

INTRODUCTION

ECONOMICS

The term "economics" has been derived from a Greek Word "Oikonomia" which means „household". Economics is a social science. It is called „social" because it studies mankind of society. It deals with aspects of human behavior. It is called science since it studies social problems from a scientific point of view.

Definition of Economics

- A. Wealth Definition,
- B. Welfare Definition,
- C. Scarcity Definition and
- D. Growth Definition

A. Wealth Definition : Really the science of economics was born in 1776, when Adam Smith published his famous book "An Enquiry into the Nature and Cause of Wealth of Nation". He defined economics as the study of the nature and cause of national wealth. According to him, economics is the study of wealth- How wealth is produced and distributed. He is called as "father of economics" and his definition is popularly called "Wealth definition".

B. Welfare Definition : It was Alfred Marshall who rescued the economics from the above criticisms. By his classic work "Principles of Economics", published in 1890, he shifted the emphasis from wealth to human welfare. According to him wealth is simply a means to an end in all activities, the end being human welfare. He adds, that economics "is on the one side a study of the wealth; and the other and more important side, a part of the study of man". Marshall gave primary importance to man and secondary importance to wealth

C. Scarcity Definition : After Alfred Marshall, Lionel Robbins formulated his own conception of economics in his book "The Nature and Significance of Economic Science" in 1932. According to him, "Economics is the science which studies human behavior as a relationship between

ends and scarce means which have alternative uses".

D. Modern Definition: The credit for revolutionizing the study of economics surely goes to Lord J.M Keynes. He defined economics as the "study of the administration of scarce resources and the determinants of income and employment".

Prof. Samuelson recently given a definition based on growth aspects which is known as Growth definition. "Economics is the study of how people and society end up choosing, with or without the use of money to employ scarce productive resources that could have alternative uses to produce various commodities and distribute them for consumption, now or in the future, among various persons or groups in society. Economics analyses the costs and the benefits of improving patterns of resources use".

Meaning and Definition of Managerial Economics.

Managerial economics is first introduced by Joel Dean. He is considered as the father of managerial economics. Managerial economics is concerned with those aspects of economics and its tools of analysis which are used in the process decision making of business enterprise.

Spencer and Siegleman defined managerial Economics as "the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning of management"

Characteristics of managerial economics

1).micro economics : M.E is micro economic in character. It does not study the problems of the entire economy.

2) Normative science : M.E is a normative science. It is concerned with what management should do under particular circumstances.

3) Pragmatic : M.E tries to solve managerial problems in their day to day functioning of business enterprise.

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4) Prescriptive : M.E prescribes solutions to various business problems.

5) Uses macroeconomics : it take help of macro economics also.

6) Uses theory of firm: M.E is a special branch of economics to bridge gap between economic theory and managerial practice.

7) Management oriented

8) Art and science

Objectives of managerial economics:

1. analyze the economic problems faced by the business.
2. To integrate economic theory with business practice.
3. To apply economic concepts and principles to solve business problems.
4. To allocate the scarce resources in the optimal manner.
5. To make all-round development of a firm.
6. To minimize risk and uncertainty
7. To helps in demand and sales forecasting.
8. To help in profit maximization.
9. To help to achieve the other objectives of the firm like industry leadership, expansion implementation of policies etc...

Importance of managerial economics:

1. techniques for managerial decision making.
2. It gives answers to the basic problems of business management.
3. It supplies data for analysis and forecasting.
4. It provides tools for demand forecasting and profit planning.
5. It guides the managerial economist.
6. It helps in formulating business policies.
7. It assists the management to know internal and external factors influence the business.

Scope of Managerial / Business Economics

1. Demand analysis and Forecasting: - The demands for the firms product would change in response to change in price, consumer's

income, his taste etc. which are the determinants of demand. A study of the determinants of demand is necessary for forecasting future demand of the product.

2. Cost analysis: - Estimation of cost is an essential part of managerial problems. The factors causing variation of cost must be found out and allowed for it management to arrive at cost estimates. This will helps for more effective planning and sound pricing practices.

3. Pricing Decisions: - The firms aim to profit which depends upon the correctness of pricing decisions. The pricing is an important area of managerial economics. Theories regarding price fixation helps the firm to solve the price fixation problems.

4. Profit management: - Business firms working for profit and it is an important measure of success. But firms working under conditions of uncertainty. Profit planning become necessary under the conditions of uncertainty.

5. Capital budgeting: - The business managers have to take very important decisions relating to the firm's capital investment. The manager has to calculate correctly the profitability of investment and to properly allocate the capital. Success of the firm depends upon the proper analysis of capital project and selecting the best one.

6. Production and supply analysis: - Production analysis is narrower in scope than cost analysis. Production analysis is proceeds in physical terms while cost analysis proceeds in monetary term. Important aspects of supply analysis are; supply schedule, curves and functions, law of supply, elasticity of supply and factors influencing supply...

7. Study of market: after pricing of product, the manager has to introduce the product in the market. The manager should offer the products only in those market where he will get maximum sales.

8. Inventory management : a firm should

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always keep an ideal quantity of stock. A firm always prefer to have an optimum quantity of stock. Therefore, managerial economics will use some methods as ABC analysis, inventory models etc.

9. Linear programming and theory of games : linear programming and games theory have come to be regarded as part of M.E recently.

10. Business Cycle : business cycle affect business decisions. Business cycle refers to regular fluctuations in economic activities in the country.

Functions of managerial economist

1. Sales forecasting.
2. Market research.
3. Production scheduling
4. Economic analysis of competing industry.
5. Investment appraisal.
6. Security management analysis.
7. Advise on foreign exchange management.
8. Advice on trade.
9. Environmental forecasting.
10. Economic analysis of agriculture Sales forecasting

The responsibilities of managerial economists

1. To bring reasonable profit to the company.
2. To make accurate forecast.
3. To establish and maintain contact with individual and data sources.
4. To keep the management informed of all the possible economic trends.
5. To prepare speeches for business executives.
6. To participate in public debates
7. To earn full status in the business team.

Fundamental concepts of managerial economics(techniques)

1.Principles of opportunity cost: Opportunity cost refers to the cost of foregoing or giving up an opportunity. It is the cost of the next best alternative.

Opportunity cost plays an important role in managerial economics. This concept helps in selecting best possible alternative from among various alternatives available to solve a particular problem.

2.Principle of incremental cost and revenue : incremental costs are additional costs incurred due to a change in the level or nature of activity. Incremental revenue means the change in total revenue resulting from a decision. Incremental principle can be used in the theories of consumption, production, pricing and distribution.

3. Principle of time perspective : time plays an important role in economic theory. A decision should be taken only after studying the short run and long run effects on cost and revenue.

4. Principle of discounting : time value of money should be considered while taking related decision.

5. Equi- marginal principle : according to this principle, an input should be allocated in such a manner that the value added by the last unit of input is same in all uses. This principle provides a base for maximum exploitation of all the inputs of firm so as to maximize the profitability.

6. Optimization : the objective may be maximization of profit or minimization of time or minimization of cost.

Economics Vs Managerial economics.

Economics	Managerial Economics
Dealing both micro and macro aspects	Dealing only micro aspects
Both positive and normative science.	Only a normative science.
Deals with theoretical aspects	Deals with practical aspects
Study both the firm and individual.	Study the problems of firm only
Wide scope	Narrow scope

Managerial economics as a tool for decision making and forward planning.

Decision making: Decision making is an integral part of modern management. Perhaps the most important function of the business manager is decision making. Decision making is the process of selecting one action from two or more alternative course of actions. Resources such as land, labour and capital are limited and can be employed in alternative uses, so the question of choice is arises. Manager has to choose best among the alternatives by which available resources are most efficiently used for achieving the desired aims.

Decision making process involves the following elements;

1. recognize the need for a decision
2. analyze and define the problem or opportunity..
3. develop alternatives
4. Evaluation and analysis of alternatives.
5. The selection best alternative
6. The implementation and
7. evaluate the results.

Areas of decision making:

- a) Selection of product.
- b) Selection of suitable product mix.
- c) Selection of method of production.
- d) Product line decision.
- e) Determination of price and quantity.
- f) Decision on promotional strategy.
- g) Optimum input combination.
- h) Allocation of resources.
- i) Replacement decision.
- j) Make or buy decision.
- k) Shut down decision.
- l) Decision on export and import.
- m) Location decision.
- n) Capital budgeting.

Forward Planning: -Future is uncertain. A firm is operating under the conditions of risk and uncertainty. Risk and uncertainty can be

minimized only by making accurate forecast and forward planning. Managerial economics helps manager in forward planning Forward planning means making plans for the future. A manager has to make plan for the future e.g. Expansion of existing plants etc. The knowledge of various economic theories viz, demands theory, supply theory etc. also can be helpful for future planning of demand and supply. So managerial economics enables the manager to make plan for the future.

MODULE II

DEMAND CONCEPTS

Meaning of Demand

Demand is a common parlance means desire for an object. But in economics demand is something more than this. In economics „Demand“ means the quantity of goods and services which a person can purchase with a requisite amount of money.

definition

According to Prof.Hidbon, “Demand means the various quantities of goods that would be purchased per time period at different prices in a given market”. Thus demand for a commodity is its quantity which consumer is able and willing to buy at various prices during a given period of time. Simply, demand is the behavior of potential buyers in a market.

Demand Analysis

Demand analysis means an attempt to determine the factors affecting the demand of a commodity or service and to measure such factors and their influences. The demand analysis includes the study of law of demand, demand schedule, demand curve and demand forecasting.

objectives of demand analysis

- 1) To determine the factors affecting the demand.
- 2) To measure the elasticity of demand.
- 3) To forecast the demand.
- 4) To increase the demand.
- 5) To allocate the recourses efficiently

Law of Demand

Law of demand shows the relation between price and quantity demanded of a commodity in the market. In the words of Marshall "the amount demanded increases with a fall in price and diminishes with a rise in price".

While other things remaining the same an increase in the price of a commodity will decrease the quantity demanded of that commodity and decrease in the price will increase the demand of that commodity. So the relationship described by the law of demand is an inverse or negative relationship because the variables (price and demand) move in opposite direction. It shows the cause and effect relationship between price and quantity demand.

The concept of law of demand may be explained with the help of a demand schedules.

Demand schedule:

The price , quantity relation can be arithmetically represented in the form of a table showing different prices and corresponding quantities demanded. This table is known as demand schedule. It may be

Individual demand Schedule: An individual demand schedule is a list of quantities of a commodity purchased by an individual consumer at different prices.

Market demand schedule: Market demand refers to the total demand for a commodity by all the consumers. It is the aggregate quantity demanded for a commodity by all the consumers in a market.

Assumptions of Law of Demand

- 1) There is no change in consumers' taste and preference
- 2) Income should remain constant.
- 3) Prices of other goods should not change.
- 4) There should be no substitute for the commodity.
- 5) The commodity should not confer any

distinction.

6) The demand for the commodity should be continuous.

7) People should not expect any change in the price of the commodity.

Why does demand curve slopes downward?

Demand curve slopes downward from left to right (Negative Slope). There are many causes for downward sloping of demand curve:-

1) **Law of Diminishing Marginal utility:** As the consumer buys more and more of the commodity, the marginal utility of the additional units falls. Therefore the consumer is willing to pay only lower prices for additional units. If the price is higher, he will restrict its consumption

2) **Principle of Equi- Marginal Utility:** Consumer will arrange his purchases in such a way that the marginal utility is equal in all his purchases. If it is not equal, they will alter their purchases till the marginal utility is equal.

3) **Income effect.:** When the price of the commodity falls, the real income of the consumer will increase. He will spend this increased income either to buy additional quantity of the same commodity or other commodity.

4) **Substitution effect. :**When the price of tea falls, it becomes cheaper. Therefore the consumer will substitute this commodity for coffee. This leads to an increase in demand for tea.

5) **Different uses of a commodity.:** Some commodities have several uses. If the price of the commodity is high, its use will be restricted only for important purpose.

6) **Price effect:** Psychologically people buy more of a commodity when its price falls. In other word it can be termed as price effect.

7) **Tendency of human beings to satisfy unsatisfied wants.**

Exceptions to the Law of Demand. (Exceptional Demand Curve).

The basic feature of demand curve is negative sloping. But there are some exceptions to this. I.e... In certain circumstances demand curve may slope upward from left to right.

1) **Giffen goods/ Inferior goods:** The Giffen goods are inferior goods is an exception to the law of demand. When the price of inferior good falls, the poor will buy less and vice versa. Thus fall in price will result into reduction in quantity. This paradox is first explained by Sir Robert Giffen.

2) **Prestige goods.:** According to Veblen, rich people buy certain goods because of its social distinction or prestige. Diamonds and other luxurious article are purchased by rich people due to its high prestige value. Hence higher the price of these articles, higher will be the demand.

3) **Ignorance.:** Sometimes consumers think that the product is superior or quality is high if the price of that product is high. As such they buy more at high price.

4) **Speculative Effect.:** When the price of commodity is increasing, then the consumer buy more of it because of the fear that it will increase still further.

5) **Fear of Shortage.:** During the time of emergency or war, people may expect shortage of commodity and buy more at higher price to keep stock for future.

6) **Necessaries:** In the case of necessities like rice, vegetables etc., People buy more even at a higher price.

7) **Brand Loyalty:** When consumer is brand loyal to particular product or psychological attachment to particular product, they will continue to buy such products even at a higher price.

8) **Festival, Marriage etc.:** In certain occasions like festivals, marriage etc. people will buy more even at high price.

Determinants of individual demand

Demand of a commodity may change. It may increase or decrease due to changes in certain factors. These factors are called determinants of demand. These **factors** include;

- 1) Price of a commodity
- 2) Nature of commodity
- 3) Income and wealth of consumer
- 4) Taste and preferences of consumer
- 5) Price of related goods (substitutes and compliment goods)
- 6) Consumers" expectations.
- 7) Advertisement etc...

Determinants of market demand

1. Price of related product
2. usefulness
3. change in population
4. distribution of income and wealth
5. change in climate
6. Technological progress
7. Govt. Policy
8. Business cycle
9. availability of credit

Demand Function.

The functional relationship between demand and its various determinants expressed in mathematically is called demand function. Demand function of a commodity can be written as follows:

$$D = f (P, Y, T, Ps, U)$$

Where, D= Quantity demanded P= Price of the commodity

Y= Income of the consumer T= Taste and preference of consumers.

Ps = Price of substitutes U= Consumers expectations & others

f = Function of (indicates how variables are related)

Different types of demand.

Joint demand: When two or more commodities are jointly demanded at the

same time to satisfy a particular want, it is called joint or complimentary demand.(demand for milk, sugar, tea for making tea).

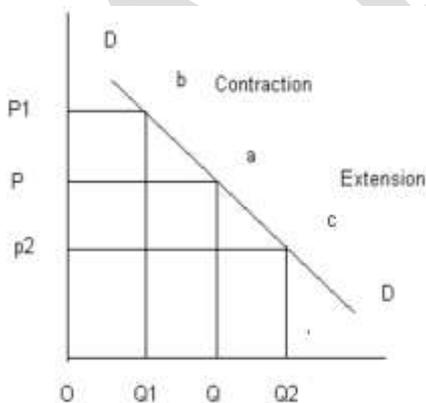
Composite demand: The demand for a commodity which can be put for several uses (demand for electricity)

Direct and Derived demand: Demand for a commodity which is for a direct consumption is called direct demand.(food, cloth). When the commodity is demanded as a result of the demand of another commodity, it is called derived demand.(demand for tyres depends on demand of vehicles).

Industry demand and company demand:: Demand for the product of particular company is company demand and total demand for the products of particular industry which includes number of companies is called industry demand

Extension and Contraction of Demand.

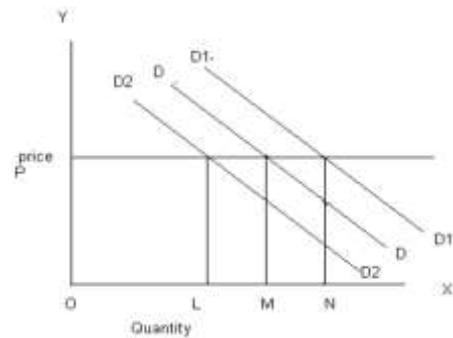
Demand may change due to various factors. The change in demand due to change in price only, where other factors remaining constant, it is called extension and contraction of demand. When the quantity demanded of a commodity rises due to a fall in price, it is called extension of demand. On the other hand, when the quantity demanded falls due to a rise in price, it is called contraction of demand.



Shift in Demand (Increase or Decrease in demand)

When the demand changes due to changes in other factors, like taste and preferences,

income, price of related goods etc... , it is called shift in demand. Due to changes in other factors, if the consumers buy more goods, it is called increase in demand or upward shift. On the other hand, if the consumers buy fewer goods due to change in other factors, it is called downward shift or decrease in demand.



Comparison between extension/contraction and shift in demand

Extension/Contraction of Demand	Shift in Demand
Demand is varying due to changes in price	Demand is varying due to changes in other factors
Other factors like taste, preferences, income etc... remaining the same.	Price of commodity remain the same
Consumer moves along the same demand curve	Consumer may moves to higher or lower demand curve

ELASTICITY OF DEMAND

Meaning of Elasticity

Law of demand explains the directions of changes in demand. A fall in price leads to an increase in quantity demanded and vice versa. But it does not tell us the rate at which demand changes to change in price. The concept of elasticity of demand was introduced by Marshall. This concept explains the relationship between a change

in price and consequent change in quantity demanded.

Elasticity of demand can be defined as “the degree of responsiveness in quantity demanded to a change in price”.

Types of elasticity of demand:

1. Price Elasticity of Demand.
2. Income Elasticity of Demand. and
3. Cross Elasticity of Demand.

Price Elasticity of Demand:

Price Elasticity of demand measures the change in quantity demanded to a change in price. It is the ratio of percentage change in quantity demanded to a percentage change in price. This can be measured by the following formula.

Price Elasticity =

$$\frac{\text{Proportionate change in demand}}{\text{Proportionate change in price}}$$

Income Elasticity of Demand:

Income elasticity of demand shows the change in quantity demanded as a result of a change in consumers’ income. Income elasticity of demand may be stated in the form of formula:

$$E_y = \frac{\text{Proportionate change in demand}}{\text{Proportionate change in income}}$$

Income elasticity of demand mainly of three types:

1. **Zero income elasticity** – In this case, quantity demanded remain the same, even though money income increases. i.e., changes in the income doesn’t influence the quantity demanded (Eg. salt, sugar etc). Here E_y (income elasticity) = 0
2. **Negative income elasticity** -In this case, when income increases, quantity demanded falls. Eg, inferior goods. Here $E_y = < 0$.
3. **Positive income Elasticity** - In this case, an increase in income may lead to an increase in the quantity demanded. i.e., when income rises, demand also rises. ($E_y \Rightarrow > 0$) This can be further classified in to three types:

a) **Unit income elasticity;** Demand changes in same proportion to change in income. i.e, $E_y = 1$

b) **Income elasticity greater than unity:** An increase in income brings about a more than proportionate increase in quantity demanded. i.e, $E_y \Rightarrow > 1$

c) **Income elasticity less than unity:** when income increases quantity demanded is also increases but less than proportionately. I.e., $E_y = < 1$

Cross Elasticity of Demand

Cross elasticity of demand is the proportionate change in the quantity demanded of a commodity in response to change in the price of another related commodity. Related commodity may either substitutes or complements. Examples of substitute commodities are tea and coffee. Examples of compliment commodities are car and petrol. Cross elasticity of demand can be calculated by the following formula;

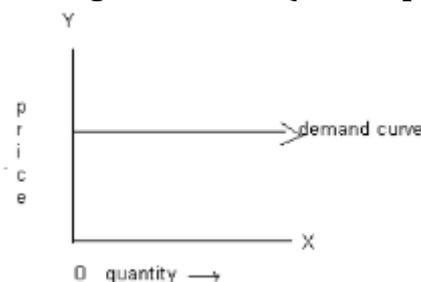
Cross Elasticity =

$$\frac{\text{Proportionate change in demand}}{\text{change in price of related commodity}}$$

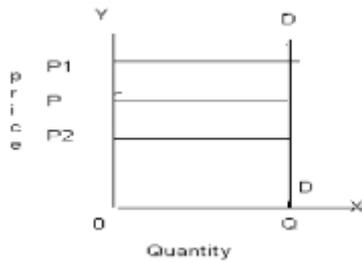
If the cross elasticity is positive, the commodities are said to be substitutes and if cross elasticity is negative, the commodities are compliments.

Degree of elasticity of demand (price elasticity of demand.)

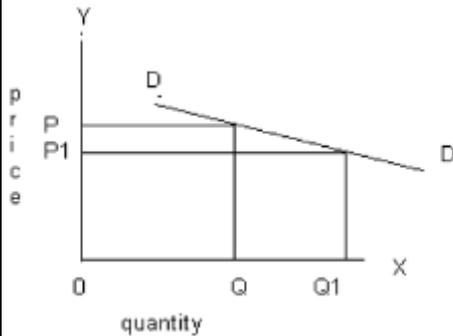
1) **Perfectly elastic demand (infinitely elastic):** When a small change in price leads to infinite change in quantity demanded, it is called perfectly elastic demand. In this case the demand curve is a horizontal straight line as given below. (**Here $e_p = \infty$**)



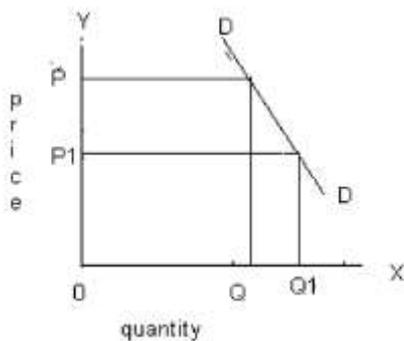
2) **Perfectly inelastic demand:** In this case, even a large change in price fails to bring about a change in quantity demanded. I.e. the change in price will not affect the quantity demanded and quantity remains the same whatever the change in price. Here demand curve will be vertical line as follows and $ep=0$



3) **Relatively elastic demand:** Here a small change in price leads to very big change in quantity demanded. In this case demand curve will be fatter one and $ep=>1$

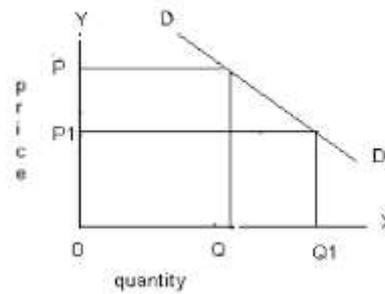


4) **Relatively inelastic demand:** Here quantity demanded changes less than proportionate to changes in price. A large change in price leads to small change in demand. In this case demand curve will be steeper and $ep<1$



5) **Unit elasticity of demand (unitary elastic):** Here the change in demand is exactly equal to the change in price. When

both are equal, $ep=1$, the elasticity is said to be unitary.



SL	Type	Numerical expressions	Description	Shape of curve
1	Perfectly elastic	∞	Infinity	Horizontal
2	Perfectly inelastic	0	Zero	Vertical
3	Unitary elastic	1	One	Rectangular hyperbola
4	Relatively elastic	>1	More than one	Flat
5	Relatively inelastic	<1	Less than one	Steep

Importance of Elasticity.

- 1. Production-** Producers generally decide their production level on the basis of demand for their product. Hence elasticity of demand helps to fix the level of output.
- 2. Price fixation-** Each seller under monopoly and imperfect competition has to take into account the elasticity of demand while fixing their price. If the demand for the product is inelastic, he can fix a higher price.
- 3. Distribution-** Elasticity helps in the determination of rewards for factors of production. For example, if the demand for labour is inelastic, trade union can raise wages.
- 4. International trade-** This concept helps in finding out the terms of trade between two countries. Terms of trade means rate at which domestic commodities is exchanged for foreign commodities.
- 5. Public finance-** This assists the government in formulating tax policies. In order to impose tax on a commodity, the government should take into consideration the demand elasticity.

6. **Nationalization-** Elasticity of demand helps the government to decide about nationalization of industries.

7. **Price discrimination-** A manufacture can fix a higher price for the product which have inelastic demand and lower price for product which have elastic demand.

8. **Others-** The concept elasticity of demand also helping in taking other vital decision Eg. Determining the price of joint product, take over decision etc..

Determinants of elasticity.

Elasticity of demand varies from product to product, time to time and market to market. This is due to influence of various factors. They are;

1. **Nature of commodity-** Demand for necessary goods (salt, rice,etc,) is inelastic. Demand for comfort and luxury good are elastic.

2. **Availability/range of substitutes** – A commodity against which lot of substitutes are available, the demand for that is elastic. But the goods which have no substitutes, demand is inelastic.

3. **Extent /variety of uses-** a commodity having a variety of uses has a comparatively elastic demand. Eg. Demand for steel, electricity etc..

4. **Postponement/urgency of demand-** if the consumption of a commodity can be postponed, then it will have elastic demand. Urgent commodity has inelastic demand.

5. **Income level-** income level also influences the elasticity. E.g. Rich man will not curtail the consumption quantity of fruit, milk etc, even if their price rises, but a poor man will not follow it.

6. **Amount of money spend on the commodity-** where an individual spends only a small portion of his income on the commodity, the price change doesn't materially affect the demand for the commodity, and the demand is inelastic... (match box, salt Etc)

7. **Durability of commodity-** if the commodity is durable or repairable at a substantially less amount (eg. Shoes), the demand for that is elastic.

8. **Purchase frequency of a product/time** – if the frequency of purchase of a product is very high, the demand is likely to be more price elastic.

9. **Range of Prices-** if the products at very high price or at very low price having inelastic demand since a slight change in price will not affect the quantity demand.

10. **the habit of consumers**

11. **demand for complimentary goods,**

12. **distribution of income and wealth in the society .**

Measurement of Elasticity

1. **Proportional or Percentage Method:** Under this method the elasticity of demand is measured by the ratio between the proportionate or percentage change in quantity demanded and proportionate change in price. It is also known as formula method. It can be computed as follows:

$$ED = \frac{\text{Proportionate change in demand}}{\text{Proportionate change in price}}$$

2. **Expenditure or Outlay Method:** This method was developed by Marshall. Under this method, the elasticity is measured by estimating the changes in total expenditure as a result of changes in price and quantity demanded. This has three components If the price changes, but total expenditure remains constant, unit elasticity exists. If the price changes, but total expenditure moves in the opposite directions, demand is elastic (>1). If the price changes and total revenues moves in the same direction, demand is inelastic (<1).

3. **Geometric or Point method:** This also developed by Marshall. This is used as a measure of the change in quantity demanded in response to a very small change in the price. In this method we can measure the elasticity at any point on a straight line demand curve by using the following

formula;

$$ED = \frac{\text{Lower section of demand curve}}{\text{Upper section of demand curve}}$$

4. **Arc Method:** the point method is applicable only when there are minute (very small) changes in price and demand. Arc elasticity measures elasticity between two points. It is a measure of the average elasticity. According to Watson, "Arc elasticity is the elasticity at the midpoint of an arc of a demand curve". formula to measure elasticity is:

$$\frac{\text{change in demand}}{\text{average demand}} \times \frac{\text{Average price}}{\text{change in price}}$$

DEMAND ESTIMATION AND FORECASTING

Demand Estimation

The current demand should be known for determining pricing and promotion policies so that it is able to secure optimum sales or maximum profit. Such information about the current demand for the firm's product is known as demand estimation.

Demand Estimation is the process of finding current values of demand for various values of prices and other determining variables.

Steps in Demand Estimation

1. **Identification of independent variables** such as price, price of substitutes, population, percapita income, advertisement expenditure etc.,

2. **collection of data** on the variables from past records, publications of various agencies etc.,

3. **Development a mathematical model** or equation that indicates the relationship between independent and dependant variables.

4. **Estimation of the parameters of the model.** I.e., to estimate the unknown values of the parameters of the model.

5. **Development of estimates based on the model.**

Tools and techniques for demand estimation

1. **Consumer surveys.:** consumer survey involve questioning a sample of consumers to determine their willingness to buy, their future intention etc.

2. **Consumer clinics and focus groups :** in this technique, experimental groups of consumers are given a small amount of money with which to buy certain items. The experimenter can observe the impact of price, substitutes etc.

3. **Market Experiment :** under this, consumers are given money and told to shop in a simulated store. The experimenter can change the price, packaging, and location of particular products. Then he can see the effects.

4. **Statistical techniques :** using statistical methods.

Demand Forecasting.

Demand Forecasting refers to an estimate of future demand for the product. It is an "objective assessment of the future course of demand". It is essential to distinguish between forecast of demand and forecast of sales. Sales forecast is important for estimating revenue, cash requirements and expenses. Demand forecast relate to production inventory control, timing, reliability of forecast etc...

Levels of Demand forecasting

Demand forecasting may be undertaken at three different levels;

1. **Macro level** - Micro level demand forecasting is related to the business conditions prevailing in the economy as a whole.

2. **Industry Level** - it is prepared by different trade association in order to estimate the demand for particular industries products. Industry includes number of firms. It is useful for inter-industry comparison.

3. **Firm level** - it is more important from managerial view point as it helps the management in decision making with regard to the firms demand and production.

Types of Demand Forecasting.

Based on the time span and planning requirements of business firms, demand forecasting can be classified into short term demand forecasting and long term demand forecasting.

Short term Demand forecasting: Short term Demand forecasting is limited to short periods, usually for one year. Important **objectives** of Short term Demand forecasting are given below;

- 1.help in preparing suitable sales and production policies
2. help in ensuring a regular supply of raw materials
3. reduce cost of purchase
4. to avoid unnecessary purchase
5. better utilization of machines
6. make arrangements for skilled and unskilled workers
7. help in the determination of suitable pricing policy
8. determine financial requirements
9. determine sales targets
10. avoid over and under production

Long term Demand Forecasting: this forecasting is meant for long period. The important **objectives** of long term forecasting is given below;

- 1.to plan long term production
2. to plan plant capacity
3. estimate long term requirements of workers
4. determine appropriate dividend policy
5. help in capital budgeting
6. long term financial requirements
7. forecast future problems.

Methods of Demand Forecasting

Survey Method.

Under this method, information about the desire of the consumers and opinions of experts are collected by interviewing them. It may be

1.**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.

2. **collective Opinion method:** Under this method, the company asks its salesmen to submit estimate for future sales in their respective territories. This method is more useful and appropriate because the salesmen are more knowledgeable about their territory.

3. **Expert Opinion:** Apart from salesmen and consumers, distributors or outside experts may also be used for forecast. Firms in advanced countries like USA, UK etc...make use of outside experts for estimating future demand. Various public and private agencies sell periodic forecast of short or long term business conditions.

4. **consumer clinics** : in this method some selected buyers are given certain amounts of money and asked to buy the products. Then the prices are changed and are asked to make fresh purchase. In this way the consumers' responses to price changes are observed. On this base calculate demand for the product.

5. **End use method:** this method is based on the fact that a product generally has different uses. In this method, first a list of end users(final consumers, exporters etc.) is prepared. Then the future demand for the product is found by estimating their future growth. Then the demand of all end users of the product is added to get the total demand.

Statistical Methods

It is used for long term forecasting. In this method, statistical and mathematical techniques are used to forecast demand. This method is relies on past data. This includes;

1. **Trent projection method:** Under this 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).

Here we try to ascertain the trend in the time series. Trend in the time series can be estimated by using least square method or free hand method or moving average method or semi-average method.

2. **Regression and Correlation:** These methods combine economic theory and statistical techniques of estimation. In this method, the relationship between dependent variables (sales) and independent variables (price of related goods, income, advertisement etc.) is ascertained. This method is also called the economic model building.

3. **Extrapolation:** In this method the future demand can be extrapolated by applying binomial expansion method. This is based on the assumption that the rate of change in demand in the past has been uniform.

4. **Simultaneous equation method:** This means the development of a complete economic model which will explain the behaviour of all variables which the company can control.

5. **Barometric techniques:** Under this, present events are used to predict directions of change in the future

Forecasting Demand for a New Product.

Joel Dean has suggested six approaches for forecasting the demand for new products.

1. **Evolutionary Approach:** In this method, the demand for new product is estimated on the basis of existing product. E.g. Demand forecasting of colour TV on the basis of demand for black & white TV.

2. **Substitute Approach:** The demand for the new product is analyzed as substitute for the existing product.

3. **Growth curve Approach:** On the basis of the growth of an established product, the demand for the new product is estimated.

4. **Opinion Polling Approach:** In this approach, the demand for the new product is estimated by inquiring directly from the consumers by using sample survey.

5. **Sales Experience Approach:** The demand is estimated by supplying the new product in a sample market and analyzing the immediate response on that product in the market..

6. **Vicarious Approach:** Consumers reactions on the new products are found out indirectly with the help of specialized dealers.

Factors Affecting Demand Forecasting.

1. **Prevailing Business conditions** (price level change, per capita income, consumption pattern, saving, investments, employment etc.,)

2. **Condition within the Industry** (Price – product-competition policy of firms within the industry).

3. **Condition within the firm.** (Plant capacity, quality, important policies of the firm).

4. **Factors affecting Export trade** (EXIM control, EXIM policy, terms of export, export finance etc.,)

5. **Market behaviour**

6. **Sociological Conditions** (Population details, age group, family lifecycle, education, family income, social awareness etc.,)

7. **Psychological Conditions** (taste, habit, attitude, perception, culture, religion etc.,)

8. **Competitive Condition** (competitive condition within the industry)

Criteria for Good forecasting Method.

1. **Plausibility**-It should be believable.

2. **Simplicity**- It should be simple and easy.

3. **Economy** – it should be less costly.

4. **Accuracy** – it should be as accurate

5. **Availability** –Relevant data should be easily available.

6. **Flexibility** – it should be flexible to adopt required changes.

MODULE III(PRODUCTION)

Introduction

In Economics the term production means process by which a commodity(or

commodities) is transformed into a different usable commodity. In other words, production means transforming inputs (labour, machines, raw materials etc.) into an output. An „input` is good or service that goes in to the process of production and “output is any good or service that comes out of production process.

inputs are classified as:-

1. Fixed input or fixed factors.
2. Variable input or variable factors

In economic sense, a fixed input is one whose supply is inelastic in the short run. A variable input is defined as one whose supply in the short run is elastic, eg: Labour, raw materials etc.

In technical sense, a fixed input remains fixed (constant) up to a certain level of output whereas a variable input changes with change in output.

Factors of production

The factors of production refers to the resources used in production. In other words the resources required to produce a given product are called factors of production. There are mainly four factors of production. They are:

1. **land** : land means all natural resources used in production which are not created by man
2. **labour** : labour is a living factor of production. The term labour means mental or physical work done by a person with a view to earn an income.
3. **capital**: in economics all man made goods used in production is called capital. In short, anything which is used in production is called capital.
4. **organization** : bringing together various factors of production to produce goods and services is called organization.

Production function

Production function shows the technological relationship between quantity of output and the quantity of various inputs used in

production. Production function is economic sense states the maximum output that can be produced during a period with a certain quantity of various inputs in the existing state of technology. It can be expressed algebraically as;

$Q=f(K,L \text{ etc.})$.Where

Q- Is the quantity of output produced during a particular period

K, L etc are the factors of production

f -denotes the function of or depends on.

Types of production function:-

- (1) Short run production function
- (2) Long run production function

Short run and Long run : Short run refers to a period of time in which the supply of certain inputs (E.g. :- plant, building, machines, etc) are fixed or inelastic. Thus an increase in production during this period is possible only by increasing the variable input. In some Industries, short run may be a matter of few weeks or a few months and in some others it may extend even up to three or more years.

The long run refers to a period of time in which “ supply of all the input is elastic ; but not enough to permit a change in technology. In the long run, the availability of even fixed factor increases. Thus in the long run, production of commodity can be increased by employing more of both ,variable and fixed inputs.

Assumptions of production functions

1. Perfect divisibility of both inputs and output;
2. Limited substitution of one factor for the others
3. Constant technology; and
4. Inelastic supply of fixed factors in the short run

Cobb-Douglas Production Function.

The concept was originated in USA. This is more peculiar to manufacturing concerns. The cob-Douglas formula says that labour contributes about 75% increases in

manufacturing production while capital contributes only 25%. The formula is as follows:-

$$O = K^a L^{1-a} C^b$$

Where O is output. L is the quantity of labour „C“ is the quantity of capital employed K and a(a<1) are positive constants. a and 1-a measure percentage response of output to percentage change in labour and capital respectively.

The production function shows that One (1%) percentage change in labour, capital remaining constant, is associated with 0.75% change in output. Similarly One percentage change in capital, labour remaining constant, is associated with a 25% change in output. Returns to scale are constant.

Homogeneous production function:

In this case all factors are variable and nothing is fixed. Inputs are increased in the same proportion in order to expand output. It means factors of production are homogeneous in nature.

Linear Homogeneous production function

a production function is said to be homogeneous when all inputs are increased in the same proportion. It implies that if all the inputs are increased in the same proportion, the output also increases accordingly. In a production function, if the degree of homogeneity is equal to one, i.e., $r=1$, the production function is known as linear homogeneous production function.

The laws of production

Production function shows the relationship between a given quantity of input and its maximum possible output. Given the production function, the relationship between additional quantities of input and the additional output can be easily obtained. The long-run input output relations are studied under 'Laws of Returns to Scale.

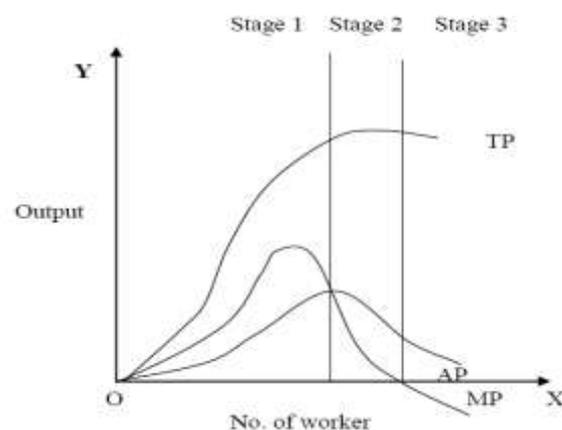
Law of Diminishing Returns (Law of Variable Proportions)

The Law of returns states the relationship

between the variable input and the output in the short term. In other words, It shows the input-output relationship with one input factor variable while keeping the other input factor constant.

The law of variable proportion states that, if one factor is used more and more (variable), keeping the other factors constant, the total output will increase at an increasing rate in the beginning and then at a diminishing rate and eventually decreases absolutely.

The Law of Diminishing Returns operation at three stages. At the first stage, total product increases at an increasing rate. The marginal product at this stage increases at an increasing rate resulting in a greater increase in total product. The average product also increases. This stage continues up to the point where average product is equal to marginal product. The law of increasing returns is in operation at this stage. The Law of increasing Returns operates from the second stage onwards. At the second stage, the total product continues to increase but at a diminishing rate. As the marginal product at this stage starts falling, the average product also declines. The second stage comes to an end where total product becomes maximum and marginal product becomes zero. The marginal product becomes negative in the third stage. So the total product also declines. The average product continues to decline in the third stage.



Assumptions of Law Diminishing Returns

1. The production technology remains unchanged
2. The variable factor is homogeneous.
3. Any one factor is constant
4. The fixed factor remains constant.

Law of Returns to scale.

Increasing Returns to scale: When proportionate increase in all factor of production results in a more than proportionate increase in output and this results first stage of production which is known as increasing returns to scale. Marginal output increases at this stage. Higher degree of specialization, falling cost etc will lead higher efficiency which result increased returns in the very first stage of production.

Constant Returns to scale: Firms cannot maintain increasing returns to scale indefinitely after the first stage, firm enters a stage when total output tends to increase at a rate which is equal to the rate of increase in inputs. This stage comes in to operation when the economies of large scale production are neutralized by the diseconomies of large scale operation.

Diminishing Returns to Scale: In this stage, a proportionate increase in all the input result only less than proportionate increase in output. This is because of the diseconomies of large scale production. When the firm grows further, the problem of management arise which result inefficiency and it will affect the position of output.

Economies of Scale

Internal economies

1. technical economies
2. managerial economies
3. commercial economies
4. marketing economies
5. Financial economies
6. Risk and survival economies
7. Welfare economies

External economies

1. economies of concentration
2. economies of information
3. Economies of dis integration

Diseconomies of scale

Internal diseconomies

1. managerial diseconomies
2. technical diseconomies
3. Financial diseconomies
4. Risk and survival diseconomies

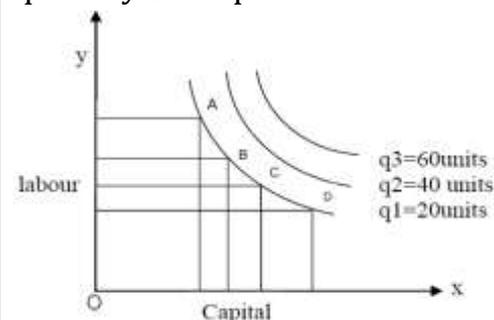
external diseconomies

1. transportation diseconomies
2. commercial diseconomies
3. Financial diseconomies
4. marketing diseconomies

Social diseconomies

Isoquant curve.

The terms " Iso-quant" has been derived from the Greek word iso means 'equal' and Latin word quantus means 'quantity'. The iso-quant curve is therefore also known as "equal product curve" or production indifference curve. An iso-quant curve is locus of point representing the various combination of two inputs -capital and labour -yielding the same output. It shows all possible combination of two inputs, namely- capital and labour which can produce a particular quantity of output or different combination of the two inputs that can give in the same output. An isoquant curve all along its length represents a fixed quantity of output.



Properties of Isoquants

1. **Isoquants have a negative slope:-**An isoquant has a negative slope in the

economic region or in the relevant range. Economic region means where substitution between input is technically possible that keeps same output.

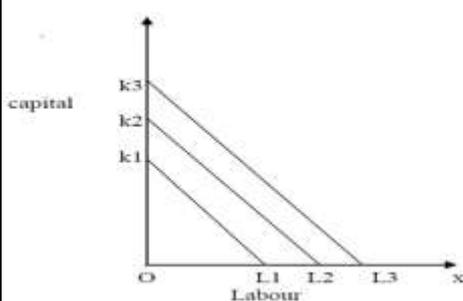
2 . **Isoquants are convex to origin:-**Convex nature of Isoquant shows the substitutability of One factor for another and the diminishing marginal rate of technical substitution

3 . **Isoquant cannot Intersect to each other**
Marginal Rate of Technical substitution (MRTS)

MRTS is the rate at which marginal unit of an input can be substituted for the marginal units of the other input so that the level of output remains the same. In other words it is the ratio of marginal unit of labour substituted for the marginal units of capital without affecting the total output. This ratio indicates the slop of Isoquants

Isocost Curve

Isocost curve shows the different combination that a firm can buy with a certain an unit of money. An iso-cost line is so called because it shows the all combinations of inputs having equal total cost. The isocost lines are straight lines which represents the same cost with different input combinations.



Optimum Combination of inputs

A certain quantity of output can be produced with different Input combinations. Optimum input combination is that which bears least cost. Thus the input combination that results in the minimum cost of production is to be found out .This is known as least - cost input combination. This can be found out by combining Isoquant curves and Isocost

curves. The production function is represented by Isoquant curve and the cost function is represented by Isocost curve .

MODULE IV

MARKET STRUCTURES AND PRICE OUTPUT DETERMINATION

Introduction

Market structures are different market forms based on the degree of competition prevailing in the market. Broadly the market forms are classified into two types:-

1. Perfectly competitive market
2. Imperfectly competitive market

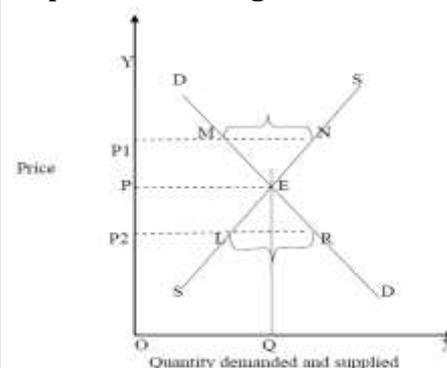
Perfect Competition

perfect competition means all the buyers and sellers in the market are aware of price of products. The following are the **characteristics**

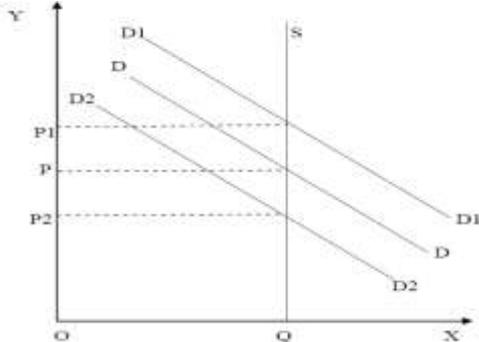
1. Large number of buyers and sellers in the market
2. Homogeneous product
3. Free entry or exit
4. All the buyers and sellers in the market have perfect knowledge about the market conditions.
5. Perfect mobility of factor of production
6. Absence of transportation costs.

Price determination Under perfect competition

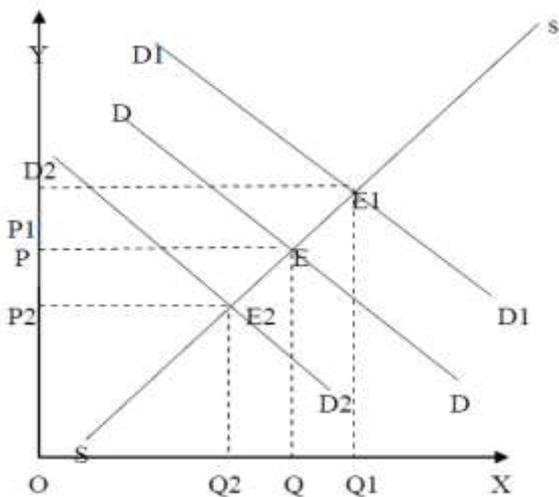
In perfect competition the market price of a commodity is determined by its demand and supply. The price of a commodity determines at the point where quantity demanded equates quantity supplied. It can be explained through the following diagram.



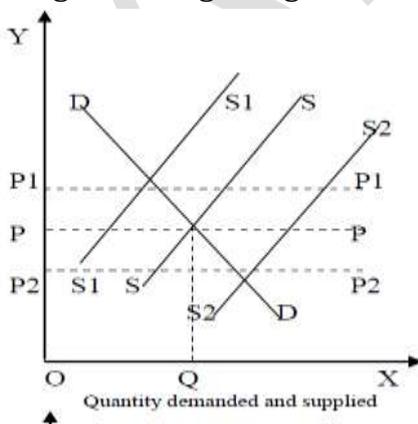
During the Market period : In very short period ,supply is inelastic ,thus the price depends on changes in demand .The supply curve will be vertical straight line parallel to y-axis.



During short period : In this period ,the firm can make slight changes in their supply of goods without changing the capacity of plant.



In the long run: In the long run , the firms in the industry are eager to get super normal profits . The price determination is explained through the diagram given below;



Monopoly

Monopoly means `single `selling . In brief,

monopoly is a market situation in which there is only one seller or producer of a product for which no close substitution is available .As there is only one firm under monopoly ,that single firm constitutes the whole industry .The monopolist can fix price of his product and can pursue an independent price policy .A monopolist can take the decision about the price of his product .For ex:- electricity , water supply companies etc.

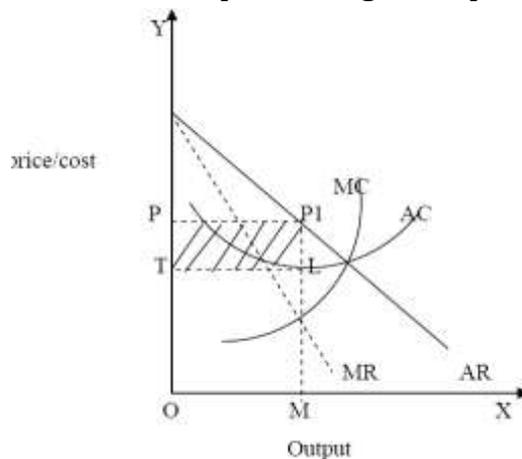
Features

1. One seller and a large number of buyers.
2. No close substitutes for the product .
3. Monopolist is not the price taker and the price maker.
4. Monopolist can control the supply.
5. No entry of new firm to the market .
6. Firm and industry are the same

Price Determination under Monopoly

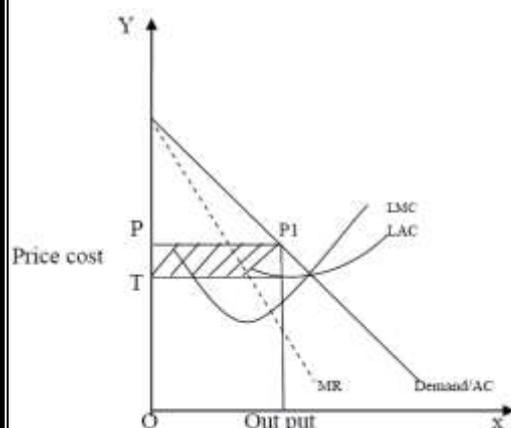
A monopoly firm has complete control over the entire supply .It can sell different quantities at different prices .It can sell more if it cuts down its price . Thus the monopoly firm faces a downward sloping demand curve or average revenue (AR)curve .

Short Run Monopoly Equilibrium: The monopolist will be in short run equilibrium where the output having MR equal MC



Long run Monopoly Equilibrium: The monopolist is the single producer and the new firms cannot cuts the industry which enables the monopolist to continue to earn super profit in the long run. In the figure the

long run equilibrium of the monopolist will be at the output where the long run marginal cost curve MC intersects the marginal revenue curve MR



Difference between perfect competition and Monopoly

1. Under perfect competition there are many sellers but in the case of monopoly, there is only one seller
2. Individual seller has no control over the market supply in the case of perfect competition. But in the case of Monopoly individual seller controls the supply.
3. Products are identical in the case of perfect competition, but there is only one product in the case of Monopoly.
4. Under perfect competition, there are free entry and exit of firms. But the Monopolist blocks the entry.
5. The Monopolist discriminates the price but there is uniform price in perfect competition.
6. Firm and Industry is different in the case of perfect competition, they are same in the case of Monopoly.

Monopolistic Competition

In the present World market, it can be seen that there is no monopoly and there is no real competition. There is a mix up of the two. This situation is generally known as Monopolistic competition. According to Prof. E. H. Chamberlin of America, Monopolistic Competition means a market situation in which competition is imperfect. The

products of the firms under monopolistic competition, are mainly close substitutes to each other.

Features /Assumptions of Monopolistic Competition.

1. There are large numbers of producers or sellers
2. It deals with differentiated products.
3. There are free entry and exit of firms to the markets.
4. The selling cost determines the demand for the products.
5. There is no association of firms
6. There is no price competition.
7. There is lack of knowledge of the market.

Price and Output decisions under Monopolistic Competition

Short run period: In short run, each existing firm is a monopolist having a downward sloping demand curve for its product. In order to maximize its profit the firm will produce that level of output at which $MC=MR$ if price is more than MR, there will be abnormal profit.

Long -Run Period: In the long period, normal profits will disappear. New firms will enter the industry and consequent expansion of output will decrease the price and only normal profit are made by the firms. Profit are normal only when Average Cost (AC) equals the Average Revenue (AR). Then the equilibrium output will be at AC and $MC=MR$.

Difference between Perfect Competition and Monopolistic Competition

Perfect Competition	Monopolistic Competition
Products are identical	Products are differentiated
It is not a real concept	It is real concept
Large Number of buyers and sellers	Buyers and Sellers are not so large

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Perfect knowledge of market Condition	Lack of perfect knowledge of market
Selling Cost do not play any role	Selling cost has an important role
They are price takers	They are price markers
Demand curve is horizontal	Demand curve is downward sloping
AR,MR curves are parallel to x axis and price = demand = AR=MR	Price = demand =AR=But MR<AR

Oligopoly

Oligopoly is a situation in which there are so few sellers that each of them is conscious of the results upon the price of the supply. Which he individually places upon the market. According to J. Stigler 'Oligopoly is that situation in which a firm bases its market policy in part on the expected behavior of a few close rivals'. Further, they may produce homogeneous or differentiated products.

Characteristics

1. The firms are inter dependent in decision making.
2. Advertising should be effective.
3. Firms should have group behavior.
4. Indeterminateness of demand curve.
5. The number of firms or producers or sellers are very small.
6. Product are identical or close substitutes to each other
7. There is an element of Monopoly

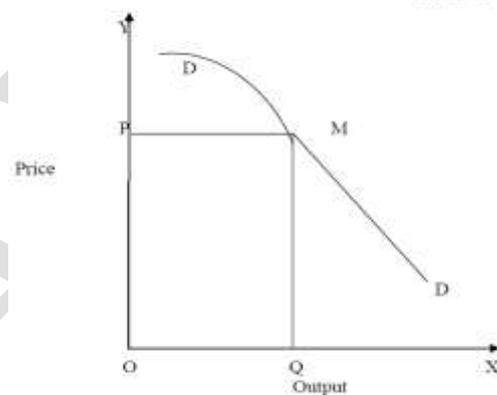
Price Determination Under Oligopoly

Pricing may be in condition of independent pricing, Pricing under price leadership and pricing under collusion.

Independent pricing (Kinked Demand Model or Price rigidity Model):

Kinked demand curve was first introduced by prof Paul M Sweezy to explain price rigidity under oligopoly. An oligopolist

always guesses about his competitors reaction. They assume that if one decides to decrease the price, the others will also reduce the price. The assumption behind the kinked curve is that each oligopolist will act and react in a way that keep condition tolerable for all the members of the industry. If one firm reduces the price of the product, the others will be compelled to reduce the price. But sometimes, If one increases the price, the other will not increase the price. The firms in Oligopoly do not increase the prices due to the possibility of losing the customers to rivals who do not raise their prices. The following diagram will give you the clear idea:



Pricing under Price Leadership

The price leadership means the leading firm determines the price and others follow it. All the firms in the industry adjust, the price fixed by the price leader. The large firm, who fixes the price, is known as the price maker and the firms, who follow it are known as price-takers. The price leadership may be four types. They are:

1. **Dominant price leadership** :-In this situation, there exists many small firms and one large firm and the large firm fixes the price and the small firms in the market accept that price.
2. **Barometric Price Leadership** :- Under this situation one reputed and experienced firm fixes the price and others may follow it.
3. **Aggressive Price Leadership** :-Under this market condition, one dominating firm fixes the price and they compel all others in

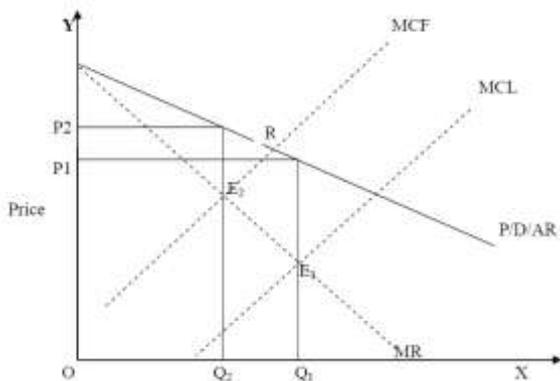
the industry to follow the price.

4. Effective Price Leadership :- Under this condition, there are a small number of firms in the industry.

Price -Output determination Under Price Leadership

In order to determine the price and output under price leadership, we have to make two assumptions. They are,

1. There are two firms -
2. Product are identical



Pricing Under Collusive Oligopoly: The term Collusion means 'to play together'. To avoid the competition among the firms, monopolistic firms arrive at a formal agreement called cartel. It is a common sales agency formed to eliminate competition and fix such a price and output that will maximize profit of member firms. The firms' output and price are determined by this cartel.

Price Discrimination

A monopolist is in a position to fix the price of his product. He enjoys the control of supply of the product. A monopolist is able to charge different prices for his products to the different customers. This is known as price discrimination. According to Mrs. John Robinson, 'the act of selling the same article, produced under single control at different prices to different buyers is known as price discrimination. This is also known as differential pricing.'

Conditions of Price Discrimination

1. There must be more than one separate market

2. The markets must have different elasticity of demand

3. The market should be such that no buyer of the market may enter the other market and vice versa

Dumping

When a monopolist works in home market as well as foreign market, he is able to discriminate the price between these two markets. If he has monopoly in home market, and he faces competition in foreign market, he will be able to charge higher prices for his products in home market. This practice is known as 'Dumping' or 'price dumping'.

COST CONCEPTS

Introduction

The term cost simply means cost of production. It is the expenses incurred in the production of goods. It is the sum of all money-expenses incurred by a firm in order to produce a commodity.

Types of Cost (or Cost Concepts)

Money Cost : Money cost means the total money expenses incurred by a business firm on the various items entered into the production of a particular product. For eg. Wages.

Real Cost : Real cost means the real cost of production of a particular product. It is the next best alternative sacrificed in order to obtain that product.

Opportunity Cost: Opportunity cost refers to the cost of foregoing or giving up an opportunity. It is the cost of the next best alternative. It implies the income of benefit foregone because a certain course of action has been taken.

Sunk Cost : Sunk costs are those which have already been incurred and which cannot be changed by any decision made now or in the future. These are past or historical costs

Incremental cost: These are additional costs incurred due to a change in the level or nature of activity.

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Differential Cost : It refers to the change in cost due to change in the level of activity or pattern of production or method of production.

Explicit Cost: Explicit costs are those costs, which are actually paid (or paid in cash.). They are paid out costs.

Implicit Cost: Implicit costs are those costs, which are not paid in cash to anyone. These are not actually incurred, but are computed for decision-making purpose. These are the costs, which the entrepreneur pays to himself. For example, rent charged on owned premises

Accounting cost: Accounting costs represent all such expenditures, which are incurred by a firm on factors of production . Thus , accounting costs are explicit costs. In short, all items of expenses appearing on the debit side of trading , profit and loss account of a firm represent the accounting cost.

Economic Cost: Economic cost refers total of explicit cost and implicit cost. Thus it includes the payment for factors of production(that is rent, wages etc.) and the payments for the self owned factors (interest on owned capital, rent on owned premises, salary to entrepreneur etc.)

Social Cost of Production(or Social Cost): In the production of goods, costs will be incurred not only by the owners business but also by the society. Cost incurred by a society in terms of resources used in the production of a commodity is known as social cost of production. It is the opportunity cost borne by a whole society or community.

Private Cost of Production(Private Costs): Private cost are the costs incurred by a firm in production a commodity or service . All the actual costs incurred by a firm or producers are private costs. Private costs include both explicit cost and implicit cost.

Fixed Cost: Fixed cost are those costs which do not vary with the volume of production. These costs remain fixed or constant up to a

certain level of production. Even if the production is zero, a firm will have to incur fixed costs.

Variable Cost: Variable costs are those costs, which change with the quantity of production. When the output increases, variable cost also increases. When the output decreases , the variable cost also decreases.

Business cost: Business cost include all the expenses which are incurred to carry out a business. It includes all the payments and contractual obligations made by the firm together with the book cost of depreciation on plant and equipment.

Full costs : ,it includes business costs, opportunity costs and normal profits.

Total cost: Total cost means the sum of total fixed cost and total variable cost. In other words it is the aggregate money cost of production of a commodity

Average cost: Average cost is the cost per unit of output. That is total cost divided by number of units produced
Average cost=total average fixed cost +total average variable cost

Marginal cost: Marginal cost is the additional cost to total cost when an additional unit is produced.

Short run :Short run cost are those costs which may vary with output while fixed factors remain constant. Output may vary by changing the variable factors only.

Long run costs: long run is a period which is enough to adjust all input factors

Cost function

The relationship between cost and output is technically known as cost function where –

$TC = f(Q)$ TC= Total cost,

f= function of,

Q=Quantity produced

Revenue Concept

Revenue means the current income or simply „sales receipts“. In other words it is the money value of output sold in the market. Further it has great relevance in

economics and business.

Types of revenue

1. Average Revenue (AR); Average revenue is obtained by dividing the total revenue with number of units sold. In other words, AR means the total receipts from sales divided by the number of unit sold. $AR = TR/Q$

2. Total Revenue (TR): Total revenue means the product of price of the commodity to the total quantity of outputs produced in a current business period. TR means the total sales proceeds. It can be ascertained by multiplying quantity sold by price. $TR = P \times Q$

Incremental Revenue (IR): Incremental revenue simply refers to increase in revenue. It is the difference between the new total revenue and the existing total revenue. IR measures then differences between the new TR and existing TR $IR = R_2 - R_1 = \Delta R$

Marginal Revenue (MR); It is the additional revenue which would be earned by selling an additional unit of a firm's products. It shows the change in TR when one more or one less unit is sold. $MR = R_2 - R_1 / Q_2 - Q_1 = \Delta R / \Delta Q$

MODULE V

PRICING POLICY AND PRACTICES.

Meaning of price.

Price is the money value of the goods and services. In other words, it is the exchange value of a product or service in terms of money. To the seller, price is a source of revenue. To the buyer, price is the sacrifice of purchasing power.

Factors governing prices and pricing decision.

Factors governing prices may be divided into external factors and internal factors.

Internal Factors:

These are the factors which are within the control of the organization. Various internal factors are as follows.

1. **Cost:** The price must cover the cost of production including materials, labour, overhead, administrative and selling

expenses and a reasonable profit.

2. **Objectives:** While fixing the price, the firm's objectives are to be taken into consideration. Objectives may be maximum sales, targeted rate of return, stability in prices, increase market share, meeting or preventing competition, projecting image etc.

3. **Organizational factors:** Internal arrangement of the organization. Organizational mechanism is to be taken into consideration while deciding the price.

4. **Marketing Mix:** Other element of marketing mix, product, place, promotion, pace and politics are influencing factors for pricing. Since these are interconnected, change in one element will influence the other.

5. **Product differentiation:** One of the objectives of product differentiation is to charge higher prices.

6. **Product life cycle:** At various stages in the Product Life Cycle, various strategic pricing decisions are to be adopted, eg. In the introduction stage. Usually firm charges lower price and in growth stage charges maximum price.

7. **Characteristics of product:** Nature of product, durability, availability of substitute etc. will also influence the pricing.

External Factors.

These factors are beyond the control of organization. The following are the main external factors.

1. **Demand:** If the demand for a product is Inelastic it is better to fix a higher price and if demand is elastic, lower price may be fixed.

2. **Competition:** Number of substitutes available in the market and the extent of competition and the price of competition etc. are to be considered while fixing a firm price.

3. **Distribution channels:** Conflicting interest of manufacturers and middleman is one of the of the important factor that affect the pricing decision. Manufacturer would desire that middleman should sell the

product at a minimum mark up.

4. **General economic conditions:** During inflation a firm forced to fix a higher price and in deflation forced to reduce the price.

5. **Government Policy:** While taking pricing decision, a firm has to take into consideration the taxation policy, trade policies etc. of the Government.

6. **Reaction of consumers:** If a firm fixes the price of its product unreasonably high, the consumer may boycott the product.

Pricing Policies.

Price must not be too high or too low. Price setting is a complex problem. The pricing decision is critical not only in the beginning but it must be reviewed and reformulated from time to time. Price policies provide the guidelines within which pricing strategy is formulated and implemented. It represents the general frame work within which pricing decision are taken. Price policies are those management guidelines that control the day to day pricing decision as a means of meeting the objectives of the firm such as maximization of profit, maximization of sales, targeted rate of return, survival, stability of prices, meeting or preventing competition etc.

Steps in formulating pricing policies:

1. Selecting the target market or market segment on which marketer would concentrate more.

2. Studying the consumer behavior and collecting information relating to target market selected.

3. Studying the prices, promotion strategies etc. of the competitors and their impact on the market segment.

4. Assigning a role to price in the marketing mix.

5. Collecting the cost of manufacturing the product at different levels of demand.

6. Fixing suitable (strategic) price after determining the price objectives and according to a selected method of pricing.

Objectives of pricing policy.

1. **Profit maximization:** Since the primary motive of business is to earn maximum profit, pricing always 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.

3. **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.

4. **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.

7. **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 cash recovery.

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.

10. **Achieving product -quality leadership:** Some Companies aim at establishing product quality leader through premium price.

Methods of pricing.

1. **Cost plus pricing:** This is the most common method used for price. Under this method, the price is fixed to cover all costs and a predetermined percentage of profit, i.e., 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 mark up pricing.

2. **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.

3. **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 pricing or price discrimination.

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.

6. **Customary pricing:** in the case of some commodities the prices get fixed because they have prevailed over a long period of time. 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 and vice versa.

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.

Pricing of a new product. (Methods and strategy)

In pricing a new product, generally two types of strategies are suggested. They are;

1. 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.
- B. When there is no close substitutes
- C. Elasticity of demand is not known.
- D. When the buyers are not able to compare the value and utility.
- E. To attract the high income customers.
- F. To recover early the R&D and promotional expenses.
- G. When the product has distinctive qualities, luxuries etc..

2. Penetration price strategy

This is the practice of charging a low price right from the beginning to stimulate the growth of the market and to capture large share of it. Since the price is lower, the product quickly penetrates the market, and consumers with low income are able to purchase it. Reasons for adopting this policy are:

- A. Product has high price elasticity in the initial stage.
- B. The product is accepted by large number of customers.
- C. Economies of large scale production available to firm.
- D. Potential market for the product is large.
- E. Cost of production is low.
- F. To introduce product into market.
- G. To discourage new competitors.
- H. Most of the prospective consumers are in low income class.

Kinds of pricing (pricing strategies)

Pricing policy means a policy determined for normal conditions of the market. Pricing strategy is a policy determined to face a specific situation and is of temporary nature. Simply pricing policies provide guidelines to carry out pricing strategy. Following are the important pricing strategies.

1. **Psychological pricing:** Here manufacturers fix their prices of a product in the manner that it may create an impression in the mind of consumers that the prices are low. E.g. Prices of Bata shoe 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.

Role of Cost in Pricing

Most of the wholesale and retail organizations add some percentage of profit or mark up total cost per unit to arrive at selling price. In the short run the firm may not cover the fixed cost but it must cover at least variable cost. In long run all costs must be covered. if the entire cost is not recovered, the firm will incur losses, and the firm must stop their production. Thus costs provide the basis for pricing. If the cost increase price also increases.

Role of Demand factor in pricing

In the case of pricing of a product, demand plays a significant role. In some cases demand occupies a vital role than cost. The demand is the factor which determines the sales and profit. We know as per law of demand, demand and price have inverse

relationship. To increase the demand, the firm has to reduce the price. Similarly to decrease the demand the firm has to increase the price. the elasticity of demand is to be considered in determining the price of the product.

BUSINESS CYCLE

Introduction

Economic activities faced fluctuations at more or less regular intervals .There were upward swings and downward swings. A period of prosperity was generally followed by a period of depression .These ups and downs in the economic activity moving like a wave at regular intervals is known as business cycle. Business cycle simply means the whole course of business activity which passes through the phases of prosperity and depression. To be specific, there are four phase"s .viz .recovery, boom recession and depression.

Phases of business cycle

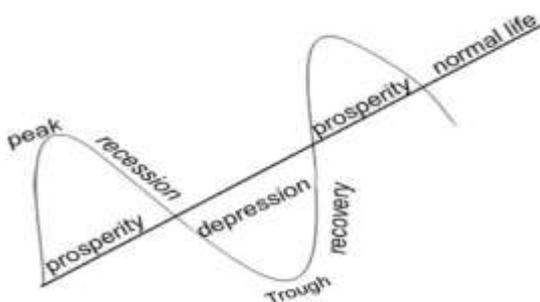
Boom: This is also known as prosperity phase. The products in this phase fetch an above normal price which is above higher profit. This attracts more and more investors. The existing production capacity is utilized at its full capacity. The price of the factors of production increases. The increasing cost tendency of the factors of production leads to a continuous increase in product cost. The demand is now more or less stagnant or it even decreases. Thus boom or prosperity reaches its peak.

Recession : Once the economy reaches the peak- the course changes. A downward tendency in demand is observed but the producers who are not aware of it goes on producing further. The supply now exceeds demand. Now the producers come to notice that their stock piling up . They are compelled to give up the future investment plans. Bankers insist on repayment . stock accumulate and Business failure increase investment ceases and unemployment leads to fall in income ,expenditure ,prices , profits

and industrial and trade activities. Some firms are forced into bankruptcy. The failure of one firm affects other firm with whom it has business connections. There is a general distress. This phase of the business cycle is known as the Recession. It is the period of utmost -suffering for a business.

Depression : Underemployment of both men and material is the characteristics of this phase. General demand falls faster than production. Producers are compelled to see their goods at a price which will not even cover the full cost. Manufactures of both producer's goods and consumers goods are forced to reduce the volume of production. As a result workers are thrown out. The demand for bank credit is at its lowest which results in idle funds. The interest rates also decline. The firms that cannot pay of their debts are wound up. Prices of shares and securities fall down.

Recovery: Depression phase does not continue indefinitely. Depression contains in itself the seeds of recovery. The rule workers now come forward to work at low wages. As the prices are at its lowest the consumers, who postponed their consumption expecting a still further fall in price, now starts consuming. The banks, with accumulated cash reserves, now come forward to give loans at easier terms and lower rates. As demand increases the stock of goods become insufficient. The economic activity now starts picking up. Investment pick up. Employment and output slowly and steadily begins to rise. Increased income increases demand, resulting in rise in prices, profits investment, employment and incomes.



Characteristics of a business cycle

1. **The cycle is synchronic**. The upward and downward movements tend to occur at all the same period in all industries.
2. **A business cycle is a wave-like movement**. The period of prosperity and depression can be alternately seen in a cycle.
3. **Cyclical fluctuations are recurring in nature**. The various phases are repeated is followed by depression and the depression again in followed by a boom.
4. **Business cycles are cumulative and self-reinforcing in nature**. Each movement feeds on itself and keeps up the movement in the same direction. Once booms starts it goes on growing till forces accumulate to reverse the direction.
5. **There can be no indefinite depression or eternal boom period**. Each phase contain in itself the seed for other phase. The boom, when it reaches its peak, turns to recession.
6. **Business cycles are pervasive in their effects**. The cyclical fluctuations affect each and every part of the economy.
7. **Presence of a crisis**. The up and down movements are not symmetrical. The downward movements are not symmetrical. The downward movement is more sudden and violent than the upward movement.

Types of Business Cycle

Prof. James Arthur classified business cycle into 3 parts as follows:

1. **Major and Minor Trade Cycles**: Major trade cycles are those the period of which is very large. Minor trade cycles are those which occur during the period of a major cycle. Prof. Hanson determines the period of a major cycle between 8 years and 33 years. Two or three minor cycles occur during the period of a major cycle. Period of a minor cycle is 40 months.
2. **Building Cycle**: Building Cycles are those trade cycles which are related with construction industry. period of such cycle range from 15 to 20 years

3. **Long Waves:** Period of a long wave is of 50 years . It was discovered by a Russian economist Kondratief. One or two major trade cycle occur during the period of a long wave.

Schumpeter distinguished 3 types of trade cycle as follows:

1. **Short Kitchin Cycle:** The period of this cycle is very short, approximately 4 months duration.

2. **Longer juglar cycle:** This cycle has an average 9.5 years duration.

3. **Very long Kondratief Wave:** It takes more than 50 years to run its course.

Causes of Business Cycle

1. Expansion of loans and contraction of loans by banks:

2. Monetary disequilibrium

3. Change in the volume of investment or decrease in the marginal efficiency of capital

4. Under consumption or excessive saving

5. Lack of adjustment between demand and supply

6. Dealings of entrepreneurs

7. Innovation

8. Seasonal fluctuations

Control of Business Cycle

The various steps that can be taken to achieve economic stability are (i) monetary policy and (ii) fiscal policy.

Monetary Policy

Monetary policy refers to the programs adopted by the central bank to control the supply of money. The central bank may resort to open market operations, changes in bank rate or changes in the variable reserve ratio. The open market implies the purchase and sale of government bonds and securities. In the boom period the central bank sells government bonds and securities to the public which helps to withdraw money from the public. During periods of depression the central bank purchases government securities which increase the cash supply in the economy. This helps to increase

investment. The central bank purchase government securities which increase the cash supply in the economy. This helps to increase investment . The central bank may change the bank rate or rediscount rate. The bank rate is the rate at which commercial banks borrow from central bank. When the central bank increases the bank rate the commercial banks in turn will raise their discount rates for the public. This discourages public borrowing and it reduces investment. During the depression the bank rate is lowered which will end up the increased investment. The central bank can regulate the money supply by changing the variable reserve ratio. When the central bank wants to reduce the credit creation capacity of commercial banks, it will increase the ratio of the deposits to be held by the commercial bank as reserve with the central bank.

Fiscal Policy

This implies the variation in taxation and public expenditure programme by the government to achieve certain objectives. Taxation helps to withdraw cash from the public. An increase in tax results in reduction of private disposable income. Taxes should be reduced during the depression will stimulate private sector. During boom periods public expenditure must be curtailed ,so that cash flow can be reduced. The fiscal policy of the government to regulate purchasing power to control business cycle is known as counter the cyclical fiscal policy. Counter-cyclical fiscal policy in the boom period implies a reduction in the public expenditure and heavy taxes and a surplus budget. The budget surplus can be used to eliminate previous deficits .This implies an increase in public expenditure, reduction in taxation and deficit budgeting during the depression. The monetary policy proves more effective to control boom than to depression. A proper mix of fiscal and monetary policy will be more fruitful in the control of business cycles.

Business Forecasting

A forecast of sales depends upon economic forecasts. This is because the sales of almost every firm is affected by the state of general business. Periods of depression and boom have an influence on the sales value. Sales may be at an increase during the prosperity but might decline during the depression. The businessman should take into consideration the business cycle he is facing so that he can have an effective forecast of sales.

Techniques of Economic Forecasting

There are several methods or techniques of economic and business forecasting, Important methods may be briefly discussed as follows:

1. **Naïve Method:** This method is not based on any scientific approach. Projection are made purely by guesswork and sometimes by mechanical interpretation of historical data. This method includes such techniques as tossing the coin, simple correlation and even some other simple mathematical techniques.

Advantages of Naïve Method

- a) It is simple method.
- b) It is less costly
- c) It is suitable small firms

Disadvantage of Naïve Method

- a) It is not a scientific method .
- b) It is not always reliable

2. **Survey Techniques:-** One of the simplest forecasting device is to survey business firms or individuals and to determine what they believe will occur is survey techniques. Under survey techniques ,interviews and mailed questionnaires are used for forecasting tools. These are helpful in making short-term forecasts.

Advantages

- a) This method is simple and less costly.
- b) qualitative information
- c) These techniques are usually used to supplement other quantitative forecasting methods

Disadvantages

a) When the opinions differ it will create problem

b)Not useful for long term forecasts

3. **Expert opinion method:** It is a qualitative technique. Under this method an expert or informed individual uses personal or organizational experience as a basis for developing future expectations.

4.**Trend Projection method:** Under this method historical data is used to predict future business activity. Here actual data are presented on a graph paper and forecasts for the future are prepared on the basis of analysis of trend of this data.

Advantages

- a) Very simple and less expensive
- b) More reliable

Disadvantages

When sudden fluctuations in data occur, this method will not be suitable. Similarly it requires considerable technical skill and experience.

Smoothing techniques(Exponential smoothing):

Under this method smoothed average of several past observations are considered say, moving average, exponential smoothing average etc. This method is very cheap and inexpensive. But it cannot provide accurate forecasts.

Barometric Techniques: In this method present events or developments are used for predicting the future .Further , here we apply certain selected economic and statistical indicators in time series to predict variables. They are leading, lagging and coincident indicators. If changes in one series of data consistently occur prior to changes in another series-leading indicators can be shown, If changes in one series of data consistently occur after changes in another series- there is lagging indicators, If two series of data frequently increase or decrease at the same time and one series may be regarded as a coincident indicator of the other-there is coincidental indicators.

Econometric Methods.: Econometrics is the combination of “econo” and “metrics” which means measurement of economic variables. This method combines the economic theory, statistical tools and mathematical model building to analyse economic relations. It predicts the future activity on past economic activity by using mathematical and statistical techniques.

Advantages

- a) These methods are more reliable.
- b) It is possible to compare forecasts with actual results. The model can be modified to improve future forecasts.
- c) These methods indicate both direction and magnitude of change in the variables.
- d) These methods have the ability to explain economic phenomena.

Input Output Table Method:: This is another approach of economic forecasting . This method enables the forecaster to trace the effects of increases in demand for one product to other industries. An increase in the demand for automobiles will first lead to an increase in the output of the auto industry. This, in turn, will lead to an increase in the demand for steel, glass, plastics, rubber and upholstery fabric. In addition, secondary impact will occur as the increase in the demand for upholstery fabric.

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