - II, Topic-2.6)**

   Or

   b) Define Demand Forecasting and discuss about the need of Demand Forecasting. **(Refer to Unit - II, Topic-2.10 & 2.11)**

4. a) Discuss about Cobb Douglas production Function. **(Refer to Unit - III, Topic-3.5)**

   Or

   b) Discuss about Cost Output relationship on longrun and shortrun **(Refer to Unit - III, Topic-3.14, 3.14 & 3.14.2)**

5. a) Define Market Structures. Explain the classification of Market Structures **(Refer to Unit - IV, Topic-4.1 & 4.2)**

   Or

   b) Write about Monopoly and its classifications. **(Refer to Unit - IV, Topic-4.6, 4.6.1)**

6. a) Discuss about Fiscal and Monetary Policy **(Refer to Unit - V, Topic-5.5 & 5.6)**

   Or

   b) Discuss about new Industrial Policy of 1991 **(Refer to Unit - V, Topic-5.4)**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.B.A I - Semester Examination

Model Paper - II

BUSINESS ECONOMICS

Time: 3 hours Max. Marks: 75

*Answer any **five** questions, All questions carry equal marks*

PART - A (5 × 5 = 25 Marks)

ANSWERS

1. a) Risk and Uncertainity **(Refer to Unit - I, S.Ans.4)**
   b) Income Eleasticity of Demand **(Refer to Unit - II, S.Ans.4)**
   c) Iso-Quant Curve **(Refer to Unit - III, S.Ans.4)**
   d) Break Even Point **(Refer to Unit - IV, S.Ans.10)**
   e) Fiscal Policy **(Refer to Unit - V, S.Ans.5)**

PART - B (5 × 10 = 50 Marks)

2. a) Explain the role of Business Economics in Business Decision making. **(Refer to Unit - I, Topic-1.3)**

   Or

   b) What are the role and responsibilities of Business Economics **(Refer to Unit - I, Topic-1.4.1)**
3. a) Explain Law of Demand and Demand Function **(Refer to Unit - II, Topic-2.3 & 2.2)**

   Or

   b) Describe the Determinants of Supply. **(Refer to Unit - II, Topic-2.4)**
4. a) Define Production Function. Discuss about Production Function with one and two variables. **(Refer to Unit - III, Topic-3.2, 3.2.1, 3.3 & 3.4)**

   Or

   b) Explain the internal and external Economies of scale of production **(Refer to Unit - III, Topic-3.10 & 3.10.2)**
5. a) Explain how Price is determined under Perfect complection **(Refer to Unit - IV, Topic-4.5.1)**

   Or

   b) Determination of Price and Output under Monopolistic competition **(Refer to Unit - IV, Topic-4.6.4)**
6. a) Explain in detail PESTEL Model **(Refer to Unit - V, Topic-5.2)**

   Or

   b) Explain Exim Policy **(Refer to Unit - V, Topic-5.7)**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.B.A I - Semester Examination

Model Paper - III

BUSINESS ECONOMICS

Time: 3 hours Max. Marks: 75

*Answer any **five** questions, All questions carry equal marks*

PART - A (5 × 5 = 25 Marks)

ANSWERS

1. a) Equi - Marginal Principle **(Refer to Unit - I, S.Ans.6)**
   b) Law of Demand **(Refer to Unit - II, S.Ans.8)**
   c) Returns to Scale **(Refer to Unit - III, S.Ans.5)**
   d) Oligopoly Competition **(Refer to Unit - IV, S.Ans.5)**
   e) Exim Policy **(Refer to Unit - V, S.Ans.9)**

PART - B (5 × 10 = 50 Marks)

2. a) Explain the relationship of Business Economics with other disciplines. **(Refer to Unit - I, Topic-1.2)**

   Or

   b) Discuss the characteristics of Business Economics **(Refer to Unit - I, Topic-1.1.3)**

3. a) What are the methods of Demand Forecasting in Business Economics **(Refer to Unit - II, Topic-2.12)**

   Or

   b) Explain Law of Supply and discuss about the Elasticity of Supply **(Refer to Unit - II, Topic-2.16 & 2.17)**

4. a) Examine the Managerial Uses of Cost Concepts **(Refer to Unit - III, Topic-3.12)**

   Or

   b) Explain Averagge Cost Curves. **(Refer to Unit - III, Topic-3.6)**

5. a) Define Monopoly. How is the price determined under monopoly **(Refer to Unit - IV, Topic-4.6 & 4.6.4)**

   Or

   b) Explain how price determined under Oligopoly. What is the importance of Kinked Demand Curve **((Refer to Unit - IV, Topic-4.8.6 & 4.8.7)**

6. a) Briefly discuss various Industrial Policy Resolution, 1956 Independence **(Refer to Unit - V, Topic-5.4.3)**

   Or

   b) Define Business Environment and explain the types of Business Environment **(Refer to Unit - V, Topic-5.1)**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.B.A I - Semester Examination

June / July - 2018

R17

BUSINESS ECONOMICS

Time: 3 hours | Max. Marks: 75

Note : This questions paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A, Part B consists of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A (5 × 5 = 25 Marks)

1. (a) Describe the role of a managerial economist in an industrial unit.
   (b) Explain the determinants of demand
   (c) Describe the relationship between Isoquants and Isocosts.
   (d) Examine the salient features of Monopoly
   (e) What is Fiscal Policy ? And explain its significance

PART - B (5 × 10 = 50 Marks)

2. (a) Define Business Economics and explain its Nature and Scope.
   (b) Explain the salient features of 'Business Decision Making Process'.

OR

3. (a) What is Incremental Value ? Explain its significance in Business Economics.
   (b) Define discounting principle and explain its salient features.
4. (a) What is demand ? And explain the law of demand and its limitations.
   (b) Explain different types of elasticity and significance of elasticity of demand.

OR

5. Describe the need for demand forecasting and explain 'Opinion Survey' method of demand forecasting.
6. (a) What is Production function ? And explain the significance of Marginal Rate of Technical Substitution.
   (b) Describe the salient features of 'Economics of Scale'.

OR

7. (a) What is 'Long-run Average Cost Curve' ? And explain its importance.

   (b) Explain the importance of cost concepts in the Business Economics and outline the determinants of costs.

8. (a) Explain the price-output determination in Monopolistic Competition.

   (b) Why Oligopoly type of market emerged ? And describe its salient features.

OR

9. (a) Briefly explain three Pricing Strategies.

   (b) What is Product Life Cycle ? And explain aits significance in price fixation.

10. (a) What are the reasons behind the 1991 industrial policy resolution ? And explain its main features.

    (b) What is Monetary Policy ? And explain its significance.

OR

11. (a) Why Export-Import Policy is important for a country's economic development.

    (b) What is FDI ? And explain its contribution in India's economic development.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.B.A I - Semester Examination

R17

January - 2018

BUSINESS ECONOMICS

Time: 3 hours Max. Marks: 75

Note : This questions paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A, Part B consists of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A (5 × 5 = 25 Marks)

1. (a) What is the relevance of business economics to managers ?

   (b) What is cross elasticity of demand ? Bring out the nature of cross elasticity of demand in respect of substitutes and complementary goods.

   (c) What are the characteristics of isoquants ?

   (d) How does oligopoly differ from monopolistic market ?

   (e) What is FDI ? What is FII ? What is the different between them ?

PART - B (5 × 10 = 50 Marks)

2. (a) What is the principle of equi-marginalism ? Illustrate your answer with suitable example.

   (b) What is opportunity cost ? What is its importance in managerial decision making?

OR

3. (a) A loan agreement specifies that payments of Rs. 133.33 are to be made each month for 5 years. The annual interest rate specified is 6 percent. What is the amount of the loan ?

   (b) Is business economics prescriptive rather than descriptive ? Elaborate.

4. (a) What are the determinants of demand ?

   (b) Given the demand function: Q = 15 – 1.2P, prepare a demand schedule and draw demand curve for 5 varying prices.

OR

5. (a) What are the imperatives for demand forecasting ?

(b) The international price of oil is $30 per barrel and the price elasticity is constant and equal to –0.5. An oil embargo reduces the quantity available by 20 percent. Use the arc elasticity formula to calculate the percentage increase in the price of oil.

6. (a) Distinguish between short run period and long run period for investors point of view.

(b) Three firms in the same industry all sell their product at Rs. 20 per unit. Their total fixed cost and average cost per unit are shown below :

Firms	A	B	C
Total fixed cost (Rs.)	20000	50000	10000
Average variable cost (Rs.)	15	10	18

What is the break-even rate for each firm ?

OR

7. (a) What are the features of Long term Average Cost (LAC) curve ?

(b) What is the importance of Cobb-Douglas Production function ?

8. (a) Draw the equilibrium level of output of a firm under monopolistic competition in the long run.

(b) The equilibrium price in a perfectly competitive market is Rs. 10. The marginal cost function is given by MC = 4 + 0.2Q.

The firm is presently producing 40 units of output per period. The maximize profit, should the output rate be increased or decreased ? Explain.

OR

9. What is oligopoly ? Explain how price and output decisions are taken under conditions of oligopoly.

10. (a) What are the factors that has enabled increased flow of foreign investments into out country ?

(b) What is the effect of flow of foreign investment in to our country on balance of payment and liquidity ?

OR

11. (a) What are the control mechanisms in the hands RBI for monetary policy ?

(b) What are the 'tariff' and 'non-tariff' approaches for import control ?