

SCHOOL OF MANAGEMENT STUDIES

UNIT - I - MANAGERIAL ECONOMICS - SBAA5104

Contents Definition of Managerial Economics - Nature and scope - Decision Making -Fundamental Concepts Affecting Business Decisions - Incremental Concept - Marginalism – Equi marginal Concept - the Time Perspective - Discounting Principle - Opportunity Cost Principle - Utility Analysis.

INTRODUCTION - ECONOMICS

Economics was formerly called political economy. The term Political economy means the management of the wealth of the state. "Adam Smith, the father of modem Economics, in his book entitled 'An Enquiry into the Nature and Causes of the Wealth of Nations' (Published in 1776) defined Economics as a study of wealth. Smith considered the acquisition of wealth as the main objective of human activity. According to him the subject matter of Economics is the study of how wealth is produced and consumed.

Smith's definition is known as wealth definition.

This definition was too materialistic. It gave more importance to wealth than to man for whose use wealth is produced. The emphasis on wealth was severely criticized by many others. Cailyle, Ruskin and other philosophers called it the Gospel of Mammon. They even called it a dismal science as it was supposed to teach selfishness. Later economists held that apart from man the said study of wealth has no meaning Economics is concerned not only with the production and use of wealth but also with man. It deals with wealth as serving the purpose of man. Wealth is only a means to the end of human welfare. We cannot consider the desire to acquire wealth as the inspiring factor behind every human endeavor. Nor can it be expected to be the sole cause of human happiness. The emphasis has now shifted from wealth to man. Man occupies the primary place and wealth only a secondary place.

DEFINITIONSOF ECONOMICS:

Several definitions of Economics have been given. For the sake of convenience let us classify the various definitions into four groups:

- 1. Science of wealth
- 2. Science of material well-being
- 3. Science of choice making and
- 4. Science of dynamic growth and development We shall examine each one of these briefly.

WEALTH DEFINITION – Adam Smith

Economics as "an enquiry into the nature and causes of wealth"

MAIN FEATURES OF WEALTH DEFINITION

- Economics is concerned with the study of wealth only
- The term wealth denotes only material goods. Non-material goods like services and free goods are excluded
- Economics studies the causes of wealth changes which means economic development

CRITICISM OF THE DEFINITION

- **1. Too much emphasis on wealth:** Adam smith treated economics as political economy and therefore emphasised the importance of wealth from a national angle. If wealth is looked upon as money alone, it will give wrong pictures.
- 2. Restricted Meaning of Wealth: He defined wealth is material goods only, like table, radio, sweets etc. Non-material services of teacher, doctors are not taken as wealth.
- **3.** Concept of Economic Man: Wealth definition was based mainly on an economic man who was supposed to give attention to economic activities only. But in reality, human behavior cannot be properly understood and analysed unless the other motives such as love, affection, sympathy are also given due weightage.
- **4. No Mention of Man's Welfare:** Wealth definition explains the wealth-getting and wealthspending activities of man alone. It pays to attention to the importance of the welfare of the society.

5. Economic Problem: He considered the basic economic problems of meeting unlimited wants with scare means. But the central problem of economics is not at all touched by his definition.

WELFARE DEFINITION – ALFRED MARSHALL

Economics is a study of mankind in the ordinary business of life. It examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well being".

Economics is on the one side a study of wealth and the other important side is a part of the study of man.

FEATURES OF WELFARE DEFINITION

- **1.** A study of mankind: Economics is study of mankind in the ordinary business of life that means man's activities in the market as a producer and as a consumer of wealth.
- **2.** A study of social actions: According to him, economics is a social science which covers the activities of an ordinary man.
- **3. Study of Material Welfare:** He gave the primary place to man and secondary place to wealth. Moreover it does not study the whole of human welfare, but only a part of its economic or material welfare.
- **4. Normative Science:** Welfare definition is the study of the causes affecting the material welfare. Moreover it studies the related activities concerned with wealth. Therefore he made economics as a normative study.

CRITICISM OF WELFARE DEFINITION

- 1. Material and Non-Material Welfare: Marshall has given more attention to the study of material welfare alone. The services of teacher, lawyers, singers etc, do promote welfare and such welfare may be termer as non-material welfare.
- 2. Objection to welfare: According to Robbins, there are certain material activities which do not promote welfare. The manufacture of wine and opium are certainly economic activities, but they are not conductive to human welfare.

3. Classificatory Definition: According to Robbins, the materialist definition is classificatory rather than analytical. Marshall definition classifies human activities into 'economic' and 'non-economic', 'productive' and 'unproductive', 'material welfare' and

'non-material welfare'. And they considered only those human activities which are undertaken to promote material welfare.

4. Welfare cannot be measured: Marshall's idea of welfare is based on cardinal utility. But utility is a psychological entity which cannot be measured.

SCARCITY DEFINITION – LIONEL ROBBINS

"Economics is the science which studies human behavior as a relationship between ends and scarce which have alternative uses".

FUNDAMENTAL CHARACTERISTICS OF SCARCITY DEFINITION

- **1. Human wants are unlimited:** "Ends" refers to human wants which are unlimited but the resources available to satisfy these wants are limited.
- **2. Scarcity:** The scarcities of means resources (time or money) at the disposal of a person to satisfy his wants are limited.
- **3.** Alternative use of scare means: Economic resources are not only scare but are also put to alternative uses that means various choice. We may use land for raising crops or for building houses.
- **4. The economic problem:** According to him, resources are limited and it have alternative use. The choosing of one is at the cost of another.

CRITICISM OF SCARCITY DEFINITION

- **1. It is too narrow and too wide:** It is too narrow because it excludes such topics as defects of economic organization which lead to idle resources. It is to wide to admit with allocation of scarce means which have alternative uses.
- 2. It study only positive science: Robbins study explain only about positive science which means what is it but not about what should be.

- **3.** It confines micro analysis: It is concerned with how as individual faces unlimited ends with scare means. But economic problems are mostly social in character rater than individual.
- **4. Ignores growth Economics:** Economics of growth and development is integral part of economics. But he does not pay any attention to these aspects of economics.
- 5. Not applicable to under developed countries: A peculiar feature of many under developed countries is that the resources are not scarce, but they are either underutilized or unutilized or misutilized.

GROWTH DEFINITION – SAMUELSON

Economics is a social science mainly concerned with the way how society employs its limited resources which have alternative uses, to produce goods and services for present and future consumption of various people or groups.

MAIN FEATURES OF GROWTH DEFINITION:

- 1. It is applicable even in a batter economy where money measurement is not possible.
- 2. The inclusion of time element makes the scope of economics dynamics
- 3. This definition possesses universality in its applications.

Note: Growth definition is similar to scarcity definition and it is an improvement over the scarcity definition.

DIVISION OF ECONOMICS

- i. Consumption
- ii. Production
- iii. Exchange
- iv. Distribution
- v. Public Finance

ECONOMICS AS A SCIENCE

Science is a systematized body of knowledge which trades the relationship between cause and effect. Robbins considered economics as a science and he explains that the last three words of economics' indicate a clear proof that it is a science like Physics, Mathematics and Dynamics.

ARGUMENT IN FAVOUR OF ECONOMICS AS A SCIENCE

The following arguments are advanced to consider economics as a science

1. Systematized study: The scientific method of study consists of three important steps a)

Observation

- b) Reasoning, and
- c) Verification
- Likewise in economics also theories have been formulated after the relevant matters are systematically collected, classified and studied. Economics systematically divided into consumption, Production, Exchange, Distribution and Public Finance
- 2. Scientific Law: A science is not a mere collection of facts, but establishes a relationship between causes and effect. Like wise, in economics, the law of demand states that other things being equal, a fall in price of a commodity leads to an increase in demand and vice versa.
- **3. Experiments:** In physical sciences, experiments can be conducted in laboratories, in economics, laboratory is the economy/society in which several laws and theories can be tested.
- **4. Measuring Rod of Money:** According to Marshall, the measuring rod of money has conferred a special status to economics like other physical sciences. Just as the chemist's fine balance has made chemistry more exact than most of other physical sciences; so economics balance (money) rough and imperfect as it is, has made economics more exact than any other branch of social science'.

5. Universal: The last requirement for a science is that its laws should be universal. In economics also, the law of demand, law of diminishing returns etc. are universal in nature.

ECONOMICS AS AN ART

- Science is quantitative but the basis of art is qualitative. Science is descriptive while art is suggestive. Scientific study is impersonal and objective while art is deeply personal and subjective.
- According to J.N. Keyne's "An art is a system of rules for the attainment of given end'.
- ♦ A science teaches us to know, an art teaches us to do Luigi Cossa.
- ✤ The systematic application of scientific principles is an art.
- In this view, economics is an art. Economics provides solutions to many of the problems. Example: the law of equi-marginal utility helps a consumer to solve his problem of getting maximum satisfaction with limited means. The consumer surplus analysis helps a finance minister in the field of taxation. Keyne's Theory of employment provides a solution to unemployment.
- Science requires art; art requires science, each being complementary to the other.
 Thus economics is both a science and an art.

POSITIVE AND NORMATIVE APPROACHES

POSITIVE SCIENCE

A positive science is concerned with 'what is'. It explains what it is, how it works and what its effects are. According to Milton Friedman, positive economics deals as to how an economic problem is solved. Robbins, Senior and Friedman are the main champions of positivism. It simply explained cause and effect relationship.

ARGUMENTS IN FAVOUR OF POSITIVE SCIENCE

1. It is based on logic: Logical enquiry is a rational enquiry with help of logic, the relationship between cause and effect can be ascertained.

- **2.** It is based on the principles of specialization of labour: The modern economy is based on division of labour. Each work is entrusted to a specialization group of workers.
- **3.** More uniformity: According to Robbins, the study of what ought to be will cause perpetual disagreement and controversy in the subject. This may hamper the progress of the science.
- **4. More Neutrality:** It is said that a man cannot serve for two masters. If an economist deals with the questions, what is, and what ought to be, he cannot be neutral.

NORMATIVE SCIENCE

Marshall, Fraser, wolf and Paul streeten are the main advocates of Normative science. Normative science concerned with "what should be" or "What ought to be" Normative science evaluates. According to Milton Friedman, normative science deals with how economic problem should be solved. Normative economics depends on value judgment.

ARGUMENTS IN FAVOUR OF NORMATIVE SCIENCE

- 1. Man is not only logical but also sentimental.
- **2. Wrong argument of equilibrium is equilibrium**: According to Fraser 'Economics is something more than a value theory or equilibrium.
- **3. Necessity of value judgment:** Economic policies in the real world affect some people favorably and others unfavorably. In modern times planning is inevitable for developing countries. For planning, economists use value judgment on the desirability of various projects.
- **4. A means of social betterment:** Various economists have developed policy measures to develop the economy. For example, Adam smith stressed the necessity of Laissez faire.

Malthus warned the excess of over population.

ECONOMICS IS BOTH A POSITIVE AND A NORMATIVE SCIENCE

The modern economists accept that economics is both a positive science and a normative science. They argue that optimum utilization of the resources would not be the only aim but also the achievement of some desirable objective such as more and just distribution of economic power and opportunities.

NATURE OF ECONOMIC LAWS

Every science uses terms such as hypothesis, theory and law. A hypothesis attempts to explain some facts. If the hypothesis can explain new facts and is not contradicted by new discoveries, it is promoted to the rank of a theory.

Like all sciences, economics has its own laws. A law is a statement of casual relationship between two sets of phenomena, one is a cause and the other is an effect.

FEATURES OF ECONOMIC LAWS

1. Economic laws are conditional: Economic laws are conditional or hypothetical and their validity depends upon the fulfillment of certain conditions. That is why all economic laws are qualified by the statement, "other things being equal".

2. Economic laws are relative:

- a) Universal laws: The statements like "saving is a function of income", human want are unlimited. These are universal to all countries and at all time.
- **b) Relative laws:** Some laws are relative and specific to certain country and time. Example, the laws which are applicable to a free enterprise economy cannot be applied to a communist economy. Laws which are applicable to developed countries cannot be applied to developing countries.
- **3. Economics laws are less exact:** The law of physical and natural sciences are exact and definite. But, Economic laws are not precise. This is because the economists laboratory is the economy/society where he has to rely in a great measure on logic or perception which are subject to variations from economist to economist.

Causes for the inexactness of Economic law, are;

- a) Non-availability of laboratory method
- b) Men are not similar in their tastes or purchasing power

- c) Differences in bias and ideologies exist among persons
- **4. Economic laws are similar to biological law:** Economics is more allied to biology than to physics. This is mainly because both economics and biology deal with life and not with matter.
- **5. Economic laws are more exact than laws of social sciences:** Samuelson considered economics as the queen of social sciences. Economics laws are more exact than the laws of other social sciences like ethics, sociology, politics etc,. This is because, in economics, economic activities can be measured with measuring rod of money.
- 6. Economic laws are statements of tendencies: According to Prof. Marshall, economic laws are statement of tendencies. They state that under certain conditions, certain things will take place. Economic laws do not give any certainty that they 'must' happen. Economic laws are only probabilities and not certain.
- **7. Economic laws and government laws:** The laws of government must be obeyed. The government laws are enacted by the legislature and enforced by the executives. If the citizens violate these laws, they are punished. Economic laws are not commands.

Economic laws are indicative and not imperative.

METHODS OF ECONOMIC LAW

- 1. Deductive Method
- 2. Inductive Method

DEDUCTIVE METHOD:

- i. General to particular
- ii. It is analytical, abstract or a priori method
- iii. Step involves starting with few assumption, hypothesis or postulates are made
- iv. Methods of deductive reasoning are mathematical and non-mathematical
- v. Law of demand and law of diminishing marginal utilities are derived from deductive method.

MERITS OF DEDUCTIVE METHOD

• Simplicity

- Limited use of experimentation
- Universal application
- Complementary
- Lack of bias
- Effectiveness
- Suitability

DEMERITS OF DEDUCTIVE METHOD

- Lack of reliability
- Dogmatism
- Abstraction

INDUCTIVE METHOD OF ECONOMIC LAW

- Particular to general
- It is historical, empirical or a posteriori method
- Step involves observation, formation of hypotheses, generalization and verification
- Methods of inductive reasoning are experimental method are statistical method
- The engel's law of family expenditure, Malthusian theory of population are derived from inductive statistical method

MERITS OF INDUCTIVE METHOD

- Reliability
- Check on deduction
- Dynamic approach
- Farming government policies
- Scientific in character

DEMERITS OF INDUCTIVE METHOD

- Possibility of bias
- It is a difficult method
- Costly method
- In applicability
- Limited scope for verification

MANAGERIAL ECONOMICS - DEFINITION

Managerial Economics is a science which deals with the application of economic theory in managerial practice. It is study of allocation of resources available to a firm among its activities.

Managerial economics as "the integration of economic theory with business practice for the purpose of facilitating decision-making and forward planning by management – *Milton H. Spencer and Louis Siegelman*

Managerial economics is "the study of the behavior of firms in theory and practice" – *James Bates and J.R. Parkinson*

Managerial economics makes use of analytical tools of economic theory in solving business problems.

SCOPE OF THE MANAGERIAL ECONOMICS

1. Managerial Economics – Is it positive or normative:

Economics is divided into two categories, namely (1) Positive Economics and (2) Normative Economics. Positive economics concerned with 'what it is', how it is work and what are its effect. While normative economics concerned with 'what ought to be' or 'what should be'. Positive science is descriptive and normative science depends on value judgment. Positive science simply explained causes and effects relationship. Normative science deals with how economic problem should be solved. The modern economists accepts that economics is both a positive science and normative science. **2. Area of study in Managerial Economics:**

Broadly, Managerial economics deals with the following topics;

- a. Demand analysis and forecasting
- b. Cost and Production analysis
- c. Pricing decision, policies and practices
- d. Profit management
- e. Capital Management
- f. Linear programming and theory of games

3. Profit: the central concept in Managerial Economics:

Profit are the primary measure of the success of any business. Economic theory makes a fundamental assumption that maximizing profit is the basic aim of every firm. Profit maximization is the main objectives of any firm and the survival of the firm depends on the profits it earns. The concept of profit maximization is very useful in selecting the alternatives in making a decision at the firm level.

4. Optimization:

Another important concept used in managerial economics is "optimization'. It aims at optimizing a given objectives. It offers numerical solutions to problem of making optimum choices. Optimization is basic to managerial economics in decision-making process.

CHARACTERISTICSOFMANAGERIAL ECONOMICS

The following characteristics of business economics will indicate its nature:

1. Micro economics: Managerial economics :s 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 stablishes 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.

RELATIONSHIP OF MANAGERIAL ECONOMICS WITH OTHER DISCIPLINES

1. Managerial Economics and Micro Economics:

Managerial Economics is mainly micro economics in character, making use of many of the concepts and tools provided by micro economic theory. The concept of elasticity of demand, Marginal cost, Market structure, Pricing theory are fully made use of by managerial economics.

2. Managerial Economics and Macro Economics:

Macro Economics is aggregative in character and the concepts are used in managerial economics in the area of forecasting general business conditions. It is essential that the business executives should know the aggregative nature of the economy. Macro economic concepts like National Income, Social accounting, Multiplier, Acceleration.

3. Managerial Economics and Mathematics:

Managerial Economics is becoming increasingly metrical in character. Mathematics is used in managerial economics in estimating various economic relationship and employing them in decision-making and forward planning. The business executive should have knowledge of Algebra, Geometry, Integral and Differential Calculus.

4. Managerial Economics and Statistics:

- a. Managerial Economics requires marshalling of quantitative data to find out functional relationship involved in decision-making
- b. Statistical tools are used for empirical testing in managerial economics
- c. The theory of probability evolved by statistics helps them for taking a logical decision.

5. Managerial Economics and Accounting:

Accounting has close relationship with managerial economics. Accounting refers to the recording of pecuniary transaction of the firm in certain prescribed books. The decisionmaking process of a firm mostly depends on accounting information.

6. Managerial Economics and Decision-Making:

Managerial Economics is closely related to the theory of decision-making. It deals with the selection of a particular course of action in the background of different alternatives.

7. Managerial Economics and Operational Research:

Operational Research is the application of mathematical techniques in solving business problems. It deals with model-building i.e. construction of theoretical models that helps the decision making process.

SIGNIFICANCE OF MANAGERIAL ECONOMICS

- a. Maximization of profit
- b. Theory of firm
- c. Business accounting by accountant as different from economics
- d. Estimating economic relationship i) price elasticity, ii) Income elasticity
- e. Estimating economic quantities like demand, cost, capital etc.,
- f. Predicting economic quantities in decision-making and forward planning.

DECISION-MAKING

- Decision-making is core aspect of managerial economics. Decision-making is the process of selecting a particular course of action from among the various alternatives.
- Every business manager has to work on uncertainties and the future cannot be precisely predicted by anyone. The decision maker must be very careful in choosing a particular course of action in order to realize the objectives.

DIAGRAM OF PROCESS OF DECISION-MAKING



FUNDAMENTAL CONCEPTS AFFECTING BUSINESS DECISION

There are five fundamental concepts that affect the decision-making process;

- I. Incremental concept
- II. The concept of time perspective
- III. The discounting principles
- IV. The concept of opportunity cost V. The Equi-marginal principles

INCREMENTAL CONCEPT

The incremental concept involves the estimation of the impact of decision alternatives on cost and revenues that result from changes in prices, products, procedures, investment, etc,. Incremental concept is closely related to the marginal cost and marginal revenues of economic theory. The two major concepts in this analysis are;

i) Incremental cost

ii) Incremental revenue

Incremental cost denotes changes in total cost whereas incremental revenue means change in total revenue resulting from a decision of the firm.

A decision is profitable only if;

- i) It increases revenue more than cost
- ii) It decreases some costs more than it increases others
- iii) It increases some revenues more than it decreases others
- iv) It reduces costs more than revenues

Generally businessman holds the view that they 'must make a profit on every job' in order to make an overall profit. With this concept, business may refuse orders that do not cover full cost (variable cost and fixed cost) plus a provision of profit. This will leads to rejection of an order which prevents short run profit.

The following example will illustrate this point.

Suppose a new order is estimated to bring in an additional revenue of Rs. 10,000. the cost are estimated as under;

Full cost	= Rs. 12,000
Selling & Administrative cost	= Rs. 1400
Overhead charges	= Rs. 3600
Material cost	= Rs. 4000
Labour cost	= Rs. 3000

The order appears to be unprofitable for it results in a loss of Rs. 2000. However, suppose there is idle capacity which can be utilized to execute this order. If order adds only Rs.1000 to overheads charges and Rs. 2000 by way of labour cost because some the idle worker already on the payroll will be deployed without added pay and no extra selling and administrative cost,

Then the actual incremental cost is as follow;

Incremental cost	= Rs. 7,000
Selling & Administrative cost	= Nil
Overhead charges	= Rs. 1000
Material cost	= Rs. 4000
Labour cost	= Rs. 2000

Thus there is a profit of Rs. 3000. The order can be accepted on the basis of incremental reasoning. Incremental reasoning does not accept all orders at prices which cover merely their incremental costs.

INCREMENTALISM AND MARGINALISM

- Incremental cost or revenue is similar to marginal cost or revenue concept. But there exist some differences between incremental concept and marginal cost / revenue concepts.
- In the marginal analysis, marginal revenue means the addition made to the total revenue by selling an additional or extra unit of the output.

• But incremental revenue simply measures the difference between the old and new revenues. It is not restricted to the effects of a change in price, change in output. It measures the impact of decision alternative on the total revenue.

THE CONCEPT OF TIME PERSPECTIVE

The time perspective concept states that the decision maker must give due consideration both to the short run and long run effects of his decisions. He must give due emphasis to the various time periods.

It was Alfred Marshall who introduced time element in economic theory. Marshall explained four market forms based on time in economic theory i.e.,

i. Very Short
Period
ii. Short Period iii. Long Period iv. Very long
Period or Secular
Period

- 1. Very Short Period: Very short period refers to the type of competitive market in which the supply of commodities cannot be changed at all. So in a very short period, the market supply is perfectly inelastic. The price of the commodity depends on the demand for the product alone.
- 2. **Short Period:** Short period refers to that period in which supply can be adjusted to a limited extent by varying the variable factors alone. the market supply is relatively elastic.
- 3. **Long Period:** Long period is the time period during which the supply conditions are fully able to meet the new demand conditions. In the long run, all (both fixed as well as variable) factors are variable. the market supply is perfectly elastic.
- 4. Very long Period or Secular Period: The very long run is a situation where technology and factors beyond the control of a firm can change significantly.

THE DISCOUNTING PRINCIPLES

• Discounting principles talks about the comparison of money value between present and future time

Formula:
$$pv = \frac{desired \ amount}{1+i}$$

Formula for 2 years : $= pv = \frac{desired \ amount}{(1+i)^2}$
 $pv = present \ value, \qquad i = intreset \ rate \ i. e \ 12\%$
 $pv = \frac{100000}{1+\frac{12}}$ $pv = \frac{100000}{1+\frac{12}}$ $pv = \frac{100000}{1+0.12}$ $pv = 89285.7$

- A rupee to be received tomorrow is worth less than a rupee today
- Whenever we make comparison between present and the future values of money, we always discount future value to make it comparable with the present value.
- Example: Suppose there is a choice between receiving a gift of Rs. 1000/- today and Rs.1000/- next year, naturally everyone would prefer Rs.1000/- today.
- Even though if there is a certainty of receiving Rs.1000/- next year, we choose to get Rs.1000/- today, as it can yield some interest during one year by investing.

Explaining the discounting principle is to ask how much money today would be equivalent to Rs.100000 a year from now.

Assuming that rate of interest 12 per cent, we must discount the Rs.100000 at 12 per cent **THE CONCEPT OF OPPORTUNITY COST**

- Both micro and macro economics make abundant use of the fundamental concept of opportunity cost.
- In Managerial Economics, the opportunity cost concept is useful in decision involving a choice between different alternative courses of action.
- Resources are scarce, we cannot produce all the commodities. For the production of one commodity, we have to forego the production of another commodity.

- When you choose a particular alternative, the next best alternative must be given up. For example, if you choose to watch cricket highlights in T.V., you must give up an extra hour study.
- Thus the "opportunity cost" is the cost of something in terms of an opportunity forgone.
 In other words, the opportunity cost of an action is the value of next best alternative forgone.

THE CONCEPT OF OPPORTUNITY COST INVOLVES THREE THINGS:

- 1. The calculation of opportunity cost involves the measurement of sacrifices.
- 2. Sacrifices may be monetary or real.
- 3. The opportunity cost is termed as the cost of sacrificed alternatives.

THE ECONOMIC SIGNIFICANCE OF OPPORTUNITY COST IS AS FOLLOWS:

- 1. It helps in determining relative prices of different goods.
- 2. It helps in determining normal remuneration to a factor of production.
- 3. It helps in proper allocation of factor resources.

LAW OF EQUI-MARGINAL UTILITY PRINCIPLES

The idea of equi-marginal principles was first mentioned by H.H. Gossen. Hence it is called as Gossen's Second Law. Alfred Marshall made it as law. The law of equi-marginal utility explains the behavior of a consumer when he consumes more than one commodity. The law also called "law of substitution or law of maximum satisfaction.

DEFINITION: "If a person has a thing which can be put to several uses, he will distribute it among these uses in such a way that it has the same marginal utility in all".

It explains how an input to be allocated to produce various products to obtain maximum profit.

- Suppose a firm is involved in four activities, namely, A,B,C and D. all these activities need the service of labour.
- Assuming that the firm has 100 units of labour and this is fixed so that the total payroll is predetermined.
- Now the firm can increase any one of the activities by employing more labour, but this can be done only at the cost of other activities.

- Suppose, the value of marginal product of labour in activity 'B' is Rs.40/- while in activity A is Rs.50/-, then it is profitable to shift labour activity B to A.
- The value optimum will be attained when the value of the marginal product is equal in all activities.

UTILITY ANALYSIS

- 1. Cardinal Approach
- 2. Ordinal Approach

CONCEPT OF UTILITY

UTILITY: Generally, Utility means "Usefulness". In Economics, Utility is defined as the power of a commodity or a service to satisfy the human wants.

TOTAL UTILITY: It refers to the sum of utilities of all units of a commodity consumed. For example, if a person consumes ten apple, then the total utility is the sum of satisfaction of consuming all the ten apple.

MARGINAL UTILITY: Marginal Utility is addition made to the total utility by consuming one more unit of a commodity. Example: if a person consuming 10 apples, the marginal utility is the utility derived from the 10th unit (or) last unit.

MUn=TUn-TUn-1

LAW OF DIMINISHING MARGINAL UTILITY

The law of diminishing marginal utility explains an ordinary experience of a consumer. "If a consumer takes more and more units of a same commodity, the additional utility he derives from an extra unit of the commodity goes on falling".

H.H.Gossen contributed initially and Alfred Marshall refined these idea as a law. This is also called as Gossen's First Law

ASSUMPTIONS OF THE LAW

- a) The law holds good only when the process of consumption continues without anytime gap.
- b) The consumer's taste, habit or preference must remain the same during the process of consumption.
- c) The income of the consumer remains constant.
- d) The prices of the commodity consumed and its substitutes are constant.
- e) The consumer is assumed to be a rational economic man. As a rational consumer, he wants to maximise the total utility.
- f) Utility is measurable.
- g) All the units of the commodity must be identical in all aspects like taste, quality, colour and size.
- h) The units of consumption must be in standard units e.g., a cup of tea, a bottle of cool drink etc.

Units of apple	Total utility	Marginal utility
1	20	20
2	35	15
3	45	10
4	50	5
5	50	0
6	45	-5
7	35	-10

TABLE - TOTAL AND MARGINAL UTILITY SCHEDULE

DIAGRAM OF LAW OF MARGINAL UTILITY



IMPORTANCE OF THE LAW

- DMU is a fundamental for many economic laws. Example, law of demand is the result of DMU
- 2. This DMU is operates in the case of money also. A rich man have more money. If more and more money is newly added to his income, marginal utility of money begins to fall.
- 3. This law is a handy tools for the finance minister for increasing tax rate on the rich
- 4. The DMU is guiding for the produces

LIMITATION OF DMU

- 1. Utility is a psychological experience and it cannot be measured
- 2. This law based on single commodity consumption mode
- 3. According to the law, a consumer should consume continuously. But in real life it is not so.
- 4. The law assumes constancy of the marginal utility of money
- 5. A utility itself is capable of varying from person to person.

LAW OF EQUI-MARGINAL UTILITY

The idea of equi-marginal principles was first mentioned by H.H. Gossen. Hence it is called as Gossen's Second Law. Alfred Marshall made it as law. The law of equi-marginal utility

explains the behavior of a consumer when he consumes more than one commodity. It explains how the consumer spends his limited income on various commodities to get maximum satisfaction. The law also called "law of substitution or law of maximum satisfaction.

DEFINITION: "If a person has a thing which can be put to several uses, he will distribute it among these uses in such a way that it has the same marginal utility in all".

ASSUMPTIONS

- a) The consumer is rational so he wants to get maximum satisfaction.
- b) The utility of each commodity is measurable.
- c) The marginal utility of money remains constant.
- d) The income of the consumer is given.
- e) The prices of the commodities are given.
- f) The law is based on the law of diminishing marginal utility.

EXPLANATION OF THE LAW

Suppose a consumer wants to spend his limited income on Apple and Orange. He is said to be in equilibrium, only when he gets maximum satisfaction with his limited income. Therefore, he will be in equilibrium at the point where the utility derived from the last rupee spent on each is equal.

$$\frac{Marginal utility of Apple}{Price of Apple}$$
$$= \frac{Marginal utility of Orange}{Price of Orange} = K$$
$$i.e., = \frac{MU_A}{P_A} = \frac{MU_O}{P_O} = K$$

LAW OF EQUI-MARGINAL UTILITY SCHEDULE

Units	Marginal Utility of	Marginal Utility of
	Apple	Orange

1	10	8
2	9	7
3	8	6
4	7	5
5	6	4
6	5	3
7	4	2
8	3	1

Suppose the marginal utility of money is constant at Rs 1 = 5 units, the consumer will buy 6 units of apple and 5 units of Orange. His total expenditure will be (Rs $5 \ge 6$) + (Rs $4 \ge 5$) = Rs 50/- on both commodities. At this point of expenditure his satisfaction is maximised and therefore he will be in equilibrium.

LAW OF EQUI-MARGINAL UTILITY DIAGRAM



Taking the income of a consumer as given, let his marginal utility of money be constant at OM utils in this Fig. $\frac{MU_x}{P_x}$ is equal to OM (the marginal utility of money) when OH amount of good apple is purchased; $\frac{MU_y}{P_y}$ is equal to OM when OK quantity of good orange is purchased. Therefore, the consumer will be in equilibrium when he buys OH of apple and OK of orange.

LIMITATIONS OF THE LAW

- **Indivisibility of Goods:** The theory is weakened by the fact that many commodities like a car, a house etc. are indivisible. In the case of indivisible goods, the law is not applicable.
- The Marginal Utility of Money is Not Constant: The theory is based on the assumption that the marginal utility of money is constant. But that is not really so.
- The Measurement of Utility is not Possible: Utility is a subjective concept, which cannot be measured, in quantitative terms.

INDIFFERENCE CURVE ANALYSIS

- English economists Prof. J.R. Hicks and Prof. R.G.D.Allen provided a refined version of indifference curve approach.
- Utility cannot be measured. It can only be ranked or ordered.
- The consumer can rank his preference very easily and say which is better than the other.
- Definition: "An indifference curve is the locus of different combinations of two commodities giving the same level of satisfaction".
- The concept of scale of preference has been explained by indifference curve. An indifference curve shows different combinations of two commodities, which give the consumer an equal satisfaction.

ASSUMPTIONS

- He purchases two goods only.
- His income remains constant
- His tastes, Preference, habits remain unchanged.
- The Indifference Curve Approach is based on the concept "Diminishing Marginal Rate of Substitution".
- Utility cannot be cardinally measured, but can be ranked or compared or ordered by ordinal number such as I, II, III and so on.

INDIFFERENCE CURVE SCHEDULE

Let us assume that the consumer buys two commodities - bananas and biscuits. Then the indifference schedule will be:

Combination	Biscuits	Banana
А	1	12
В	2	8
С	3	5
D	4	3
Е	5	2



- 1. Indifference curves slope downwards to the right
- 2. Indifference curves are convex to the origin
- 3. No two indifference curves can ever cut each other.

CONSUMER EQUILIBRIUM

A consumer is in equilibrium when he obtains maximum satisfaction from his expenditure on the commodities he wants to purchase. The main theme on the theory of consumer behavior is built is that a consumer attempts to allocate a limited money income among various available goods and services so as to maximise his satisfaction or utility.

ASSUMPTION

- a) The consumer has a fixed amount of money to spend on the two goods. It is assumed that he will spend the amount on both the goods and not save any part of it.
- b) The prices of these goods are given in the market and are assumed to be constant.
- c) The consumer is assumed to act rationally and maximise his satisfaction.
- d) The consumer has before him an indifference map for a pair of goods say, tea and biscuits. This map represents the preferences of the consumer for the two goods. It is assumed that his scales of preferences remain constant at a given time.

PRICE LINE OR BUDGET LINE

Suppose that the consumer has Rs.20 to spend on tea and biscuits, which cost 50 paise and 40 paise respectively. The consumer has three alternative possibilities before him.

- \bullet He may decide to buy tea only, in which case he can buy 40 cups of tea.
- ✤ He may decide to buy biscuits only, in which case he can buy 50 biscuits.
- He may decide to buy some quantity of both the goods, say 20 cups of tea (Rs.10) and 25 biscuits (Rs.10) or 12 cups of tea (Rs.6) and 35 biscuits (Rs.14), and so on. (Total amount = Rs.20).



DIAGRAM OF CONSUMER EQUILIBRIUM



Explanation

The consumer gets the maximum possible satisfaction from his given income at point C on the indifference curve I3. At this point, he buys a combination of OX1 amount of tea and OY1 amount of biscuits. Any other possible combination of the two goods will either yield lesser satisfaction or will not be unobtainable at present prices, with the given amount of income of the consumer.



SCHOOL OF MANAGEMENT STUDIES

UNIT - 2 - MANAGERIAL ECONOMICS - SBAA5104

Contents :Demand - Meaning - Law of demand - Factors of demand - Elasticity of Demand -Types - Demand Forecasting - Methods of demand forecasting - Supply - Meaning - Factors of Supply - Elasticity of Supply - Circular Flow of Income - Production Possibility Curve.

DEMAND

In general, Demand means desire by human. In economics, Demand refers to the desire backed by ability to pay and willingness to buy it. A beggar may desire to have a car, but his desire is not going to affect its market price as he is not having the necessary purchasing power to buy a car. Thus, desire backed by purchasing power is called demand.

KINDS OF DEMAND

I. Direct Demand: It refers to demand for a commodity that is directly consumed to satisfy human wants, for example demand for bread, butter and fruits.

- a) Price Demand: it refers to the demand for a commodity at a particular price
- b) **Income Demand:** It refers to the demand for a commodity at a various levels of consumer's income
- c) **Cross Demand:** It refers to quantity demanded of a commodity due to change in the price of other commodity

II. Indirect Demand or Derived Demand:

Demand for factors of production is indirect because they help in the production of a commodity which is directly demanded by the consumer in the market.

III. Joint Demand:

It refers to the demand for those goods for a commodity which are always demanded jointly. Example: car and petrol.

IV. Composite Demand:

It refers to the total demand for a commodity which can be used for various purposes.

LAW OF DEMAND – ALFRED MARSHALL

Definition: The law of demand states that, other things remaining equal, the quantity demanded for a commodity increases when its price falls and decreases when the price rises. There is a inverse relationship between the price of the good and the quantity demanded of that good.

FACTOR AFFECTING THE DEMAND

1. Price of the Given Commodity:

It is the most important factor affecting demand for the given commodity. Generally, there exists an inverse relationship between price and quantity demanded.

2. Price of substitutes/related goods:

Some goods can be substituted for other goods. For example, tea and coffee are substitutes. If the price of coffee increases while the price of tea remains the same, there will be increase in the demand for tea and decrease in the demand for coffee.

3. Income of the consumer:

When the income of the consumer increases, more will be demanded. Comforts and luxuries belong to this category

4. Tastes and preferences of the consumer:

Demand for a commodity may change due to a change in tastes, preferences and fashion.

5. Expectation of future price change:

If the consumer believes that the price of a commodity will rise in the future, he may buy a larger quantity in the present. Suppose he expects the price to fall, he may defer some of his purchases to a future date.

ASSUMPTIONS OF THE LAW OF DEMAND

- 1. The price of the related goods remains the same
- 2. The income of the consumers remain unchanged
- 3. Tastes and preferences of the consumer remain the same
- 4. Commodity should be a normal commodity
- 5. All the units of the goods are homogeneous

DEMAND SCHEDULE FOR ORANGE

Price of Oranges (Rs.)	Quantity of Oranges
10	2
8	5
6	8
5	10

DEMAND CURVE



MARKET DEMAND SCHEDULE

A demand schedule for a market can be constructed by adding up demand schedules of the individual consumers in the market. Suppose that the market for Apple consists of 2 consumers. The market demand is calculated as follows.

Price (Rs.)	Quantity Demanded		
	QA	QB	QA+B
12	1	2	3
11	2	3	5
10	3	4	7
9	4	5	9
8	5	6	11

MARKET DEMAND SCHEDULE FOR APPLE

DERIVATION OF MARKET DEMAND CURVE



REASONS BEHIND DOWNWARD SLOPE OF THE DEMAND CURVE
- 1. Law of diminishing marginal utility: The law of demand is based on the law of diminishing marginal utility which states that as the consumer purchases more and more units of a commodity, the utility derived from such successive unit goes on decreasing. Like that, consumer purchases more of the commodity so that his marginal utility from the commodity falls to be equal to the reduced price and vice- versa.
- 2. Substitution Effect: The substitution effect is the effect that a change in relative prices of substitute goods changes the quantity demanded. When the price of a good rises the consumer prefers to buy its substitute goods which have became relatively cheaper.
- **3. Income Effect:** Change in demand on account of change in real income resulting from change in the price of a commodity is known as income effect.
- **4. Several Uses.** Some commodities can be put to several uses which lead to downward slope of the demand curve. When the price of such commodities goes up they will be used for important purposes, so their demand will be limited.

EXCEPTIONS TO THE LAW OF DEMAND

The Law of demand is a general statement telling that prices and quantities of a commodity are inversely related. There are certain peculiar cases in which the law of demand will not hold good.

- I. Veblen Effect: Veblen has pointed out that there are some goods demanded by very rich people for their social prestige. When price of such goods rise, their use becomes more attractive and they are purchased in larger quantities. Demand for diamonds from the richer class will go up if there is increase in price. If such goods were cheaper, the rich would not even purchase.
- **II. Giffen Paradox:**Sir Robert Giffen discovered that the poor people will demand more of inferior goods if their prices rise and demand less if their prices fall. For example, poor people spend the major part of their income on coarse grains (e.g. ragi, cholam) and only a small part on rice.

MOVEMENT IN DEMAND CURVE OR EXPANSION AND CONTRACTION OF DEMAND

A movement along the demand curve is caused by a change in the price of the goods only other things remaining constant. **I. Expansion of Demand:**

It refers to rise in demand due to fall in the price of the goods.

II. Contraction of Demand:

It refers to fall in demand due to rise in the price of goods.

MOVEMENT IN DEMAND CURVE OR EXPANSION AND CONTRACTION OF

DEMAND



SHIFTS IN DEMAND OR INCREASE AND DECREASE IN DEMAND

The shift of the demand curve is caused by changes in factors other than price of goods.

These factors are

- A) Consumer's income
- B) Price of relative or substitute goods
- C) Consumer's taste and preferences

I. Increase in Demand:

It refers to the situation when the consumers buy a large amount of commodity at the same price.

The reasons are;

- 1. Increases in the income of consumer
- 2. Increase in the price of substitute goods
- 3. Expectation of rise in price in future
- 4. Increase in population II. Decrease in Demand:

It refers to a situation when the consumers buy a smaller quantity of the commodity at the same price.

The reasons are;

- 1. Fall in the income of the consumers
- 2. Fall in the price of the substitute goods
- 3. Expectation of fall in price
- 4. Decrease in Population
- 5. Consumers' taste becoming unfavorable towards the goods

SHIFTS IN DEMAND OR INCREASE AND DECREASE IN DEMAND



ELASTICITY OF DEMAND - ALFRED MARSHALL

The law of demand explains that demand will change due to a change in the price of the commodity. But it does not explain the rate at which demand changes to a change in price.

The concept of elasticity of demand measures the rate of change in demand.

DEFINITION OF ELASTICITY OF DEMAND:

According to him "the elasticity (or responsiveness) of demand in a market is great or small according as the amount demanded increases much or little for a given fall in price, and diminishes much or little for a given rise in price".

FACTORS DETERMINING THE PRICE ELASTICITY OF DEMAND

- 1. Availability of Substitute: Goods having close substitutes will have an elastic demand and goods with no close substitutes will have an inelastic demand. Commodities such as Pen, Pepsi, Maruti car have close substitutes and hence have an inelastic demand.
- **2. Income of the consumers:** If the income level of consumers is high, the elasticity of demand will be less. It is because change in the price will not affect the quantity demanded by greater proportion
- **3. Luxuries versus Necessities:** The price elasticity of demand is likely to be low for necessities and high for luxuries
- **4.** Number of uses of the commodity: The more the number of uses of a commodity has more elastic demand. If a commodity has few uses it has an inelastic demand.
- **5.** Cost relative to total income: higher the cost of the goods relative to total income of consumer more will be the price elasticity demand.
- **6.** Level of price: if the price of the commodity is high the price elasticity of demand is more and if it is low, its price elasticity of demand is less.

TYPES OF ELASTICITY OF DEMAND

- 1. Price Elasticity of Demand
- 2. Income Elasticity of Demand
- 3. Cross Elasticity of Demand
- 4. Advertising elasticity of Demand
- 5. Elasticity of Price Expectations

PRICE ELASTICITY OF DEMAND

"The degree of responsiveness of quantity demanded to a change in price is called price elasticity of demand"

$Price \ Elasticity \ of \ Demand = \frac{Percentage \ Change \ in \ Quantity(\Delta Q/Q)}{Percentage \ Change \ in \ Price(\Delta P/P)}$

DIFFERENT TYPES OF PRICE ELASTICITY OF DEMAND

1. PERFECTLY INELASTIC DEMAND ($E_P = 0$):

Description: when to a percentage change in price there is no change in quantity demanded.

Types of Goods: Essentials like life saving goods

Shape of Demand curve: Vertical



2. RELATIVELY INELASTIC DEMAND (EP<1)

Description: when to a percentage change in price there is less than proportionate change in quantity demanded.

Types of Goods: Necessities like food, fuel **Shape of Demand curve:** Steeper



3. UNITARY ELASTIC DEMAND ($E_P = 1$)

Description: when to a percentage change in price there is equal change in quantity demanded.

Types of Goods: Normal goods

Shape of Demand curve: the linear demand curve forming 45° angle both the axes.



4. RELATIVELY ELASTIC DEMAND (E_P> 1)

Description: when to a percentage change in price there is more than proportionate change in quantity demanded. **Types of Goods:** Luxuries

Shape of Demand curve: Flatter



5. PERFECTLY ELASTIC DEMAND ($E_P = \infty$)

Description: when there is infinite change in quantity situation demanded without any changes in price

Types of Goods: Imaginary

Shape of Demand curve: Horizontal



METHODS OF CALCULATING PRICE ELASTICITY OF DEMAND

1. The Percentage Method:

The price elasticity of demand is measured by its coefficient (E_p) . This coefficient (E_p) measures the percentage change in the quantity of a commodity demanded resulting from a given percentage change in its price.

Thus,

$$E_{p} = \frac{\% \text{ change in } q}{\% \text{ change in } p} = \frac{\Delta q / q}{\Delta p / p} = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$$

Where q refers to quantity demanded, p to price and Δ to change. If E_P>1, demand is elastic. If E_P< 1, demand is inelastic, and E_p= 1, demand is unitary elastic.

2. The Point Method or Geometrical or graphical method:

The point method of measuring elasticity of demand was developed by Alfred Marshall. Elasticity measures at a point on a demand curve is known as point elasticity of demand.



Let RS be a straight line demand curve in Figure. If the price falls from PB (= OA) to MD (= OC), the quantity demanded increases from OB to OD.

3. The Arc Method:

When elasticity of demand is measured over a finite range or 'arc' of a demand curve, it is called arc elasticity of demand. when elasticity is measured between two points on the same demand curve, it is known as arc elasticity.



The area between P and M on the DD curve in Figure is an arc which measures elasticity over a certain range of price and quantities. Elasticity for the arc (PM in Figure) is calculated by taking the average of the two prices $[(p_1 + p_2)^{1/2}]$ and the average of the two quantities $[(q, +q_2)^{1/2}]$

 $)^{\frac{1}{2}}$]. The formula for price elasticity of demand at the mid-point (C in Figure 4) of the arc on the demand curve.

4. The Total Outlay Method:

Marshall evolved the total outlay, or total revenue or total expenditure method as a measure of elasticity. By comparing the total expenditure of a purchaser both before and after the change in price, it can be known whether his demand for a good is elastic, unity or less elastic.

Total outlay is price multiplied by the quantity of a good purchased: Total Outlay = Price x Quantity Demanded.

INCOME ELASTICITY OF DEMAND

Income elasticity of demand is the degree of responsiveness of demand to the change in income.

$$E_y = \frac{\text{Percentage change in the qsuantity demanded}}{\text{Percentage change in income}}$$
$$\frac{\Delta \frac{Q}{Q}}{\Delta \frac{Y}{Y}} = \frac{\Delta Q}{Q} \times \frac{Y}{\Delta Y} = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

Where,

- Q = Original quantity
- Y = Original income
- $\Delta Q = Changes in quantity$
- $\Delta Y = Changes in income$
- $E_y =$ Income elasticity of demand



CROSS ELASTICITY OF DEMAND

Where

Cross Elasticity of Demand measures the responsiveness of the change in quantity demanded of one commodity due to a change in the price of another commodity. The degree of responsiveness of quantity demanded of one commodity to changes in the price of another commodity is called cross elasticity of demand.

$$EC = \frac{Percentage change in quantity demanded of Good-X}{Percentage change in the price of Good-Y}$$
$$= \frac{\frac{Change in quantity demanded of X}{Original Quantity of X}}{\frac{Change in Price of Y}{Original Price of Y} \times 100} \times 100$$
$$= \frac{\frac{\Delta Q_x}{Q_x}}{\frac{\Delta Q_y}{Q_y}} = \frac{\Delta Q_x}{Q_x} \times \frac{P_y}{\Delta P_y}$$
$$EC = \frac{P_y}{\Delta_n} \times \frac{\Delta Q_n}{\Delta P_y}$$
$$Py = \text{Original price of good-Y}$$
$$\Delta Py = \text{Change in price of good-Y}$$
$$Q_x = \text{Original quantity demanded of X}$$

- Cross elasticity of demand varies from minus infinity to plus infinity. Complementary goods have negative cross elasticity and substitute goods have positive cross elasticity.
- Complement goods like bread and butter, bricks and cements, pen and ink will have negative cross elasticity

• Substitute goods like coffee and tea have positive cross elasticity



ADVERTISING ELASTICITY OF DEMAND

It measures the response of quantity demanded due to change in advertising expenditure. It is also called promotional elasticity of demand.

$$E_{a} = \frac{Proportionate change in Demand}{Proportionate change in Advertising Expenditure}$$

$$e_{A} = \frac{\Delta Q}{\Delta A} \times \frac{A}{Q}$$
Where: Q= Initial Quantity Demanded

$$\Delta Q= Change in quantity demanded$$

$$A= Initial advertising expenditure$$

$$\Delta Q = Change in advertising expenditure$$

$$e_{A} = Coefficient of advertising elasticity of demanded$$

DETERMINANTS OF ADVERTISING ELASTICITY OF DEMAND

The Main factors affecting advertising elasticity of demand are:

1. Stage of product market: Advertising elasticity is different for new products and for old products. It is also different for products with established market and a growing market.

2. Effect of advertising by rivals: The effectiveness of advertising depends upon how the rivals react to the advertising campaign of this firm.

3. Effect of advertising in terms of time: the time lag in response to advertisement differs. It depends upon the types of product. It takes longer in case of durable good because will buy durable goods only after the existing one has been used up.

ELASTICITY OF PRICE EXPECTATIONS

- The concept of elasticity of price expectations was developed by J.R.Hicks.
- Elasticity of price expectations is defined as the ratio of the relative change in expected future prices to the relative change in current price.
- It is symbolically

$$ep_{e} = \frac{\% \text{ change in expected future price}}{\% \text{ change in current price}}$$
$$\frac{\triangle E P}{\triangle C_{P}} \times \frac{E P}{C_{P}}$$

DEMAND FORECASTING

Demand forecasting is a systematic process that involves anticipating the demand for the product and services of an organization in future under a set of uncontrollable and competitive forces.

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

In the words of Cundiff and Still, "Demand forecasting is an estimate of sales during a specified future period based on proposed marketing plan and a set of particular uncontrollable and competitive forces."

Demand forecasting enables an organization to take various business decisions, such as planning the production process, purchasing raw materials, managing funds, and deciding the price of the product.

THE SIGNIFICANCE OF DEMAND FORECASTING

- **i. Preparing the budget:** Plays a crucial role in making budget by estimating costs and expected revenues.
- **ii. Stabilizing employment and production:** Helps an organization to control its production and recruitment activities. Producing according to the forecasted demand of products helps in avoiding the wastage of the resources of an organization.
- **iii. Expanding organizations:** Implies that demand forecasting helps in deciding about the expansion of the business of the organization. If the expected demand for products is higher, then the organization may plan to expand further.
- **iv. Taking Management Decisions:** Helps in making critical decisions, such as deciding the plant capacity, determining the requirement of raw material, and ensuring the availability of labor and capital.

- v. Evaluating Performance: Helps in making corrections. For example, if the demand for an organization's products is less, it may take corrective actions and improve the level of demand by enhancing the quality of its products or spending more on advertisements.
- vi. Helping Government: Enables the government to coordinate import and export activities and plan international trade.



SHORT-TERM OBJECTIVES

- **a.** Formulating production policy: Helps in covering the gap between the demand and supply of the product. The demand forecasting helps in estimating the requirement of raw material in future, so that the regular supply of raw material can be maintained.
- **b.** Formulating price policy: For example, if an economy enters into depression or recession phase, the demand for products falls. In such a case, the organization sets low prices of its products.
- **c.** Controlling sales: Helps in setting sales targets, which act as a basis for evaluating sales performance. An organization makes demand forecasts for different regions and fixes sales targets for each region accordingly.

d. Arranging finance: Implies that the financial requirements of the enterprise are estimated with the help of demand forecasting. This helps in ensuring proper liquidity within the organization.

LONG-TERM OBJECTIVES

- **a. Deciding the production capacity:** Implies that with the help of **demand forecasting**, an organization can determine the size of the plant required for production. The size of the plant should conform to the sales requirement of the organization.
- **b. Planning long-term activities:** Implies that **demand forecasting** helps in planning for long term. For example, if the forecasted demand for the organization's products is high, then it may plan to invest in various expansion and development projects in the long term.

PROCESS OF DEMAND FORECASTING



STEPS OF DEMAND FORECASTING

- Setting the Objective: Refers to first and foremost step of the demand forecasting process. An organization needs to clearly state the purpose of demand forecasting before initiating it.
- 2. Determining Time Period: Involves deciding the time perspective for demand forecasting. Demand can be forecasted for a long period or short period. In the short run, determinants of demand may not change significantly or may remain constant, whereas in the long run, there is a significant change in the determinants of demand.

- **3.** Selecting a Method for Demand Forecasting: The method of demand forecasting differs from organization to organization depending on the purpose of forecasting, time frame, and data requirement and its availability. Selecting the suitable method is necessary for saving time and cost and ensuring the reliability of the data.
- 4. Collecting Data: Requires gathering primary or secondary data. Primary' data refers to the data that is collected by researchers through observation, interviews, and questionnaires for a particular research. On the other hand, secondary data refers to the data that is collected in the past; but can be utilized in the present scenario/research work.
- **5. Estimating Results:** Involves making an estimate of the forecasted demand for predetermined years. The results should be easily interpreted and presented in a usable form. The results should be easy to understand by the readers or management of the organization.



METHOD OF DEMAND FORECASTING

I. Survey methods

Under this method surveys are conducted to collect information about the future purchase plans of potential consumers. Survey methods help in obtaining information about the desires, likes and dislikes of consumers through collecting the opinion of experts or by interviewing the consumers. Survey methods are used for short term forecasting.

(a) **Consumers' interview method:** Under this method, consumers are interviewed directly and asked the quantity they would like to buy. After collecting the data, the total demand for the product is calculated.

(b) Experts' opinion method: Under this method, demand is estimated on the basis of opinions of experts and distributors other than salesmen and ordinary consumers. This method is also known as Delphi method. Delphi is the ancient Greek temple where people come and prey for information about their future.

II. Statistical Methods

Statistical methods use the past data as a guide for knowing the level of future demand. Statistical methods are generally used for long run forecasting. These methods are used for established products.

- (i) Trend projection method: Under the trend projection method demand is estimated on the basis of analysis of past data. This method makes use of time series (data over a period of time). We try to ascertain the trend in the time series.
- (ii) **Barometric technique:** This is an improvement over the trend projection method. According to this, technique the events of the present can be used to predict the directions of change in the future. Here certain economic and statistical indicators from the selected time series are used to predict variables. Personal income, non-agricultural placements, gross national income, prices of industrial materials, wholesale commodity prices, industrial production, bank deposits etc. are some of the most commonly used indicators.
- **iii)** Econometric Methods: The Econometric Methods make use of statistical tools and economic theories in combination to estimate the economic variables and to forecast the intended variables. he econometric model can either be a single-equation regression model or may consist a system of simultaneous equations. In most commodities, the single-equation regression model serves the purpose.

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

— 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."

As the price of good increases, suppliers will attempt to maximize profits by increasing the quantity of the product sold.

Prices of	Quantity	
pens	supplied	
10	100	
11	150	
12	200	
13	250	

SUPPLY SCHEDULE



150

quantity supplied

SUPPLY CURVE

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:

200

250

1. Cost of factor of production

Cost of production depends on the factors like

0

100

- 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.

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.

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

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

ELASTICITY OF SUPPLY

The Price Elasticity of Supply measures the rate of response of quantity demand due to a price change. If you've already read Elasticity of Demand and understand it, you may want to just skim this section, as the calculations are similar.

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:

$PES= \frac{Percentage \ change \ in \ quantity \ supplied}{Percentage \ change \ in \ price} \ or \ \frac{\Delta Q}{\Delta P} \times \frac{P1}{Q1}$

- ΔQ = change in the demand.(difference in demand)
- ΔP = 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.

PRODUCTION POSSIBILITY CURVE

The problem of choice between relatively scarce commodities due to limited productive resources with the society can be illustrated with the help of a geometric device, is known as production possibility curve.

Production possibility curve shows the menu of choice along which a society can choose to substitute one good for another, assuming a given state of technology and given total resources.

ASSUMPTIONS

- 1. The time period does not change. It remains the same throughout the curve.
- 2. Techniques of production are fixed.
- 3. There is full employment in the economy.
- 4. Only two goods can be produced from the given resources.
- 5. Resources of production are fully mobile.
- 6. The factors of production are given in quantity and quality
- 7. The law of diminishing returns operates in production.

PRODUCTION POSSIBILITY SCHEDULE

Production possibilities	Quantity of Apple	Quantity of Orange
А	0	400
В	200	300
С	400	200
D	600	100
Е	800	0



PRODUCTION POSSIBILITY CURVE

- Any combination lying inside the production curve such as U in the figure indicates that resources are not being fully employed in the best-known way.
- Any point outside the production possibility frontier, such as L implies that the economy does not have adequate resources to produce this combination.



SCHOOL OF MANAGEMENT STUDIES

UNIT - 3 - MANAGERIAL ECONOMICS - SBAA5104

Contents: Production - Meaning - The Production Function - Theories of Production - Law of Variable Proportions - Law of returns to scale - Production Isoquants - Iso cost Lines Estimating Production Functions - Cost Concepts - Meaning - Types - Cost in Short run and Long runcost estimation of cost function - relationship between cost and production.

PRODUCTION

Production in Economics refers to the creation of those goods and services which have exchange value. It means the creation of utilities. These utilities are in the nature of form utility, time utility and place utility. Creation of such utilities results in the overall increase in the production and redistribution of goods and services in the economy. Utility of a commodity may increase due to several reasons.

FACTORS OF PRODUCTION

Human activity can be broken down into two components, production and consumption. When there is production, a process of transformation takes place. Inputs are converted into an output. The inputs are classified and referred to as land, labour, and capital. Collectively the inputs are called factors of production.

1. Land

Land as a factor of production refers to all those natural resources or gifts of nature which are provided free to man. It includes within itself several things such as land surface, air, water, minerals, forests, rivers, lakes, seas, mountains, climate and weather. Thus, 'Land' includes all things that are not made by man. **Characteristics or Peculiarities of land**

- (i) Land is a free gift of nature
- (ii) Land is fixed (inelastic) in supply.
- (iii) Land is imperishable
- (iv) Land is immobile
- (v) Land differs in fertility and situation

(vi) Land is a passive factor of production

As a gift of nature, the initial supply price of land is zero. However, when used in production, it becomes scarce. Therefore, it fetches a price, accordingly.

2. Labour

Labour is the human input into the production process. Alferd Marshall defines labour as 'the use or exertion of body or mind, partly or wholly, with a view to secure an income apart from the pleasure derived from the work'.

Characteristics or Peculiarities of labour (i)

Labour is perishable.

- (ii) Labour is an active factor of production. Neither land nor capital can yield much without labour.
- (iii) Labour is not homogeneous. Skill and dexterity vary from person to person.
- (iv) Labour cannot be separated from the labourer.
- (v) Labour is mobile. Man moves from one place to another from a low paid occupation to a high paid occupation.
- (vi) Individual labour has only limited bargaining power. He cannot fight with his employer for a rise in wages or improvement in work- place conditions. However, when workers combine to form trade unions, the bargaining power of labour increases.

3. Capital

Capital is the man made physical goods used to produce other goods and services. In the ordinary language, capital means money. In Economics, capital refers to that part of man-made wealth which is used for the further production of wealth. According to Marshall, "Capital consists of those kinds of wealth other than free gifts of nature, which yield income".

Forms of Capital/Livelihood Capitals

- A. Physical Capital or Material Resources
- B. Financial Capital or Monetary Resources, and
- C. Human Capital or Human Resources
- D. Natural Capital
- E. Social Capital

4. Organization or Enterprise

An entrepreneur is a person who combines the different factors of production (land, labour and capital), in the right proportion and initiates the process of production and also bears the risk involved in it. The entrepreneur is also called 'organiser'. Entrepreneurship is risk taking, managerial, and organizational skills needed to produce goods and services in order to gain a profit. In modern times, an entrepreneur is called 'the changing agent of the society'. He is not only responsible for producing the socially desirable output but also to increase the social welfare.

Functions of an Entrepreneur

- **1. Identifying Profitable Investible Opportunities:** Conceiving a new and most promising and profitable idea or capturing a new idea available in the market is the foremost function of an entrepreneur. This is known as identifying profitable investible opportunities.
- Deciding the size of unit of production: An entrepreneur has to decide the size of the unit

 whether big or small depending upon the nature of the product and the level of competition
 in the market.
- **3. Deciding the location of the production unit:** A rational entrepreneur will always locate his unit of production nearer to both factor market and the end-use market. This is to be done in order to bring down the delay in production and distribution of products and to reduce the storage and transportation cost.
- 4. Identifying the optimum combination of factors of production: The entrepreneur, after having decided to start a new venture, takes up the task of hiring factors of production. Further, he decides in what combinations he should combine these factors so that maximum output is produced at minimum cost.
- **5. Making innovations:** According to Schumpeter, basically an entrepreneur is an innovator of new markets and new techniques of production. A new market increases the sales volume whereas a new cost cutting production technique will make the product cheaper. This will in turn increase the volume of sales and the profit.
- **6. Deciding the reward payment:** The factors used in production have to be rewarded on the basis of their productivity. Measuring the productivity of the factors and the payment of reward is the crucial function of an entrepreneur.

7. Taking Risks and facing uncertainties: According to Hawley, a business is nothing but a bundle of risks. Products are produced for future demand. The future is uncertain. The investments are made in the present. This is the serious risk in production. One who is ready to accept the risk becomes a successful entrepreneur. A prudent entrepreneur forecasts the future risks scientifically and take appropriate decision in the present to overcome such risks. According to Knight one of the important functions of entrepreneur is uncertainty bearing.

PRODUCTION FUNCTION

The functional relationship between inputs and outputs is known as production function. Inputs refer to the factor services which are used in production i.e. land, labour, capital and enterprise.

Output refers to the volume of goods produced.

 $Q = f(x_1, x_2, x_3....x_n)$ in which

Q is the quantity produced during a given period of time and x1, x2, x3xn are the quantities of different factors used in production i.e. Land, Labour, Capital, raw material etc...,

RELATIONSHIP BETWEEN MARGINAL PRODUCT AND TOTAL PRODUCT

(i) When marginal product is positive, the total product increases

- a. When marginal product increases, the total product will be increasing at an increasing rate
- b. When marginal product remains constant, the total product will be increasing at a constant rate
- c. When marginal product decreases but is positive, the total product will be increasing at a decreasing rate
- (ii) When marginal product is zero, the total product reaches the maximum and remains constant (iii) when marginal product is negative, the total product decreases.

Types of Production function

Production function may be classified into two:

1. Short-run production function: It refers to production in the short-run where there are some fixed factors and variable factors. In the short-run, production will increase when more units of variable factors are used with the fixed factor. *Law of variable proportion comes under Shortrun production*.

2. Long-run production function: It refers to production in the long-run where all factors become variable. In the long-run, production can be increased by increasing units of all the factors simultaneously and in the same proportion. *Laws of returns to scale comes under longrun production function.*

LAW OF VARIABLE PROPORTION

The law of variable proportions states that as the quantity of one factor is increased, keeping the other factors fixed, after a point, first the marginal and then the average product of that factor will diminish. This law is also known as the "law of non-proportional returns" or "law of the diminishing marginal returns". Assumptions of the law

- 1. Only one factor is variable and other factors are fixed
- 2. The variable factor units are homogenous
- 3. Input prices remain unchanged
- 4. The technology remains the same at a given point of time.
- 5. The entire operation is only for short-run

Stages of Law

Stage I: Stage of increasing returns

End of Stage I where the average product reaches its maximum point. During this stage, the total product, the average product and the marginal product are increasing. It is notable that the marginal product in this stage increases but in a later part it starts declining. Though marginal product starts declining, it is greater than the average product so that the average product continues to rise.

Stage II: Stage of decreasing returns

Stage II ends at the point where the marginal product is zero. In the second stage, the total product continues to increase but at a diminishing rate. The marginal product and the average product are declining but are positive. At the end of the second stage, the total product is maximum and the marginal product is zero.

Stage III: Stage of negative returns

In this stage the marginal product becomes negative. The total product and the average product are declining.

Fixed factor Machine	Variable factor labour	Total product in units	Average product in units	Marginal product in units	Stages
1+	1	10	10	10	
1+	2	22	11	12	Increasing Return
1+	3	36	12	14	
1+	4	52	13	16	
1+	5	66	13.2	14	
1+	6	76	12.6	10	
1+	7	80	11.4	4	Decreasing Return
1+	8	82	10.2	2	
1+	9	82	9.1	0	
1+	10	78	7.8	-4	Negative Return

 Table - Stages of Law of Variable Proportion



The stage of Operation

In stage I the fixed factor is too much in relation to the variable factor. Therefore in stage I, marginal product of the fixed factor is negative. On the other hand, in stage III the marginal product of the variable factor is negative. Therefore a rational producer will not choose to produce in stages I and III. He will choose only the second stage to produce where the marginal product of both the fixed factor and variable factor are positive. At this stage the total product is maximum. The particular point at which the producer will decide to produce in this stage depends upon the prices of factors. The stage II represents the range of rational production decisions.

LAWS OF RETURNS TO SCALE

The term 'returns to scale' refers to the response of total output to changes in all inputs by the same proportion. The laws of 'returns to scale' refers to the effects of scale relationship. The law of returns to scale states that when all factors of production are increased in the same proportion, the output will increase but the increase may be at increasing rate or constant rate or decreasing rate. The ratio of the proportionate change in output to a proportionate change in all inputs is called the function coefficient.

Assumption of the law

- 1. All the factors of production (such as land, labour and capital) are variable but organization is fixed
- 2. There is no change in technology
- 3. There is perfect competition in the market
- 4. Outputs or returns are measured in physical quantities
- 5. The entire operation is only for long-run

Three phases of Returns to Scale

Phase I: Increasing returns to scale:

It occurs when the increase in output is more than proportional to increase in inputs. The first stage starts from the point of origin and continues till the average product is maximum.

For example, if all the inputs are increased by 5%, the output increases by more than 5% i.e. by 10%. In this case the marginal product will be rising.

Phase II: Constant returns to scale:

It occurs when the increase in output is proportional to increase in inputs. If we increase all the factors (i.e. scale) in a given proportion, the output will increase in the same proportion i.e. a 5% increase in all the factors will result in an equal proportion of 5% increase in the output. Here the marginal product is constant.

Phase III: Decreasing returns to scale:

It occurs when the increase in output is less than proportional to the increase in inputs. For example: if all the factors are increased by 5%, the output will increase by less than 5% i.e. by 3%. In this phase marginal product will be decreasing.

Three Stages of Returns to Scale

Scale of inputs	Total Product	Marginal Product	Stages	
1 Labour + 1 Capital	4	4		
2 Labour + 2 Capital	10	6		
3 Labour + 3 Capital	18	8	Stage I : Increasing Returns	
4 Labour + 4 Capital	28	10		
5 Labour + 5 Capital	38	10	Stage II : Constant Returns	
6 Labour + 6 Capital	48	10		
7 Labour + 7 Capital	56	8	Stage III : Decreasing Returns	
8 Labour + 8 Capital	62	6		

Diagram of Law of returns to scale



PRODUCTION FUNCTION THROUGH ISO-QUANTS

The isoquant analysis helps to understand how different combinations of two or more factors are used to produce a given level of output. Considering two factors of production, (capital and labour) the following table shows various combinations of capital and labour that help a firm to produce 500 units of a product. **Assumption of Isoquant**

- 1. It is assumed that only two factors are used to produce a commodity
- 2. Factors of production can be divided into small parts
- 3. Technique of production is constant
- 4. The substitution between the two factors is technically possible

5. Under the given technique, factors of production can be used with maximum efficiency **Production with two variable inputs**

Combination	Units of Labour	Units of Capital	Output in units
А	2	1	500
В	4	2	500
С	6	3	500
D	8	4	500
Е	10	5	500

Diagram – isoquant Curve



Characteristics of an isoquant

- 1. The isoquant is downward sloping from left to right i.e. it is negatively sloped
- 2. An isoquant is convex to the origin because of the diminishing marginal rate of technical substitution.
- 3. Non inter-section of Iso-quant curves
- 4. An upper iso-quant curve represents a higher level of output.
- 5. Iso-quant curve does not touch either X axis or Y axis.

Isocost Line

An isocost line is defined as locus of points representing various combinations of two factors, which the firm can buy with a given outlay. Higher isocost lines represent higher outlays (total cost) and lower isocost lines represent lower outlays.

It is otherwise called as "iso-price line" or "iso-income line" or "iso-expenditure line" or "total outlay curve".



PRODUCER'S EQUILIBRIUM

Producer equilibrium implies the situation where producer maximizes his output. It is also known as optimum combination of the factors of production. **Producers' Equilibrium**



In the above figure, E is the point of equilibrium, where isoquant IQ2 is tangential to isocost line at AB. Given budget line AB, points 'P', 'N' and 'F' are beyond the reach of the producer and points 'R' and 'S' on isoquant IQ1 give less output than the output at the point of equilibrium 'E' which is on IQ2. The amount spent on combinations R, E, S is the same as all the three points lie on the same isocost line. But the output produced at point E is higher as E lies on a higher isoquant.

COBB-DOUGLAS PRODUCTION FUNCTION

The simplest and the most widely used production function in economics is the Cobb-Douglas production function. It is a statistical production function given by professors C.W. Cobb and P.H. Douglas.

The Cobb-Douglas production function can be stated as follows

Q = bL a C 1-a in which

Q = Actual output

L = Labour C = Capital

b = number of units of Labour a = Exponent* of labour 1-a = xponent* of Capital According tothis production function, if both factors of production (labour and capital) are increased by onepercent, the output (total product) will increase by the sum of the exponents of labour and capitali.e. by (a+1-a). Since a+1-a =1, according to the equation, when the inputs are increased by onepercent, the output also increases by one percent. Thus the Cobb douglas production functionexplains only constant returns to scale. In this production function, the sum of the exponents showsthe degree of "returns to scale" in production function.

a + b > 1: Increasing returns to scale a + b = 1: Constant returns to scale a + b < 1: Decreasing returns to scale

ECONOMIES OF SCALE

'Economies' mean advantages. Scale refers to the size of unit. 'Economies of Scale' refers to the cost advantages due to the larger size of production. As the volume of production increases, the overhead cost will come down. The bulk purchase of inputs will give a better bargaining power to
the producer which will reduce the average variable cost too. All these advantages are due to the large scale production and these advantages are called economies of scale.

TYPES OF ECONOMIES OF SCALE

1. Internal Economies of Scale:

'Internal economies of scale' are the advantages enjoyed within the production unit. These economies are enjoyed by a single firm independently of the action of the other firms. For instance, one firm may enjoy the advantage of good management; another may have the advantage of more up-to-date machinery.

Kinds of internal economies

1. **Technical Economies:** As the size of the firm is large, the availability of capital is more. Due to this, a firm can introduce up- to-date technologies; thereby the increase in the productivity becomes possible. It is also possible to conduct research and development which will help to increase the quality of the product.

2. *Financial Economies:* It is possible for big firms to float shares in the market for capital formation. Small firms have to borrow capital whereas large firms can buy capital.

3. *Managerial Economies:* Division of labour is the result of large scale production. Right person can be employed in the right department only if there is division of labour. This will help a manager to fix responsibility to each department and thereby the productivity can be increased and the total production can be maximized.

4. *Labour Economies:* Large Scale production paves the way for division of labour. This is also known as specialization of labour. The specialization will increase the quality and ability of the labour. As a result, the productivity of the firm increases.

5. *Marketing Economies:* In production, the first buyer is the producer who buys the raw materials. As the size is large, the quantity bought is larger. This gives the producer a better bargaining power. Also he can enjoy credit facilities. All these are possible because of large scale production. Buying is the first function in marketing.

6. *Economies of survival:* A large firm can have many products. Even if one product fails in the market, the loss incurred in that product can be managed by the profit earned from the other products.

2. External economies of scale:

When many firms expand in a particular area -i.e., when the industry grows - they enjoy a number of advantages which are known as external economies of scale. This is not the advantage enjoyed by a single firm but by all the firms in the industry due to the structural growth. They are a) increased transport facilities

- b) Banking facilities
- c) Development of townships
- d) Information and communication development

All these facilities are available to all firms in an industrial region.

DISECONOMIES OF SCALE

The diseconomies of the scale are a disadvantage to a firm or an industry or an organization. This necessarily increases the cost of production of a commodity or service. Further it delays the speed of the supply of the product to the market.

These diseconomies are of two types:

a) Internal Diseconomies of Scale: and

b) External Diseconomies of Scale

a. Internal Diseconomies of Scale: If a firm continues to grow and expand beyond the optimum capacity, the economies of scale disappear and diseconomies will start operating. For instance, if the size of a firm increases, after a point the difficulty of management arises to that particular firm which will increase the average cost of production of that firm. This is known as internal diseconomies of scale.

b. External Diseconomies of Scale: The term "External diseconomies of scale" refers to the threat or disturbance to a firm or an industry from factor lying outside it. For example a bus strike prevents the easy and correct entry of the workers into a firm. Similarly the rent of a firm increases very much if new economic units are established in the locality.

COST ANALYSIS

Cost refers to the total expenses incurred in the production of a commodity. The functional relationship between cost and output is expressed as 'Cost Function'.

A Cost Function may be written as

C = f (Q) where, C=Cost and

Q=Quantity of output.

The determinants of cost of production are: the size of plant, the level of production, the nature of technology used, the quantity of inputs used, managerial and labour efficiency.

Cost Concepts and Classification

- 1. Money Cost
- 2. Real Cost
- 3. Explicit Cost
- 4. Implicit Cost
- 5. Economic Cost
- 6. Social Cost
- 7. Opportunity Cost
- 8. Sunk Cost
- 9. Floating Cost
- 10. Prime Cost
- 11. Fixed Cost
- 12. Variable Cost
- 1. **Money Cost :** Money cost or nominal cost is the total money expenses incurred by a firm in producing a commodity. It includes: cost of raw materials, payment of wages and salaries,

payment of rent, interest on capital, expenses on fuel and power, expenses on transportation and so on.

- 2. **Real Cost :** Real cost is a subjective concept. Real cost refers to the payment made to compensate the efforts and sacrifices of all factor owners for their services in production. It includes the efforts and sacrifices of landlords in the use of land, capitalists to save and invest, and workers in foregoing leisure.
- 3. **Explicit Cost :** Explicit costs are the payments made by the entrepreneur to the suppliers of various productive factors. Explicit cost includes, wages, payment for raw material, rent for the building, interest for capital invested, expenditure on transport and advertisement, other expenses like license fee, depreciation and insurance charges, etc. It is also called Accounting Cost or Out of Pocket Cost or Money Cost.
- 4. **Implicit Cost :** The money rewards for the own services of the entrepreneur and the factors owned by himself and employed in production are known as implicit costs or imputed Costs.
- 5. Economic Cost: It refers to all payments made to the resources owned and purchased or hired by the firm in order to ensure their regular supply to the process of production. Economic Cost = Implicit Cost + Explicit Cost
- 6. **Social Cost:** It refers to the total cost borne by the society due to the production of a commodity. Social Cost is the cost that is not borne by the firm, but incurred by others in the society. For example, large business firms cause air pollution, water pollution and other damages in a particular area which involve cost to the society. It is also called as External Cost.
- 7. **Opportunity Cost :** It refers to the cost of next best alternative use. In other words, it is the value of the next best alternative foregone. For example, a farmer can cultivate both paddy and sugarcane in a farm land. If he cultivates paddy, the opportunity cost of paddy output is the

amount of sugarcane output given up. Opportunity Cost is also called as 'Alternative Cost' or 'Transfer Cost'.

- 8. Sunk Cost : A cost incurred in the past and cannot be recovered in future is called as Sunk Cost. Sunk cost are unalterable, unrecoverable, and if once invested it should be treated as drowned. For example, if a firm purchases a specialized equipment designed for a special plant, the expenditure on this equipment is a sunk cost, because it has no alternative use Sunk cost is also called as 'Retrospective Cost'.
- 9. Floating Cost: It refers to all expenses that are directly associated with business activities but not with asset creation. It does not include the purchase of raw material as it is part of current assets. It includes payments like wages to workers, transportation charges, fee for power and administration. Floating cost is necessary to run the day-to-day business of a firm.
- 10. **Prime Cost:** All costs that vary with output, together with the cost of administration are known as Prime Cost. In short, Prime cost = Variable costs + Costs of Administration.
- 11. **Fixed Cost :** Fixed Cost does not change with the change in the quantity of output. In other words, expenses on fixed factors are called as fixed cost. For example, rent of the factory, watchman's wages, permanent worker's salary, payments for minimum equipments and machines insurance premium, deposit for power, license fee, etc fixed cost is also called as

'Supplementary Cost' or 'Overhead Cost'.

12. **Variable Cost :** These costs vary with the level of output. In other words, the costs incurred on variable factors are called variable costs. Examples of variable costs are: wages of temporary workers, cost of raw materials, fuel cost, electricity charges, etc. Variable cost is also called as Prime Cost, Special Cost, or Direct Cost.

SHORT-RUN AND LONG-RUN COST CURVES

Short-run is defined as that period of time in which the firm can expand or contract its output only by varying the amounts of variables factors such as labour and raw materials. In the short period the size of the plant cannot be altered. More production is possible only by over working the existing plant or by hiring more workers and by purchasing and using more raw materials. **Long-run** is defined as that period of time in which both fixed and variable factors are variable and both the factors can be adjusted. Over a long period of time, the firm can expand its output by enlarging the size of the existing plant or by building a new plant of a greater productive capacity.

TOTAL COST

Total cost is the sum of total fixed cost and total variable cost.

TC = TFC + TVCwhere TC = Total

cost

TFC = Total Fixed cost

TVC = Total variable cost

The relationship between total fixed cost, total variable cost and total cost will be clear from following the Figure;



Average Fixed Cost (AFC)

The average fixed cost is the fixed cost per unit of output. It is obtained by dividing the total fixed cost by the number of units of the commodity produced.

AFC = TFC / Q

Where AFC = Average fixed Cost TFC = Total Fixed cost

Q = number of units of output produced **Example:**

Suppose for a firm the total fixed cost is Rs 5000 when output is 100 units, AFC will be Rs 5000/100 = Rs 50

Average Variable cost (AVC):

Average variable cost is the variable cost per unit of output. It is the total variable cost divided by the number of units of output produced.

AVC = TVC / Q

Where AVC = Average Variable Cost

TVC = Total Variable Cost

Q = number of units of output produced Diagrammatically, the AVC is 'U' shaped. The law of variable proportions provides the fundamental explanation for the shape of this curve. It means that the AVC curve first falls, reaches a minimum and then begins to increase.

Average Total Cost or Average Cost (AC)

Average total cost is simply called average cost which is the total cost divided by the number of units of output produced.

AC = TC / Q

where

AC = Average Cost

TC = Total Cost

Q = number of units of output produced

Average cost is the sum of average fixed cost and average variable cost. i.e.

AC = AFC + AVC

Units of Output 1	TFC 2	TVC 3	TC 2+3 4	AFC 2÷1 5	AVC 3÷1 6	AC 5 + 6 7
0	120	0	120	0	0	0
1	120	100	220	120	100	220
2	120	160	280	60	80	140
3	120	210	330	40	70	110
4	120	240	360	30	60	90
5	120	400	520	24	80	104
6	120	540	660	20	90	110
7	120	700	820	17.14	100	117.14
8	120	880	1000	15	110	125

Calculation of Average Fixed, Average variable and Average Total Cost

The average cost is also known as the unit cost since it is the cost per unit of output produced. The following figure shows the shape of AFC, AVC and ATC in the short period.



From the above figure, it can be understood that the behavior of the average total cost curve depends on the behaviour of AFC and AVC curves. In the beginning, both AFC and AVC fall. So

ATC curve falls. When AVC curve begins rising, AFC curve falls steeply i.e, fall in AFC is more than the rise in AVC. So ATC curve continues to fall. But as output increases further, there is a sharp increase in AVC, which is more than the fall in AFC. Hence ATC curve rises after a point. The ATC curve like AVC curve falls first, reaches the minimum value and then rises.

Hence it has taken a U shape.

Marginal cost (MC)

It is the cost of the last single unit produced. It is defined as the change in total costs resulting from producing one extra unit of output. In other words, it is the addition made to the total cost by producing one extra unit of output. Marginal cost is important for deciding whether any additional output can be produced or not.

$$MC = \Delta TC / \Delta Q$$

where

 $MC = Marginal Cost, \Delta TC =$

change in total cost and $\Delta Q =$

change in total quantity.

For example, a firm produces 4 units of output and the Total cost is Rs. 1600. When the firm produces one more unit (4 + 1 = 5 units) of output at the total cost of Rs. 1900, the marginal cost is Rs.300.

MC = 1900 - 1600 = Rs. 300.

The other method of estimating MC is :

 $MC=TC_n - TC_{n-1} \text{ or } TC_{n+1} - TC_n \text{ where,}$

MC = Marginal Cost,

 $TC_n = Total cost of 'n'th item,$

 $TC_{n-1} = Total Cost of 'n-1' th item,$

 $TC_{n+1} = Total Cost of n+1$ th item. For

example,

when $TC_4 = Rs.1600$, $TC_{(4-1)} = Rs.1400$ and then MC= Rs.200, (MC=1600-1400) when $TC_4 = Rs.1600$, $TC_{(4-1)} = Rs.1400$ and then MC= Rs.200, (MC=1600-1400) when $TC_4 = Rs.1600$, $TC_{(4-1)} = Rs.1400$ and then MC= Rs.200, (MC=1600-1400) when $TC_4 = Rs.1600$, $TC_{(4-1)} = Rs.1400$ and then MC= Rs.200, (MC=1600-1400) when $TC_4 = Rs.1600$, $TC_{(4-1)} =$

Rs.1600, $TC_{(4+1)}=1900$ and then MC= 300. It is to be noted that;

a) MC falls at first due to more efficient use of variable factors.

- b) MC curve increases after the lowest point and it slopes upward.
- c) MC cure is a U-shaped curve.
- d) The slope of TC is MC.



RELATIONSHIP BETWEEN AVERAGE AND MARGINAL COST CURVES

- 1) When marginal cost is less than average cost, average cost is falling
- 2) When marginal cost is greater than the average cost, average cost is rising
- 3) The marginal cost curve must cut the average cost curve at AC's minimum point from below. Thus at the minimum point of AC, MC is equal to AC.



LONG RUN COST CURVE

In the long run all factors of production become variable. The existing size of the firm can be increased in the case of long run. There are neither fixed inputs nor fixed costs in the long run.

Long run average cost (LAC) is equal to long run total costs divided by the level of output.

$$LAC = LTC/Q$$

where,

LAC = Long-Run Average Cost,

LTC= Long-run Total Cost and Q

= the quantity of output.



The LAC curve is derived from short-run average cost curves. It is the locus of points denoting the least cost curve of producing the corresponding output. The LAC curve is called as 'Plant

Curve' or 'Boat shape Curve' or 'Planning Curve' or 'Envelop Curve'. Break

Even Point (BEP) Analysis

- Break-even analysis is a technique widely used by production management and management accountants. It is based on categorizing production costs between those which are "variable" and those that are "fixed" costs.
- Break-even is a situation where you are neither making money nor losing money, but all your costs have been covered. A business's break-even point is the stage at which revenues equal costs.

- Generally, a company with low fixed costs will have a low break-even point of sale. For an example, a company has a fixed cost of Rs.0 (zero) will automatically have broken even upon the first sale of its product.
- It is a function of three factors, i.e. sales volume, cost and profit. Hence it is also known as "cost-volume-profit analysis".

Break-Even Point (Units) = Total Fixed Costs ÷ (Selling Price – Average Variable Cost) **Example:**

Suppose the fixed cost of a factory in Rs. 10,000, the selling price is Rs. 4 and the average variable cost is Rs. 2, so the break-even point would be

BEP = 10,000/(4-2) = 5,000 units.



In this diagram output is shown on the horizontal axis and costs and revenue on vertical axis. Total revenue (TR) curve is shown as linear, as it is assumed that the price is constant, irrespective of the output. This assumption is appropriate only if the firm is operating under perfectly competitive conditions. Linearity of the total cost (TC) curve results from the assumption of constant variable cost.

CONCEPT OF REVENUE

Cost and revenue are just like two different faces of the same coin. The costs and revenues of a firm determine its nature and the levels of profit. Cost refers to the expenses incurred by a producer

for the production of a commodity. Revenue denotes the amount of income which a firm receives by the sale of its output. The revenue concepts commonly used in economics are total revenue, average revenue and marginal revenue.

Total Revenue (TR)

Total revenue is the amount of income received by the firm from the sale of its products. It is obtained by multiplying the price of the commodity by the number of units sold. Symbolically, $TR=P \times Q$ where,

TR = Total Revenue,P = Price andQ = Quantity sold For example,

A cell-phone company sold 100 cell-phones at the price of Rs. 500 each. TR is Rs. 50,000. (TR= $500 \times 100 = 50,000$).

Average Revenue (AR)

Average revenue is the revenue per unit of the commodity sold. It is calculated by dividing the Total Revenue(TR) by the number of units sold (Q).

Symbolically; **AR** = **TR** /**Q**

Where,

AR = Average Revenue,

TR = Total Revenue and

Q = Quantity of unit sold.

For example,

If the Total Revenue from the sale of 5 units is Rs 30, the Average Revenue is Rs.6. (AR= 30/5 =6) It is to be noted that AR is equal to Price.

Marginal Revenue (MR)

Marginal revenue is the addition to total revenue by selling one more unit of the commodity. MR can be found out by dividing change in total revenue by the change in quantity sold out.

Symbolically, $\mathbf{MR} = \Delta \mathbf{TR} / \Delta \mathbf{Q}$ Where, $\mathbf{MR} = \mathbf{M}$ arginal Revenue, $\Delta \mathbf{TR} = \mathbf{ch}$ ange in Total Revenue and $\Delta \mathbf{Q}$ = change in total quantity.

The other method of estimating MR is:

$MR = TR_n - TR_{n-1}$ (or) $TR_{n+1} - TR_n$

where, MR denotes Marginal Revenue, TRn denotes total revenue of nth item, TR_{n-1} denotes Total Revenue of n-1th item and TR_{n+1} denotes Total Revenue of n+1th item.

Example: Suppose 5 units of a product are sold at a revenue of Rs.50 and 6 units are sold at a total revenue of Rs. 60. The marginal revenue will be Rs.60 - Rs. 50 = Rs. 10. it implies that the 6th unit ears an additional income of Rs. 10.

Relationship between AR and MR Curves

- 1. If a firm is able to sell additional units at the same price then AR and MR will be constant and equal.
- 2. If the firm is able to sell additional units only by reducing the price, then both AR and MR will fall and be different.
- 3. When price remains constant or fixed, the MR will be also constant and will coincide with AR.

- 4. Under perfect competition as the price is uniform and fixed, AR is equal to MR and their shape will be a straight line horizontal to X axis.
- When a firm sells large quantities at lower prices both AR and MR will fall but the fall in MR will be more steeper than the fall in the AR.
- 6. When marginal revenue is positive, total revenue rises, when MR is zero the total revenue becomes maximum.
- 7. When price elasticity of demand is greater than one, MR is positive and TR is increasing.
- 8. When price elasticity of demand is less than one, MR is negative and TR is decreasing.
- 9. When price elasticity of demand is equal to one, MR is equal to zero and TR is maximum and constant.

Significance of the concept of revenue

- 1. **In determining the nature of profit:** The concept of MR and AR both together constitute a powerful analytical tool in economic analysis.
- Helpful in Decision-making: the concept is also vital in determining the equilibrium of a firm. The aim of every firm is to firm is to obtain maximum profits. The rule for profit maximization is MC = MR.
- 3. **Concept of Excess Capacity:** This concept is helpful to indicate to the entrepreneur whether the firm possesses excess capacity or not. Under perfect competition, production will be carried on up to the minimum point of the LAC. Therefore excess capacity is not possible.
- 4. **Factor-Pricing:** In fixing the prices of factors in the factor markets AR and MR concepts are very useful. In factor pricing the average revenue curve becomes the average revenue productivity curve and marginal revenue curve becomes the marginal revenue productivity curve, ARP and MRP are inverted 'U' shaped curves.



SCHOOL OF MANAGEMENT STUDIES

UNIT - 4 - MANAGERIAL EONOMICS - SBAA5104

Contents :Market Structure - Perfect and Imperfect Competition - Price determination under perfect competition - Price determination under imperfect competition – Monopoly, Oligopoly, Duopoly, Monopolistic Competition - Price output determination under perfect competition and imperfect competition –Monopoly, Monopolistic competition, oligopoly, Duopoly- Pricing - Meaning - Types.

MARKET

Generally the term market has come to signify a place or a geographical area in which goods and services are bought and sold. In Economics, market refers to a group of buyers and sellers who involve in the transaction of commodities and services.

According to Prof. Cournout, the term market is "not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with one another that the price of the same goods tend to equality easily and quickly".

According to Prof. F. Benham, Market is 'any area over which buyers and sellers are in such close touch with one another, either directly or through dealers, that the prices obtainable in one part of the market affect the prices paid in other parts'.

CHARACTERISTICS OF A MARKET

- 1. Existence of buyers and sellers of the commodity.
- 2. The establishment of contact between the buyers and sellers. Distance is of no consideration if buyers and sellers could contact each other through the available communication system like telephone, agents, letter correspondence and Internet.
- 3. Buyers and sellers deal with the same commodity or variety. Since the market in economics is identified on the basis of the commodity, similarity of the product is very essential.
- 4. There should be a price for the commodity bought and sold in the market.

CLASSIFICATION OF MARKET

1. Markets on the basis of Area: Based on the extent of the market for any product, markets can be classified into local regional, national and international markets.

a) Local Market: It arises when products or services are sold and bought in the place of their production. In such markets, the products exchanged are mostly perishable and semi-durable in nature: For example, Vegetable, fruits etc.

b) Regional Market: It arises when products or services are sold and bought in a restricted circle. For example, Regional newspaper.

c) National Market: It arises when products and services are sold and bought throughout a country. For example, Nation-wide market for tea, coffee, cement, electrical goods, some printed books etc.

d) **international Market:** It arises when products and services are sold and bought at the world level. For example, petrol, gold etc.

2. Market on the basis of Time: Alfred Marshall classifies market on the basis of time.

a) Very short period market or Market Period: It refers to that type of market in which the commodities are perishable and supply of commodities cannot be changed at all. So in a very short period, the market supply is perfectly inelastic. The price of the commodity depends on the demand for the product alone. The perishable commodities like flowers are the best example.

b) Short period: It refers to that period in which supply can be adjusted to a limited extent by varying the variable factors alone. The short period supply curve is relatively elastic. The short period price is determined by the interaction of the short-run supply and demand curves.

c) Long Period: Long period is the time period during which the supply conditions are fully able to meet the new demand conditions. In the long run, all (both fixed as well as variable) factors are variable. the market supply is perfectly elastic.

d) **Very long Period or Secular Period:** The very long run is a situation where technology and factors beyond the control of a firm can change significantly.

3. Market on the basis f 'Nature of Transactions': It refers that the market are classified into

- a) Spot Market: It refers to those markets where goods are physically transacted on the spot.
- **b) Future Markets:** it is related to those transactions which involve contracts of the future date.
- 4. Markets on the basis of 'Regulation': on the basis of regulation, markets are classified into

a) **Regulated market:** In the former type of markets transactions are statutorily regulated so as to put an end t unfair practices. Such markets may be established for specific products or a group of products. Produce and stock exchanges are suitable examples of the regulated markets.

b) Unregulated Markets: Unregulated or free markets are those where there are no restrictions in the transactions.

5. Markets on the basis of 'Volume of Business': Based on the volume of business transacted, markets are classified into;

a) Wholesale market: The wholesale market comes into existence when the commodities are bought and sold in bulk or large quantities. The dealers in this market are knows as the wholesalers. The wholesaler acts as an intermediary between the producer and the retailer.

b) Retail Market: retail market exists when the commodities are bought and sold in small quantities. This is the market for ultimate consumers.

6. Market on the basis of 'Position of Sellers': On the basis of the position of the sellers in the chain of marketing, markets are divided into;

a) **Primary Market:** Manufacturers of commodities constitute the primary market who sell the products to the wholesalers.

- b) Secondary Market: It consists of wholesalers who sell the products in bulk to the retailers.
- c) Terminal Market: Retailers alone constitute the terminal markets who sell the products to the ultimate consumers.
- **7. Markets on the basis of type of 'Competition':** Based on the type of competition, markets are classified into Perfect competition and Imperfect Competition:



PERFECT COMPETITION

Perfect competition is a market situation where there are infinite number of sellers that no one is big enough to have any appreciable influence over market price.

According to Joan Robinson, "Perfect competition prevails when the demand for the output of each producer is perfectly elastic".

For perfect competition, two conditions are necessary,. There should be a large number of sellers, and buyers should be aware of the various price offers and their perfect conditions, so that they have no reason to prefer one seller to another.

FEATURES OF PERFECT COMPETITION MARKET

- 1. Large Number of Buyers and Sellers: In the perfectly competitive market, there are a large number of buyers and sellers in a perfect competitive market that neither a single buyer nor a single seller can influence the price. The price is determined by market forces namely the demand for and the supply of the product. There will be uniform price in the market. Sellers accept this price and adjust the quantity produced to maximize their profit. Thus *the sellers in the perfect competitive market are price- takers and quantity adjusters*.
- 2. Homogeneous Product and Uniform Price: The product sold and bought is homogeneous in nature, in the sense that the units of the product are perfectly substitutable. All the units of the product are identical (ie) of the same size, shape, colour, quality etc. Therefore, a *uniform price prevails in the market*.
- **3. Perfect knowledge about market conditions:** Both buyers and sellers are fully aware of the current price in the market. Therefore the buyer will not offer high price and the sellers will not accept a price less than the one prevailing in the market.
- **4. Free entry and free exit:** There must be complete freedom for the entry of new firms or the exit of the existing firms from the industry. When the existing firms are earning super-normal profits, new firms enter into the market. When there is loss in the industry, some firms leave the industry. The free entry and free exit are possible only in the long run. That is because the size of the plant cannot be changed in the short run.
- **5. Perfect mobility of factors of production:** The factors of productions should be free to move from one use to another or from one industry to another easily to get better remuneration. The

assumption of perfect mobility of factors is essential to fulfil the first condition namely large number of producers in the market.

- 6. Absence of transport cost: In a perfectly competitive market, it is assumed that there are no transport costs. Under perfect competition, a commodity is sold at uniform price throughout the market. If transport cost is incurred, the firms nearer to the market will charge a low price than the firms far away. Hence it is assumed that there is no transport cost.
- 7. Absence of Government intervention: There are no government controls or restrictions on supply, pricing etc. There is also no collusion among buyers or sellers. The price in the perfectly competitive market is free to change in response to changes in demand and supply conditions. SHORT RUN EQUILIBRIUM PRICE AND OUTPUT DETERMINATION UNDER PERFECT COMPETITION
- 1. Since a firm in the perfectly competitive market is a price-taker, it has to adjust its level of
- output to maximize its profit. The aim of any producer is to maximize his profit.
- 2. The short run is a period in which the number and plant size of the firms are fixed. In this period, the firm can produce more only by increasing the variable inputs.
- 3. As the entry of new firms or exits of the existing firms are not possible in the short-run, the firm in the perfectly competitive market can either earn supernormal profit or normal profit or incur loss in the short period.

SUPER-NORMAL PROFIT

When the average revenue of the firm is greater than its average cost, the firm is earning supernormal profit.

Short-run equilibrium with super-normal profits



In above figure, output is measured along the x-axis and price, revenue and cost along the y-axis. OP is the prevailing price in the market. PL is the demand curve or average and the marginal revenue curve. SAC and SMC are the short run average and marginal cost curves. The firm is in equilibrium at point 'E' where MR = MC and MC curve cuts MR curve from below at the point of equilibrium. Therefore the firm will be producing OM level of output. At the OM level of output ME is the AR and MF is the average cost. The profit per unit of output is EF (the difference between ME and MF). The total profits earned by the firm will be equal to EF (profit per unit) multiplied by OM or HF (total output). Thus the total profits will be equal to the area HFEP. HFEP is the supernormal profits earned by the firm.

LONG RUN EQUILIBRIUM, PRICE AND OUTPUT DETERMINATION UNDER

PERFECT COMPETITION

In the long run, all the factors are variable. The firms can increase their output by increasing the number and plant size of the firms. Moreover, new firms can enter the industry and the existing firms can leave the industry. As a result, all the existing firms will earn only normal profit in the long run.

If the existing firms earn supernormal profit, the new firms will enter the industry to compete with the existing firms. As a result, the output produced will increase. When the total output increases, the demand for factors of production will increase leading to increase in prices of the factors. This will result in increase in average cost.

On the other side, when the output produced increases, the supply of the product increases. The demand remaining the same, when the supply of the product increases, the price of the product comes down. Hence the average revenue will come down. A fall in average revenue and the rise in average cost will continue till both become equal. (AR = AC). Thus, all the perfectly competitive firms will earn normal profit in the long run.



Long run equilibrium of the firm

Above figure represents long run equilibrium of firm under perfect competition. The firm is in equilibrium at point S where LMC = MR = AR = LAC. The long run equilibrium output is ON. The firm is earning just the normal profit. The equilibrium price is OP. If the price rises above OP, the firm will earn abnormal profit, which will attract new firms into the industry. If the price is less than OP, there will be loss and the tendency will be to exit. So in the long run equilibrium,

OP will be the price and marginal cost will be equal to average cost and average revenue. Thus the firm in the long run will earn only normal profit. Competitive firms are in equilibrium at the minimum point of LAC curve. Operating at the minimum point of LAC curve signifies that the firm is of optimum size i.e. producing output at the lowest possible average cost.

Advantages of perfect competition

1. There is consumer sovereignty in a perfect competitive market. The consumer is rational and he has perfect knowledge about the market conditions. Therefore, he will not purchase the products at a higher price.

- 2. In the perfectly competitive market, the price is equal to the minimum average cost. It is beneficial to the consumer.
- The perfectly competitive firms are price-takers and the products are homogeneous. Therefore
 it is not necessary for the producers to incur expenditure on advertisement to promote sales.
 This reduces the wastage of resources.
- 4. In the long run, the perfectly competitive firm is functioning at the optimum level. This means that maximum economic efficiency in production is achieved. As the actual output produced by the firm is equal to the optimum output, there is no idle or unused or excess capacity.

MONOPOLY

The word monopoly has been derived from the combination of two words i.e., 'Mono' and

'Poly'. Mono refers to a single and "poly" to seller.

Monopoly is a market structure characterized by a single seller, selling the unique product with the restriction for a new firm to enter the market.

It is situation where there exists single control over the market producing a commodity having no substitutes and no possibilities for anyone to enter the industry and compete. Single control may mean a single producer or a joint stock organization or governmental or quasi-governmental.

FEATURES OF MONOPOLY MARKET

- **1. Single Seller:** There is only one seller; he can control either price or supply of his product. But he cannot control demand for the product, as there are many buyers.
- **2. No close Substitutes:** There are no close substitutes for the product. The buyers have no alternatives or choice. Either they have to buy the product or go without it.
- **3. Price:** The monopolist has control over the supply so as to increase the price. Sometimes he may adopt price discrimination. He may fix different prices for different sets of consumers. A monopolist can either fix the price or quantity of output; but he cannot do both, at the same time.

- **4.** No Entry: There is no freedom to other producers to enter the market as the monopolist is enjoying monopoly power. There are strong barriers for new firms to enter. There are legal, technological, economic and natural obstacles, which may block the entry of new producers.
- **5. Firm and Industry:** Under monopoly, there is no difference between a firm and an industry. As there is only one firm, that single firm constitutes the whole industry.

Sources of Monopoly Power

- 1. Natural Monopoly: A monopoly may arise on account of some natural causes. Some minerals are available only in certain regions. For example, South Africa has the monopoly of diamonds; nickel in the world is mostly available in Canada and oil in Middle East. This is natural monopoly.
- **2. Technical Monopoly:** Monopoly power may be enjoyed due to technical reasons. A firm may have control over raw materials, technical knowledge, special know-how, scientific secrets and formula that enable a monopolist to produce a commodity. e.g., Coco Cola.
- **3. Legal Monopoly:** Monopoly power is achieved through patent rights, copyright and trade marks by the producers. This is called legal monopoly.
- 4. Monopoly by Large Amount of Capital: The manufacture of some goods requires a large amount of capital or lumpiness of capital. All firms cannot enter the field because they cannot afford to invest such a large amount of capital. This may give rise to monopoly. For example, iron and steel industry, railways, etc.
- 5. State Monopoly: Government will have the sole right of producing and selling some goods. They are State monopolies. For example, we have public utilities like electricity and railways. These public utilities are undertaken by the State.

PRICE & OUTPUT DETERMINATION UNDER MONOPOLY

A monopolist like a perfectly competitive firm tries to maximize his profits. A monopoly firm faces a downward sloping demand curve, that is, its average revenue curve. The downward sloping demand curve implies that larger output can be sold only by reducing the price. Its marginal revenue curve will be below the average revenue curve. The average cost curve is 'U' shaped. The monopolist will be in equilibrium when MC = MR and the MC curve cuts the MR curve from below.





In the above figure, AR is the Average Revenue Curve and MR is the Marginal revenue curve. AR curve is falling and MR curve lies below AR. The monopolist is in equilibrium at E where MR = MC. He produces OM units of output and fixes price at OP. At OM output, the average revenue is MS and average cost MT. Therefore the profit per unit is MS-MT = TS. Total profit is average profit (TS) multiplied by output (OM), which is equal to HTSP. The monopolist is in equilibrium at point E and produces OM output at which he is earning maximum profit. The monopoly price is higher than the marginal revenue and marginal cost.

Advantages of Monopoly Market

 Monopoly firms have large-scale production possibilities and also can enjoy both internal and external economies. This will result in the reduction of costs of production. Output can be sold at low prices. This is beneficial to the consumers.

- 2. Monopoly firms have **vast financial resources which could be used for research and development**. This will enable the firms to innovate quickly.
- 3. There are a number of weak firms in an industry. These firms can combine together in the form of monopoly to meet competition. In such a case, market can be expanded.

Disadvantages of Monopoly Market

- 1. A monopolist always charges a **high price**, which is higher than the competitive price. Thus a monopolist exploits the consumers.
- 2. A monopolist is interested in getting maximum profit. He may restrict the output and raise prices. Thus, he creates **artificial scarcity for his product**.
- 3. A monopolist often charges **different prices for the same product from different consumers**. He extracts maximum price according to the ability to pay of different consumers.
- 4. A monopolist uses large-scale production and huge resources to promote his own selfish interest. **He may adopt wrong practices to establish absolute monopoly power**.
- 5. In a country dominated by monopolies, **wealth is concentrated in the hands of a few**. It will lead to inequality of incomes. This is against the principle of the socialistic pattern of society.

Methods of Controlling Monopoly

- 1. Legislative Method: Government can control monopolies by legal actions. Anti-monopoly legislation has been enacted to check the growth of monopoly. In India, the Monopolies and Restrictive Trade Practices Act was passed in 1969. The objective of this Act is to prevent the unwanted growth of private monopolies and concentration of economic power in the hands of a small number of individuals and families.
- 2. Controlling Price and Output: This method can be applied in the case of natural monopolies. Government would fix either price or output or both.

- **3. Taxation:** Taxation is another method by which the monopolistic power can be prevented or restricted. Government can impose a lump-sum tax on a monopoly firm, irrespective of its level of output. Consequently, its total profit will fall.
- **4.** Nationalization: Nationalizing big companies is one of the solutions. Government may take over such monopolistic companies, which are exploiting the consumers.
- **5.** Consumer's Association: The growth of monopoly power can also be controlled by encouraging the formation of consumers associations to improve the bargaining power of consumers.

PRICE DISCRIMINATION UNDER MONOPOLY

This is called price discrimination practiced by the monopolist. Under this, the monopolist will charge different prices from different class of customers. The idea is to get from each customer whatever profits could be squeezed out of him depending on his purse and intensity of demand.

Types of Price Discrimination

- **1. Personal Discrimination:** The monopolist will charge different prices from different customers on the basis of their ability to pay. Rich customers will be asked to pay more and poor customers to pay less. This is possible in specialized services of doctors and lawyers.
- **2. Place Discrimination:** It is adopted by the monopolist having markets in different places for the same commodity. The locality in which the market is situated will be the criterion in fixing up the price.
- **3. Trade discrimination:** It can also be called *use discrimination*. By this, the monopolist will charge different prices for different types of uses of the same commodity. For example, electricity will be sold at a cheaper rate for industrial establishment, while it will be charged at a higher rate for domestic consumption.

MONOPOLISTIC COMPETITION

Monopolistic competition refers to the market situation in which a large number of sellers are offering similar but not identical products. As Chamberlin pointed out, it's a blend of competition and monopoly. The essential features of monopolistic competition are product differentiation and existence of many sellers.

The following are some examples of monopolistic competition in the Indian context;

- 1. Shampoo sunsilk, Clinic plus, ponds, chick.
- 2. Tea Three roses, AVT, brooke bond
- 3. Tooth paste Colgate, Close-up, Dabar, Himalaya
- 4. Soap Doe, Hamam, Cinthol, Medimix

Characteristics of Monopolistic Competition

- **1. Large Number of firms/Sellers:** Under monopolistic competition, the number of firms producing a commodity will be very large. Each firm will act independently on the basis of product differentiation and each firm determines its price-output policies. Any action of the individual firm in increasing or decreasing the output will have little or no effect on other firms.
- **2. Product differentiation:** Product differentiation is the essence of monopolistic competition. Product differentiation is attempted through (a) physical difference; (b) quality difference; (c) imaginary difference and (d) purchase benefit difference. Product differentiation through effective advertisement is another method. This is known as sales promotion.
- **3. Selling Costs:** From the discussion of 'product differentiation', we can infer that the producer under monopolistic competition has to incur expenses to popularise his brand. This expenditure involved in selling the product is called selling cost. According to Prof. Chamberlin, selling cost is "the cost incurred in order to alter the position or shape of the demand curve for a product". Most important form of selling cost is advertisement. Sales promotion by advertisement is called non-price competition.

4. Freedom of entry and exit of firms: Another important feature is the freedom of any firm to enter into the field and produce the commodity under its own brand name and any firm can go out of the field if so chosen. There are no barriers as in the case of monopoly.

DETERMINATION OF EQUILIBRIUM PRICE AND OUTPUT UNDER

MONOPOLISTIC COMPETITION

The firm under monopolistic competition achieves its equilibrium when it's MC = MR, and when its MC curve cuts its MR curve from below. If MC is less than MR, the sellers will find it profitable to expand their output. Each firm will choose that price and output where it will be maximising its profit.



Short Period Equilibrium of a Monopolistic competitive firm with Profit

MC and AC are the short period marginal cost and average cost curves. The sloping down average revenue and marginal revenue curves are shown as AR and MR. The equilibrium point is E where MR = MC. The equilibrium output is OM and the price of the product is fixed at OP. The difference between average cost and average revenue is SQ. The output is OM. So, the supernormal profit for the firm is shown by the rectangle PQ the different firms in monopolistic competition may be making either abnormal.

Profits or losses in the short period depending on their costs and revenue curves.SR. The firm by producing OM units of its commodity and selling it at a price of OP per unit realizes the maximum profit in the short run.

In the long run, if the existing firms earn super normal profit, the entry of new firms will reduce its share in the market. The average revenue of the product will come down. The demand for factors of production will increase the cost of production. Hence, the size of the profit will be reduced. If the existing firms incur losses in the long-run, some of the firms will leave the industry increasing the share of the existing firms in the market. As the demand for factors becomes less, the price of factors will come down. This will reduce the cost of production, which will increase the profit earned by the existing firm. Thus under monopolistic competition, all the existing firms will earn normal profit in the long run.

Wastages of Monopolistic competition

- **1. Unemployment:** Under monopolistic competition, the firms produce less than optimum output. As a result, the productive capacity is not used to the fullest extent. This will lead to unemployment of resources.
- 2. Excess capacity: Excess capacity is the difference between the optimum output that can be produced and the actual output produced by the firm. In the long run, a monopolistic firm produces an output which is less than the optimum output that is the output corresponding to the minimum average cost.
- **3.** Advertisement: There is a lot of waste in competitive advertisements under monopolistic competition. The wasteful and competitive advertisements lead to high cost to consumers.

- **4. Too Many Varieties of Goods:** Introducing too many varieties of a good is another waste of monopolistic competition. The goods differ in size, shape, style and colour. A reasonable number of varieties would be desirable. Cost per unit can be reduced if only a few are produced.
- **5. Inefficient Firms:** Under monopolistic competition, inefficient firms charge prices higher than their marginal cost. Such type of inefficient firms should be kept out of the industry.

But, the buyers' preference for such products enables the inefficient firms to continue to exist. Efficient firms cannot drive out the inefficient firms because the former may not be able to attract the customers of the latter.

OLIGOPOLY

Oligopoly is a market situation in which there are a few firms selling homogeneous or differentiated products. Examples are oil and gas. 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.

Characteristics of Oligopoly

1. Interdependence: The most important feature of oligopoly is interdependence in decision - making. Since there are a few firms, each firm closely watches the activities of the other firm. Any change in price, output, product, etc., by a firm will have a direct effect on the fortune of its rivals. So an oligopolistic firm must consider not only the market demand for its product, but also the possible moves of other firms in the industry.

- 2. Group Behavior: Firms may realize the importance of mutual cooperation. Then they will have a tendency of collusion. At the same time, the desire of each firm to earn maximum profit may encourage competitive spirit. Thus, co-operative and collusive trend as well as competitive trend would prevail in an oligopolistic market.
- **3. Price Rigidity:** Another important feature of oligopoly is price rigidity. Price is sticky or rigid at the prevailing level due to the fear of reaction from the rival firms. If an oligopolistic firm lowers its price, the price reduction will be followed by the rival firms. As a result, the firm loses its profit. Expecting the same kind of reaction, if the oligopolistic firm raises the price, the rival firms will not follow. This would result in losing customers. In both ways the firm would face difficulties.

KINKED DEMAND CURVE

American economist Sweezy came up with the kinked demand curve hypothesis to explain the reason behind this price rigidity under oligopoly.

In an oligopolistic market, firms cannot have a fixed demand curve since it keeps changing as competitors change the prices/quantity of output. Since an oligopolistic is not aware of the demand curve, economists have designed various price-output models based on the behavior pattern of other firms in the industry.

In many oligopolistic markets, it has been observed that prices tend to remain inflexible for a very long time. Even in the face of declining costs, they tend to change infrequently. According to the kinked demand curve hypothesis, the demand curve facing an oligopolistic has a kink at the level of the prevailing price. This kink exists because of two reasons:

- 1. The segment above the prevailing price level is highly elastic.
- 2. The segment below the prevailing price level is inelastic.

Assumption of Kinked Demand curve

a. If a firm lowers the price below the prevailing level, then the competitors will follow him.

b. If a firm increases the price above the prevailing level, then the competitors will not follow him.



Diagram of Kinked Demand Curve

Kinked Demand Curve under oligopoly

From the figure, we know that The prevailing price level = P. The firm produces and sells output = OM. Also, the upper segment (dP) of the demand curve (dD) is elastic. The lower segment (PD) of the demand curve (dD) is relatively inelastic.

When an oligopolist lowers the price of his product, the competitors feel that if they don't follow the price cut, then their customers will leave them and buy from the firm who is offering a lower price.

Therefore, they lower their prices too in order to maintain their customers. Hence, the lower portion of the curve is inelastic. It implies that if an oligopolist lowers the price, he can obtain very little sales.

On the other hand, when a firm increases the price of its product, it experiences a substantial reduction in sales. The reason is simple – consumers will buy the same/similar product from its competitors.

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 independent, 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.

Characteristics of Duopoly

- 1. Each seller is fully aware of his rival's motive and actions.
- 2. Both sellers may collude (they agree on all matters regarding the sale of the commodity).
- 3. They may enter into cut-throat competition.
- 4. There is no product differentiation.
- 5. They fix the price for their product with a view to maximizing their profit.

Objectives of pricing policy.

Pricing decisions are usually considered a part of the general strategy for achieving a broadly defined goal. Before determining the price itself, the management should decide the objectives. While setting the price, the firm may aim at one or more of the following objectives

Profit maximization

Since the primary motive of business is to earn maximum profit, pricingalways aim at maximization of profit through maximization of sales.2.

Market share:
For maximizing market share a firm may lower its price in relation to the competitors" product.

Target return in investment

: The firm should fix the price for the product in such a way that it will satisfy expected returns for the investment.

Meet or prevent competition:

In order to discourage competition a firm may adopt a low price policy.5.

Price stabilization:

Another objective of pricing is to stabilize the product prices over a considerable period of time.6.

Resource mobilization

Company may fix their prices in such a way that sufficient resources are made available for the firms expansion, developmental investment etc.

Speed up cash collection:

Some firms try to set a price which will enable rapid cash recovery as they may be financially tight or may regard future is too uncertain to justify patient cashrecovery.8.

Survival and growth:

An important objective of pricing is survival and achieving the expected rate of growth. Profit is less important than survival.9.

Prestige and goodwill:

Pricing also aims at maintaining the prestige and enhancing the goodwill of the firm.

Achieving product quality leadership : Some Companies aim at establishing product quality leader through premium price

.Methods of pricing.

- 1. Cost Plus pricing.
- 2. Target pricing
- .3. Going rate pricing

- .4.Customary pricing
- .5.Follow up pricing.
- 6. Differential pricing.
- 7. Marginal cost pricing.
- 8. Barometric pricing

Cost plus pricing:

This is the most common method used for price. Under this method, the prices fixed to cover all costs and a predetermined percentage of profit.ie, the price is computed by adding a certain percentage to the cost of the product per unit. This method is also known as margin pricing or average cost pricing or full cost pricing or markup pricing. The business firm under oligopoly and monopolistic market are following this pricing policy

Target pricing

This is variant of full cost pricing. Under this method, the cost is added with the predetermined target rate of return on capital invested. In this case the company estimates future sales, future cost and calculates a targeted rate of return on capital invested. This is also called as rate of return pricing

Marginal cost pricing

: Under the marginal cost pricing, the price is determined on the basis of marginal cost or variable cost. In this method, fixed costs are totally excluded.4.

Differential pricing:

Under this method, the same product is sold at different prices to different customers, in different places, and at different periods. This method is called discriminatory pricingor price discrimination. Examples, Cinema theater, telephone bills etc..

5. Going rate pricing

Under this method, prices are maintained at par with the average level of prices in the industry. I.e., under this method a firm charges the prices according to what competitors are charging. Firm accepting the price prevailing in the industry in order to avoid price war. This method is also called acceptance pricing or parity pricing.

6. Customary pricing:

In the case of some commodities the prices get fixed because they have prevailed over a long period of time. Examples, the price of cup of tea or coffee. In short the prices are fixed by custom. The price will change only when the cost changes significantly. It is also called conventional pricing.

7. Follow up pricing

This is the most popular price policy. Under this, a firm determines the price policy according to the price policies of competitors. If the competitors reduce the price of the product, the firm also reduces the price of its product. If the competitors increase the price, the firm an also follow the same.

8. Barometric pricing

This is the method of leadership pricing. In this type of price leadership, there is no leader firm. But one firm among the oligopolistic firms announces a price change first. This is followed by other firms in the industry. The barometric price leader need not be a dominant firm with the lowest cost or even the largest firm in the industry but they responds to changes in business environments rapidly. On the basis of a formal or informal tacit agreement, the firms in the industry accept a firm as price leader who may act firstly upon the environmental or market changes

Skimming price strategy

This is done with a basic idea of gaining a premium from those buyers who always ready to pay a much higher price than others. Accordingly a product is priced at a very high level due to incurring large promotional expenses in the early stages. Thus skimming price refers to the high initial price charged when a new product is introduced in the market. Reasons for charging this price are; A.

When the demand of new product is relatively inelastic. When there is no close substitutes. Elasticity of demand is not known. When the buyers are not able to compare the value and utility To attract the high income customers.. To recover early the R&D and promotional expenses. When the product has distinctive qualities, luxuries etc

Psychological pricing

: Here manufacturers fix their prices of a product in the manner that itmay create an impression in the mind of consumers that the prices are low. E.g. Prices of Batashoe as Rs.99.99. This is also called odd pricing.2.

Mark up pricing.

This method of pricing is followed by whole salers and retailers. When the

Goods are received, the retailers add a certain percentage of the whole saler"s price.

3. Administered pricing

Here the pricing is done on the basis of managerial decisions and not on the basis of cost, demand, competition etc.

4. Other pricing strategies

: Geographical pricing, base point pricing, zone pricing, dual pricing, product line pricing etc. are some other pricing strategies



SCHOOL OF MANAGEMENT STUDIES

UNIT – 5- MANAGERIAL ECONOMICS – SBAA5104

Contents :National Income – Concept – Methods of measurement – Consumption – Saving and Investment Function – Balance of Payment – Fiscal and Monetary Policy – Inflation – Deflation – Multiplier and Accelerator – Business cycles – Phases of trade cycle. Employment Determination – Classical theory, Keynesian theory, New – Classical theory.

CONCEPT OF NATIONAL INCOME

National income means the value of goods and services produced by a country during a financial year. The National Income is the total amount of income accruing to a country from economic activities in a years time. It includes payments made to all resources either in the form of wages, interest, rent, and profits.

DEFINITION OF NATIONAL INCOME

Traditional Definition: According to Marshall: "The labor and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend."

Modern Definition: Simon Kuznets defines national income as "the net output of commodities and services flowing during the year from the country's productive system in the hands of the ultimate consumers."

BASIC CONCEPTS IN NATIONAL INCOME

- 1. Gross Domestic Product (GDP)
- 2. Net Domestic Product (NDP)
- 3. Gross National product (GNP)
- 4. Net National Product (NNP)
- 5. Personal Income (PI)
- 6. Disposable Personal Income (DPI)
- 7. Real Income

GROSS DOMESTIC PRODUCT (GDP)

The total value of goods produced and services rendered within a country during a year is its Gross Domestic Product.

GDP is calculated at market price and is defined as GDP at market prices.

Different constituents of GDP are:

- a) Wages and salaries
- b) Rent
- c) Interest
- d) Undistributed profits
- e) Mixed-income
- f) Direct taxes
- g) Dividend
- h) Depreciation

There are three different ways to measure GDP

These three methods of calculating GDP yield the same result because National Product = National Income = National Expenditure.

1. The Product Method: In this method, the value of all goods and services produced in different industries during the year is added up. This is also known as the value added method to GDP or GDP at factor cost by industry of origin. The following items are included in India in this: agriculture and allied services; mining; manufacturing, construction, electricity, gas and water supply; transport, communication and trade; banking and insurance, real estates and ownership of dwellings and business services; and public administration and defense and other services (or government services). In other words, it is the sum of gross value added.

2. The Income Method: The people of a country who produce GDP during a year receive incomes from their work. Thus GDP by income method is the sum of all factor incomes: Wages and Salaries (compensation of employees) + Rent + Interest + Profit.

3. Expenditure Method: This method focuses on goods and services produced within the country during one year.

GDP by expenditure method includes:

- (1) Consumer expenditure on services and durable and non-durable goods (C),
- (2) Investment in fixed capital such as residential and non-residential building, machinery, and inventories (I),
- (3) Government expenditure on final goods and services (G),
- (4) Export of goods and services produced by the people of country (X),
- (5) Less imports (M). That part of consumption, investment and government expenditure which is spent on imports is subtracted from GDP. Similarly, any imported component, such as raw materials, which is used in the manufacture of export goods, is also excluded.

Thus GDP by expenditure method at market prices = C + I + G + (X - M), where (X-M) is net export which can be positive or negative.

NET DOMESTIC PRODUCT (NDP)

While calculating GDP no provision is made for depreciation allowance (also called capital consumption allowance). In such a situation gross domestic product will not reveal complete flow of goods and services through various sectors.

A part of is therefore, set aside in the form of depreciation allowance. When depreciation allowance is subtracted from gross domestic product we get net domestic product.

NDP = GDP – Depreciation

GROSS NATIONAL PRODUCT (GNP)

Gross national product is defined as the sum of the gross domestic product and net factor incomes from abroad. Thus in order to estimate the gross national product of India we have to add net factor income from abroad – income earned by non-resident in India to form the gross domestic product of India.

GNP = GDP + NFIA

Where,

GDP = Gross Domestic Product

NFIA = Net Factor Income from Abroad NET NATIONAL PRODUCT (NNP)

It can be derived by subtracting depreciation allowance from GNP. It can also be found out by adding the net factor income from abroad to the net domestic product.

NNP = GNP – Depreciation

Or

NNP = NDP + NFIA

PERSONAL INCOME (PI)

It may be defined as the current income of persons or households from all services during a given period. Personal income is not a measure of production.

DISPOSAL INCOME

All personal income is not at the disposal to be spent on consumption. Individuals have to pay personal direct taxes to the government. They are free to spend only after the payment of taxes.

DPI = Personal Income – Personal Direct Taxes

REAL INCOME

Real income is an economic measure that provides an estimation of an individual's actual purchasing power in the open market after accounting for inflation.

Since national income does not reveal the real state of the economy, the concept of real income has been used to find out the real income of the country, a base year is selected and the price level of that year is assumed to be =100.

Real income = (Money Income/Price index) x 100

METHODS FOR MEASURING NATIONAL INCOME

1. Product Method:

In this method, national income is measured as a flow of goods and services. We calculate money value of all final goods and services produced in an economy during a year. Final goods here refer to those goods which are directly consumed and not used in further production process.

Gross Value Added = Value of Output – Value of intermediate goods

Net Value Added = Gross Value Added - Depreciation

2. Income Method

The net income received by all citizens of a country in a particular year, i.e. total of net rents, net wages, net interest and net profits.

It is the income earned by the factors of production of a country.

GNP = Wages/Salaries + Rent + Interest + Dividends + undistributed corporate profits + mixed incomes + Direct taxes + Indirect taxes + Depreciation + Net income from abroad.

3. Expenditure Method

The total expenditure incurred by the society in a particular year is added together to get that year's national income.

Components of Expenditure are;

- Personal consumption expenditure
- Net domestic Investment
- Government expenditure on goods and services and
- ✤ Net foreign Investment

INFLATION

Inflation is the rate in which the prices for goods and services increase. Inflation often affects the buying capacity of consumers.

According to Crowther, "Inflation is a state in which the value of money is falling, i.e, prices are rising".

However, we should remember one important point. That is, there can be inflation even without a rise in the price level. This is known as *'Repressed Inflation'*.

TYPES OF INFLATION

1. Demand-pull inflation:

It is loosely described as "too much money chasing too few goods". This refers to the situation where general price level rises because the demand for goods and services exceeds the supply available at the existing prices.



2. Cost-push inflation:

Cost – push inflation is induced by rising costs, including wages, so that rising wages and other costs push up prices. We can also speak of wage inflation or price inflation when we mean increase in wages or prices.



3. Other types of Inflation

- a) Creeping or Persistent inflation : Since the end of world War II, i.e. since 1945, there has been a tendency for prices and wages to push one another upwards. This situation has been described as creeping or persistent inflation.
- b) Hyper Inflation: This is a serious type of inflation. For example, it was experienced in Germany after World War I and in Hungary and China after World War II. In this situation, prices rise to a very great extent at high speed and high prices have to be paid even for cheap things. And money becomes quite worthless and new currency has to be introduced. This situation is known as galloping inflation or hyper-inflation.
- c) Bottleneck Inflation : This refers to inflation that results from shortages, imbalances and rising marginal costs as full employment output is approached.
- d) Profit Push Inflation : Just as trade unions manage to push up wages, oligopolists and monopolists will raise prices more than enough to cover increase in costs with the aim of making monopoly profits.

CAUSES FOR INFLATION

1. Money Supply: Excess currency (money) supply in an economy is one of the primary cause of inflation. This happens when the money supply/circulation in a nation grows above the economic growth, therefore reducing the value of the currency.

2. National Debt: There are a number of factors that influence national debt, which include the nations borrowing and spending. In a situation where a country's debt increases, the respective country is left with two options: (i) Taxes can be raised internally, (ii) Additional money can be printed to pay off the debt.

3. Demand-Pull Effect: The demand-pull effect states that in a growing economy as wages increase within an economy, people will have more money to spend on goods and services. The increase in demand for goods and services will result in companies to raise prices that consumers will bear in order to balance supply and demand.

4. Cost-Push Effect: This theory states that when companies face increased input costs on raw materials and wages for manufacturing consumer goods, they will preserve their profitability by passing the increased production cost to the end consumer in the form of increased prices.

5. Exchange Rates: An economy with exposure to foreign markets mostly functions on the basis of the dollar value. In a trading global economy, exchange rates play an important factor in determining the rate of inflation.

METHODS OF CONTROLLING INFLATION

- 1. Increased taxation
- 2. By reducing government expenditure on capital projects
- 3. Restrictions on imports
- 4. Rationing and
- 5. Price controls

Note: A healthy inflation rate (2-3%) is considered positive because it directly results in increasing wages and corporate profitability and maintains capital flowing in a growing economy.

DEFLATION

Deflation is generally the decline in the prices for goods and services that occur when the rate of inflation falls below 0%. Deflation will take place naturally, if and when the money supply of an economy is limited.

Crowther, defines deflation as a "state in which the value of money is rising, i.e., prices are falling".

Generally inflation is a period characterized by rising activity and employment. But during deflation, there will be bad trade and unemployment.

During deflation, since prices fall faster than costs, there will be heavy losses for producers and businessmen. There will not be profits in any branch of economic activity. So there will be a fall in investment. This results in unemployment.

Both inflation and deflation are evils.

CAUSES FOR DEFLATION

1. Structural changes in capital markets: When different companies selling similar goods or services compete, there is a tendency to lower prices to have an edge over the competition.

2. Increased productivity: Innovation and technology enable increased production efficiency which leads to lower prices of goods and services. Some innovations affect the productivity of certain industries and impact the entire economy.

3. Decrease in supply of currency: The decrease in the supply of currency will decrease the prices of goods and services to make it affordable to people.

EFFECTS OF CHANGES IN PRICES

1. Effects on production

If prices are rising, it will stimulate production. Under a capitalistic system, production is carried on mainly for profits. During a period of rising prices (inflation), there will be abnormal profits. This increases production. So manufacturers and businessmen gain during inflation.

In a period of falling prices, businessmen incur huge losses because prices fall faster than costs. And there will be little scope for investment. This results in unemployment on large scale. There will be business depression. During depression, money may be cheaply available, prices of materials will be low, men will be available for work but there will be no investment, no employment, no incomes and no demand for goods. Such a situation has been described as 'poverty in the midst of plenty.' The Great Depression of 1930s is a case in point.

2. Effects on Distribution:

a) Business class : During inflation, manufacturers and businessmen make huge profits. Of course, during deflation, they make losses.

b) Fixed income groups : People in fixed income groups are hit hard in times of inflation. The incomes of wage earners and salaried people such as teachers, clerks and judges do not increase as fast as prices. Even retired people getting pension are also affected during inflation. Wage earners and salaried – people gain during a period of falling prices. But it is not a real gain because many people will lose their jobs during deflation. Unemployment is a worse evil than rising prices.

c) **Investors :** people who have invested their money in "gilt edged" securities (government securities) will get only fixed income. So their position is like those in the fixed income group. But those who have shares in companies will make profits during a period of rising prices and lose during a period of falling prices.

d) **Rentiers :** Rentiers gain during deflation and lose during inflation. But the gain during deflation is only a temporary feature.

MONETARY POLICY

The basic goals of macroeconomic policy in most of the countries are full employment, price stability, rapid economic growth, balance of payments equilibrium and economic justice.

Economic justice refers to equitable distribution of income. Macroeconomic policy can be broadly divided into monetary policy and fiscal policy.

According to Edward Shapiro, "Monetary policy is policy that employs the central bank's control over the supply and cost of money as an instrument for achieving the objectives of economic policy".

INSTRUMENTS OF MONETARY POLICY

Roughly we may say that monetary policy is credit control policy. The instruments of credit control can be broadly divided into :

(1) Quantitative credit control measures ; and

(2) Selective credit control measures.

1. Quantitative credit control measures:

Quantitative credit control instruments include bank rate policy, variation of cash reserve ratios and open market operations.

a. Bank Rate : The Bank rate is the minimum rate at which the central bank of a **country** will lend money to all other banks. Suppose, there is too much of money in circulation. Then the central bank should take some money out of circulation. It can do it by increasing the bank rate. When the bank rate goes up, the rates charged by other banks go up. The belief is that if the rate of interest goes up, businessmen will be discouraged to borrow more money and producers will borrow less money for investment. Generally, to control inflation, the central bank will increase the bank rate.

b. Variation of cash Reserve Ratios : The ability of a commercial bank to create credit depends upon its cash reserves. The central bank of a country has the power to vary the cash reserve ratios. During inflation, to check the sharp rise in commodity prices and to control credit, the central bank can make use of this weapon.

c. Open Market Operations : In India, the open market operations have been conducted in Central Government securities and State Government securities. The success of open market operations as a weapon of credit control, depends mainly on (i) the possession by the central

bank of adequate volume of securities ; (2) the presence of well developed bill (securities) market ; and (3) stability of cash reserve ratios maintained by commercial banks.

2. Selective credit controls

Selective credit controls can play an important role in an under- developed money market with a planned economy. Unlike the instruments of quantitative credit control, the selective instruments affect the types of credit extended by commercial banks. They not only prevent flow of credit into undesirable channels, but also direct the flow of credit into useful channels. The Reserve Bank of India had started applying the selective credit controls since 1955.

The weapons of selective credit controls include

- a) Fixing minimum margin of lending or for purchase of securities.
- b) Ceiling on the amount of credit for expansion and
- c) Different rates of interest will be charged to encourage certain sectors and to discourage certain other sectors. In our country, the last weapon has been used especially, to encourage exports, agricultural production and production in small scale and cottage industries sector.
- d) The central bank will persuade the commercial banks to follow certain policies through moral suasion.

FISCAL POLICY

Fiscal policy is the set of principles and decisions of a government regarding the level of public expenditure and mode of financing them. It is about the effort of government to influence the economy's output, employment and prices by altering the level of public expenditure, taxation and public debt.

Arthur Smithies points out, "Fiscal policy is a policy under which the government uses its expenditure and revenue programmes to produce desirable effects and avoid undesirable effects on the national income, production and employment".

OBJECTIVES OF FISCAL POLICY

1. To mobilize resources for financing the development programmes in the public sector: Tax policy is to be directed towards effective mobilization of all available resources and to harness them in the execution of development programmes. This implies, on the one hand, diversion of wasteful and luxury spending to saving and on the other hand productive investment of increments that accrue to production as a result of development efforts.

2. To promote development in the private sector: In a mixed economy, private sector forms an important constituent of the economy. In spite of the growing importance of the public sector in accelerating the process of economic development, the interest of the private sector cannot be neglected. Therefore rebates, reliefs and liberal depreciation allowances may be granted to boost the private sector.

3. To bring about an optimum utilization of resources: It can be achieved through proper allocation of resources. We must direct investment in the desirable channels both in the public and private sectors by providing suitable incentives.

4. To restrain inflationary pressures in the economy to ensure economic stability: The fiscal policy must be used as an instrument for dealing with inflationary or deflationary situations. One way to achieve this is to devise a tax structure, which will automatically counter the economic disturbances as they arise. The second is to make changes in the tax system in order to deal with inflationary or deflationary situations.

5. To improve distribution of income and wealth in the community for lessening economic inequalities: The national income should be properly distributed so that the fruits of development are fairly shared by all people. Equality in income, wealth and opportunities must form an integral part of economic development and social advance.

6. To obtain full employment and economic growth: The fiscal policy to achieve full employment and to maintain stable price in the economy has been developed in the recent past. The ineffectiveness of monetary policy as a means to remove unemployment during the Great Depression paved the way for the development of fiscal policy in achieving this objective.

7. Fiscal policy and capital formation: Fiscal policy such as taxes, tariffs, transfer payments, rebate and subsidies are expected to spur long run economic growth through

increased capital formation. Capital formation is considered an important determinant of economic growth.

LIMITATIONS TO FISCAL POLICY

1) Size of fiscal measures: The budget is not a mere statement of receipts and revenues of the government. It explains and shapes the economic structure of a country. When the budget forms a small part of the national income in developing economies, fiscal policy cannot have the desired impact on the economic development.

2. Fiscal policy as ineffective anti-cyclical measure: Fiscal measures- both loosening fiscal policy and tightening fiscal policy- will not stimulate speedy economic growth of a country, when the different sectors of the economy are not closely integrated with one another. Action taken by the government may not always have the same effect on all the sectors.

3. Administrative delay: Fiscal measures may introduce delay, uncertainties and arbitrariness arising from administrative bottlenecks. As a result, fiscal policy fails to be a powerful and therefore a useful stabilization policy.

CLASSICAL THEORY OF FULL EMPLOYMENT

The classical economists believed that the productive capacity of a country decides how much to be produced. An economy produces as much as it can. It assumes the existence of full employment. It has not thought of unemployment of any factor of production, particularly labour. The confidence that market makes it possible to sell everything that is produced is based upon Say's law. Say's Law of market is a denial of the possibility of general overproduction or mass unemployment deficiency of aggregate demand in a free economy.

Meaning of Full Employment:

Full employment means that persons who are willing to work and able to work must have employment or a job; Keynes defines full employment as the absence of involuntary unemployment.

Meaning of Unemployment :

Unemployment is problem faced when there are people, who are willing to work and able to work but cannot find suitable jobs.

TYPES OF UNEMPLOYMENT

1. Cyclical Unemployment: This unemployment exists during the downturn phase of trade cycle in the economy. In a business cycle during the period of recession and depression, income and output fall leading to widespread unemployment. It is caused by deficiency of effective demand. Cyclical unemployment can be cured by public investment or expansionary monetary policy.

2. Seasonal Unemployment: This type of unemployment occurs during certain seasons of the year. In agriculture and agro based industries like sugar production activities are carried out only in some seasons. These industries offer employment only during that season in a year. Therefore people may remain unemployed during the off season. Seasonal unemployment happens from demand side also; for example ice cream industry, holiday resorts etc.

3. Frictional Unemployment (Temporary Unemployment) : Frictional unemployment arises due to imbalance between supply of labour and demand for labour. This is because of immobility of labour, lack of necessary skills, break down of machinery, shortage of raw materials etc. The persons who lose jobs and in search of jobs are also included under frictional unemployment.

4. Educated Unemployment: Sometimes educated people are underemployed or unemployed when qualification does not match the job. Faulty education system, lack of

employable skills, mass student turnout and preference for white collar jobs are highly responsible for educated unemployment in India.

5. Technical Unemployment: Modern technology being capital intensive requires less labourers and contributes to technological unemployment. Now a days, invention and innovations lead to the adoption of new techniques there by the existing workers are retrenched. Labour saving devices are responsible for technological unemployment.

6. Structural Unemployment: Structural unemployment is due to drastic change in the structure of the society. Lack of demand for the product or shift in demand to other products cause this type of unemployment. For example rise in demand for mobile phones has adversely affected the demand for cameras, tape recorders etc. So this kind of unemployment results from massive and deep rooted changes in economic structure.

7. **Disguised Unemployment:** Disguised unemployment occurs when more people are there than what is actually required. Even if some workers are withdrawn, production does not suffer. This type of unemployment is found in agriculture. A person is said to be disguisedly by unemployed if his contribution to output is less than what he can produce by working for normal hours per day. In this situation, marginal productivity of labour is zero or less or negative.

SAY'S LAW OF MARKET or CLASSICAL THEORY OF EMPLOYMENT

J. B. Say, a French economist, propounded his law of markets in his book, "Treatise on Political Economy" (1803). His law can be summarized as "supply creates its own demand". This means that production of every good generates sufficient income to ensure that there is enough demand for the goods produced. Every production which brings goods to market does so only in order to exchange them for other goods. It precisely states that whatever be the level of output, and the income created by that will necessarily lead to an equal amount of spending and hence deficiency of aggregate demand cannot occur. Hence, Say rejected the view that there could be general over-production and mass unemployment. Only full employment prevails in the economy.

ASSUMPTIONS OF SAYS LAW OF MARKET

- 1. All incomes of the households are spent on consumption of goods and services.
- 2. There is no government activity (no taxation, public spending, price control etc.).
- 3. It is a closed economy i.e. no relationship with other economies.
- 4. Full employment.
- 5. There will be a perfect competition in labour and product market.
- 6. Money acts only as a medium of exchange.

THE ESSENTIAL ASPECTS OF SAY'S LAW

- 1. There is no possibility for over production or unemployment.
- 2. If there exist unutilized resources in the economy, it is profitable to employ them up to the point of full employment. This is true under the condition that factors are willing to accept rewards on a par with their productivity.
- 3. As automatic price mechanism operates in the economy, there is no need for government intervention. (However, J.M. Keynes emphasized the role of the State)
- 4. Interest flexibility brings about equality between saving and investment.
- 5. Money performs only the medium of exchange function in the economy, as people will not hold idle money.

CRITICISMS OF SAY'S LAW

1. According to Keynes, supply does not create its demand. It is not applicable where demand does not increase as much as production increases.

2. Automatic adjustment process will not remove unemployment. Unemployment can be removed by increase in the rate of investment.

3. Money is not neutral. Individuals hold money for unforeseen contingencies while businessmen keep cash reserve for future activities.

4. Say's law is based on the proposition that supply creates its own demand and there is no over production. Keynes said that over production is possible.

5. Keynes regards full employment as a special case because there is under - employment in capitalist economies.

6. The need for state intervention arises in the case of general over production and mass unemployment.

KEYNESIAN THEORY OF INCOMEAND EMPLOYMENT

DETERMINATION

Keynes is considered to be the greatest economist of the 20th century. He wrote several books. However, his 'The General Theory of Employment, Interest and Money' (1936) won him everlasting fame in economics. The book revolutionized macro economic thought.

The central problem in macro economics is the determination of income and employment of a nation as a whole. That is why modern economists also call macro economics as the theory of income determination. Keynes brings out all the important aspects of income and employment determination and Keynesian economics itself can be called macro economics.

A perusal of the basic ideas of Keynes can be clearly understood from the brief summary in the flow chart. Total income depends on total employment which depends on effective demand which in turn depends on consumption expenditure and investment expenditure. Consumption depends on income and propensity to consume. Investment depends upon the marginal efficiency of capital and the rate of interest.



EFFECTIVE DEMAND

The starting point of Keynes theory of employment and income is the principle of effective demand. Effective demand denotes money actually spent by the people on products. The money which entrepreneurs receive is paid in the form of rent, wages, interest and profit. Therefore effective demand equals national income.

An increase in the aggregate effective demand would increase the level of employment. A decline in total effective demand would lead to unemployment. Therefore, total employment of a country can be determined with the help of total demand of a country.

ED = Y = C + I = Output = Employment

Where,

ED= Effective Demand Y = Income

C = Consumption expenditure

I = Investment Expenditure

AGGREGATE DEMAND FUNCTION (ADF)

In the Keynesian model, output is determined mainly by aggregate demand. The aggregate demand is the amount of money which entrepreneurs expect to get by selling the output produced by the number of labourers employed. Therefore, it is the expected income or revenue from the sale of output at different levels of employment.

Aggregate demand has the following four components:

- 1. Consumption demand (C)
- 2. Investment demand (I)
- 3. Government expenditure and (G)
- 4. Net Export (export import) (X M)

Aggregate Demand = AD = C + I + G + (X - M)

AGGREGATE SUPPLY FUNCTION (ASF)

Aggregate supply function is an increasing function of the level of employment. Aggregate supply refers to the value of total output of goods and services produced in an economy in a year. In other words, aggregate supply is equal to the value of national product, i.e., national income.

CONSUMPTION FUNCTION

The consumption function or propensity to consume refers to income consumption relationship. It is a "functional relationship between two aggregates viz., total consumption and gross national income."

Symbolically, the relationship is represented as

C=f(Y)

Where, C = Consumption

Y = Income f =

Function

MULTIPLIER

The concept of multiplier was first developed by R.F. Khan in terms of employment. J.M Keynes redefined it as investment multiplier.

The multiplier is defined as the ratio of the change in national income to change in investment. If ΔI stands for increase in investment and ΔY stands for resultant increase in income, the multiplier K = $\Delta Y/\Delta I$. Since ΔY results from ΔI , the multiplier is called investment multiplier.

ASSUMPTIONS

- 1. There is change in autonomous investment.
- 2. There is no induced investment
- 3. The marginal propensity to consume is constant.

- 4. Consumption is a function of current income.
- 5. There are no time lags in the multiplier process.
- 6. Consumer goods are available in response to effective demand for them.
- 7. There is a closed economy unaffected by foreign influences.
- 8. There are no changes in prices.
- 9. There is less than full employment level in the economy.

USES OF MULTIPLIER

- 1. Multiplier highlights the importance of investment in income and employment theory.
- 2. The process throws light on the different stages of trade cycle.
- 3. It also helps in bringing the equality between S and I.
- 4. It helps in formulating Government policies.
- 5. It helps to reduce unemployment and achieve full employment.

THE ACCELERATOR PRINCIPLE

The origin of accelerator principle can be traced back in the writings of Aftalion (1909), Hawtrey (1913) and Bickerdike(1914). However, the systematic development of the simple accelerator model was made by J.M.Clark, in 1917. It was further developed by Hicks, Samuelson and Harrod in relation to the business cycles.

A given increase in the demand for consumption goods in the economy generally leads to an accelerated demand for machineries (investment goods). Accelerator is the numerical value of the relation between an increase in consumption and the resulting increase in investment. The theory of multiplier states the effect of investment upon the level of income. The principle of accelerator states that the effect of an increase in income upon the level of investment.

Accelerator (β)= $\Delta I / \Delta C$

Where,

- ΔI = Change in investment outlays
- ΔC = Change in consumption demand

ASSUMPTIONS

- 1. Absence of excess capacity in consumer goods industries.
- 2. Constant capital output ratio
- 3. Increase in demand is assumed to be permanent 4. Supply of funds and other inputs is quite elastic
- 5. Capital goods are perfectly divisible in any required size.

OPERATION OF THE ACCELERATION PRINCIPLE

Let us consider a simple example. The operation of the accelerator may be illustrated as follows.

Let us suppose that in order to produce 1000 consumer goods, 100 machines are required. Also suppose that working life of a machine is 10 years. This means that every year 10 machines have to be replaced in order to maintain the

Suppose that demand for consumer goods rises by 10 percent (ie from 1000 to 1100). This results in increase in demand for 10 more machines. So that total demand for machines is 20. (10 for replacement and 10 for meeting increased demand). It may be noted here a 10 percent increase in demand for consumer goods causes a 100 percent increase in demand for machines (from 10 to 20). So we can conclude even a mild change in demand for consumer goods will lead to wide change in investment.

LIMITATIONS

- 1. The assumption of constant capital-output ratio is unrealistic.
- 2. Resources are available only before full employment.
- 3. Excess capacity in capital goods industries is assumed.

- 4. Accelerator will work only if the increased demand is permanent.
- 5. Accelerator will work only when credit is available easily.
- 6. If there is unused or excess capacity in the consumer goods industry, the accelerator principle would not work.

BALANCE OF PAYMENTS (BOP)

BoP is a systematic record of a country's economic and financial transactions with the rest of the world over a period of time.

When a payment is received from a foreign country, it is a credit transaction while a payment to a foreign country is a debit transaction. The principal items shown on the credit side are exports of goods and services, transfer receipts in the form of gift etc., from foreigners, borrowing from abroad, foreign direct investment and official sale of reserve assets including gold to foreign countries and international agencies.

The principal items on the debit side include imports of goods and services, transfer payments to foreigners, lending to foreign countries, investments by residents in foreign countries and official purchase of reserve assets or gold from foreign countries and international agencies.

Balance of Payment (BOP) Account Chart

Credit (Receipts) – Debit (Payments) = Balance [Deficit (-), Surplus (+)]

COMPONENTS OF BOPS

- a. The current account,
- b. The capital account, and
- c. The official settlements account or official reserve assets account.
- b. **The Current Account:** It includes all international trade transactions of goods and services, international service transactions (i.e. tourism, transportation and royalty fees) and international unilateral transfers (i.e. gifts and foreign aid).

- c. **The Capital Account:** Financial transactions consisting of direct investment and purchases of interest- bearing financial instruments, non- interest bearing demand deposits and gold fall under the capital account.
- d. **The Official Reserve Assets Account:** Official reserve transactions consist of movements of international reserves by governments and official agencies to accommodate imbalances arising from the current and capital accounts.

BALANCE OF PAYMENTS DISEQUILIBRIUM

The BoP is said to be balanced when the receipts (R) and payments (P) are just equal, i.e,

R / P =1.

Favorable BoP

When receipts exceed payments, the BoP is said to be favourable. That is,

R / P > 1.

Unfavourable BOP

When receipts are less than payments, the BoP is said to be unfavourable or adverse. That is

R / P < 1.

TYPES BOP DISEQUILIBRIUM

a) Cyclical Disequilibrium: Cyclical disequilibrium occurs because of two reasons. First, two countries may be passing through different phases of business cycle. Secondly, the elasticities of demand may differ between countries.

b) Secular Disequilibrium: The secular or long-run disequilibrium in BOP occurs because of long-run and deep seated changes in an economy as it advances from one stage of growth to another. In the initial stages of development, domestic investment exceeds domestic savings and imports exceed exports, as it happens in India since 1951.

c) Structural Disequilibrium: Structural changes in the economy may also cause balance of payments disequilibrium. Such structural changes include development of alternative sources

of supply, development of better substitutes, exhaustion of productive resources or changes in transport routes and costs.

CAUSES FOR BOP DISEQUILIBRIUM

1. Cyclical Fluctuation: Cyclical disequilibrium in different countries is caused by their cyclical fluctuations, their phases and magnitude. World trade shrinks during depression while trade flourishes during prosperity.

2. Structural Changes: Structural disequilibrium is caused by the structural changes brought by huge development and investment programmes in the developing economies. Such economies may have high propensity to import for want of capital for rapid industrialization, while export may not be boosted up to that extent.

3. Development Expenditure: Development disequilibrium is caused by rapid economic development which results in income and price effects. The less developed countries in the early stage of development are not self sufficient. Income, savings and investment are abysmally low. They depend upon developed countries for import of commodities, capital and technology. Export potential is low and import intensity is high. So the LDCs suffer from adverse BoP.

4. Consumerism: Balance of payments position of a country is adversely affected by a huge increase in consumption. This increases the need for imports and decreases the capacity to export.

5. Demonstration Effect: Deficit in the balance of payments of developing countries is also caused by demonstration effect which influences the people in UDCs to imitate western styled goods. This will raise the propensity to import causing adverse balance of payments.

This is good for the developed countries.

TRADE CYCLE

A trade cycle refers to fluctuations in economic activities specially in employment, output and income, prices, profits etc. It has been defined differently by different economists. According to Mitchell, "Business cycles are of fluctuations in the economic activities of organized communities.

According to Keynes, "A trade cycle is composed of periods of good trade characterised by rising prices and low unemployment percentages altering with periods of bad trade characterised by falling prices and high unemployment percentages".

Features of a Trade Cycle:

- 1. A business cycle is synchronic. When cyclical fluctuations start in one sector it spreads to other sectors.
- 2. In a trade cycle, a period of prosperity is followed by a period of depression. Hence trade cycle is a wave like movement.
- 3. Business cycle is recurrent and rhythmic; prosperity is followed by depression and vice versa.
- 4. A trade cycle is cumulative and self-reinforcing. Each phase feeds on itself and creates further movement in the same direction.
- 5. A trade cycle is asymmetrical. The prosperity phase is slow and gradual and the phase of depression is rapid.
- 6. The business cycle is not periodical. Some trade cycles last for three or four years, while others last for six or eight or even more years.
- 7. The impact of a trade cycle is differential. It affects different industries in different ways.
- 8. A trade cycle is international in character. Through international trade, booms and depressions in one country are passed to other countries.

Phases of Trade Cycle:

The four important features of Trade Cycle are

- (i) Recovery,
- (ii) Boom,
- (iii) Recession, and
- (iv) Depression

The phases of trade cycle are explained with a diagram:



(1) **Recovery:** In the early period of recovery, entrepreneurs increase the level of investment which in turn increases employment and income. Employment increases purchasing power and this leads to an increase in demand for consumer goods. As a result, demand for goods will press upon their supply and it shall, thereby, lead to a rise in prices. The demand for consumer's goods shall encourage the demand for producer's goods. The rise in prices shall depend upon the gestation period of investment. The longer the period of investment, the higher shall be the price rise. The rise of prices shall bring about a change in the distribution of income. Rent, wages, interest do not rise in the same proportion as prices.

(2) **Boom:** The rate of investment increases still further. Owing to the spread of a wave of optimism in business, the level of production increases and the boom gathers momentum. More investment is possible only through credit creation. During a period of boom, the economy surpasses the level of full employment and enters a stage of over full employment.

(3) **Recession:** The orders for raw materials are reduced on the onset of a recession. The rate of investment in producers' goods industries and housing construction declines. Liquidity preference rises in society and owing to a contraction of money supply, the prices falls. A wave of pessimism spreads in business and those markets which were sometime before sellers markets become buyer's markets now.

(4) **Depression:** The main feature of a depression is a general fall in economic activity. Production, employment and income decline. The prices fall and the main factor responsible for it is, a fall in the purchasing power. The distribution of national income changes. As the costs are rigid in nature, the margin of profit declines. Machines are not used to their full capacity in factories, because effective demand is much less. The prices of finished goods fall less than the prices of raw materials.
