MANAGERIAL ECONOMICS

(BBA LLB SEMESTER 2)

INDEX

S.NO	UNIT	PAGE NO
1		
2		
3		

UNIT-1

INTRODUCTION

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. The development of economics as a growing science can be traced back in the writings of Greek philosophers like Plato and Aristotle. Economics was treated as a branch of politics during early days of its development because ancient Greeks applied this term to management of city-state, which they called „Polis". Actually economics broadened into a full fledged social science in the later half of the 18^{th} century.

Meaning and Definition of Managerial Economics.

Managerial Economics as a subject gained popularit-y in U.S.A after the publication of the book "Managerial Economics" by Joel Dean in 1951. Joel Dean observed that managerial Economics shows
how economic analysis can be used in formulating policies.

Managerial economics bridges the gap between traditional economic theory and real business practices in two ways. Firstly, it provides number of tools and techniques to enable the manager to become more competent to take decisions in real and practical situation. Secondly, it serves as an integrating course to show the interaction between various areas in which the firm operates.

According to Prof. Evan J Douglas, Managerial economics is concerned with the application of business principles and methodologies to the decision making process within the firm or organization under the conditions of uncertainty. It seeks to establish rules and principles to facilitate the attainment of the desired economic aim of management. These economic aims relate to costs, revenue and profits and are important within both business and non business institutions.

Objectives and Uses (importance) of managerial Economics

Objectives: The basic objective of managerial economics is to analyze the economic problems facedby the business. The other objectives are:

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

Importance: In order to solve the problems of decision making, data are to be collected andanalyzed in the light of business objectives. Managerial economics provides help in this area. The importance of managerial economics maybe relies in the following points:

1. It provides tool and 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.

Following are the important 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.

Scope of Managerial / Business Economics

The scope of managerial economics refers to its area of study. Scope of Managerial Economics is wider than the scope of Business Economics in the sense that while managerial economics dealing the decisional problems of both business and non business organizations, business economics deals only the problems of business organizations. Business economics giving solution to the problems of a business unit or profit oriented unit. Managerial economics giving solution to the problems of non profit organizations like schools, hospital etc., also. The scope covers two areas of decision making (A) operational or internal issues and (B) Environmental or external issues.

A) Operational/internal issues

These issues are those which arise within the business organization and are under the control of the management. They pertains to simple questions of what to produce, when to produce, how much to produce and for which category of consumers. The following aspects may be said to be fall under internal issues.

1. Demand analysis and Forecasting: - The demands for the firms product would change in responseto 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 causingvariation 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 pricingdecisions. The pricing is an important area of managerial economics. Theories regarding price fixation helps the firm to solve the price fixation problems.

4. Profit Analysis: - Business firms working for profit and it is an important measure of success. Butfirms 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 thefirms 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 monitory term. Important aspects of supply analysis are; supply schedule, curves and functions, law of supply, elasticity of supply and factors influencing supply…

B) Environmental or external issues

It refers to the general business environment in which the firm operates. A study of economic environment should include:

1. The types of economic system in the country.
2. The general trend in production, employment, income, prices, savings and investments
3. Trends in the working of financial institutions like banks, financial corporations, insurance companies etc..
4. Magnitude and trends in foreign trade.
5. Trends in labour and capital market.
6. Government economic policies viz., industrial policy, monitory policies, fiscal policy, price policy etc…

Chief Characteristics of Managerial or Business economics.

Following are the important feature of managerial economics

1) Managerial economics is **Micro economic** in character. Because it studies the problems of a business firm, not the entire economy.

2) Managerial economics largely uses the body of economic concepts and principles which is known as **"Theory of the Firm" or "Economics of the firm".**

3) Managerial economics is **pragmatic.** It is purely practical oriented. So Managerial economics considers the particular environment of a firm or business for decision making.

4) Managerial economics is **Normative** rather than positive economics (descriptive economics). Managerial economics is **prescriptive** to solve particular business problem by giving importance to firms aim and objectives.

5) **Macro economics is also useful** to managerial economics since it provides intelligentunderstanding of the environment in which the business is operating.

6) **It is management oriented.**

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

Decision making: Decision making is an integral part of modern management. Perhaps the mostimportant 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.

Managers of business organizations are constantly faced with wide variety of decisions in the areas of pricing, product selection, cost control, asset management and plant expansion. 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. The identification of the firm‟s objectives.
2. The statement of the problem to be solved.
3. The listing of various alternatives.
4. Evaluation and analysis of alternatives.
5. The selection best alternative
6. The implementation and monitoring of the alternative which is chosen.

Following are the important 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 anduncertainty. 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 study of macro economics provides managers a clear understanding about environment in which the business firm is working. 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.

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.
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.

In the opinion of Stonier and Hague, "Demand in economics means demand backed up by enough money to pay for the goods demanded". In other words, demand means the desire backed by the willingness to buy a commodity and purchasing power to pay. Hence desire alone is not enough. There must have necessary purchasing power, ie, .cash to purchase it. For example, everyone desires to posses Benz car but only few have the ability to buy it. So everybody cannot be said to have a demand for the car. Thus the demand has three essentials-Desire, Purchasing power and Willingness to purchase.

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. Main objectives of demand analysis are;

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

The law of Demand is known as the „first law in market". 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".

According to Samuelson, "Law of Demand states that people will buy more at lower price and buy less at higher prices". In other words while other things remaining the same an increase in the price of a commodity will decreases 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.

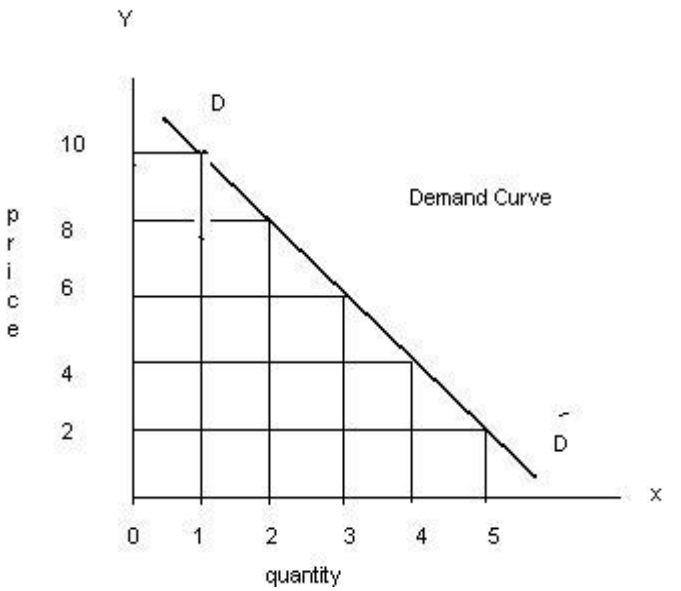
The concept of law of demand may be explained with the help of a demand schedules.

Individual demand Schedule

An individual demand schedule is a list of quantities of a commodity purchased by an individual consumer at different prices. The following table shows the demand schedule of an individual consumer for apple.

Price of Apple (In Rs.)	Quantity demanded
10	1
8	2
6	3
4	4
2	5

When the price falls from Rs 10 to 8, the quantity demanded increases from one to two. In the same way as price falls, quantity demanded increases. On the basis of the above demand schedule we can draw the demand curve as follows;



The demand curve DD shows the inverse relation between price and demand of apple. Due to this inverse relationship, demand curve is slopes downward from left to right. This kind of slope is also called “negative slope”

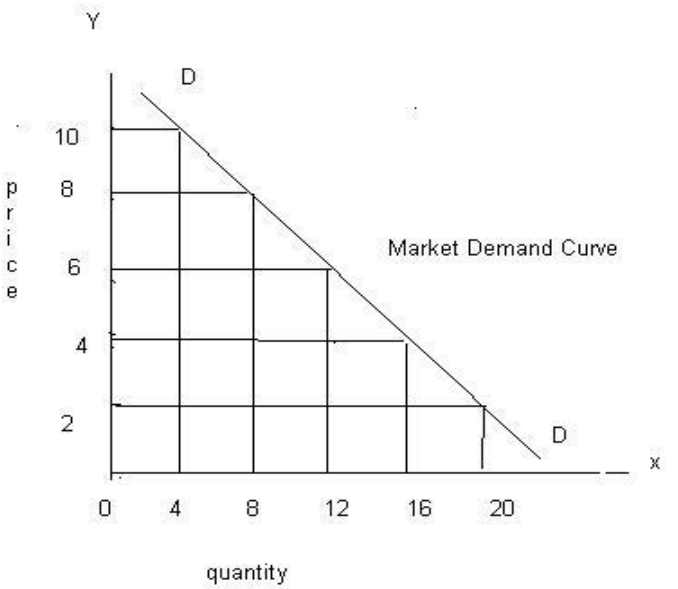
Market demand schedule

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. It can be expressed in the following schedule.

Market Demand Schedule for egg.

Price per dozen(Rs)	Demand by consumers				Market Demand
	A	B	C	D	
10	1	2	0	0	3
8	2	3	1	0	6
6	3	4	2	1	10
4	4	5	3	2	14
2	5	6	4	3	18

Derivation of market demand curve is a simple process. For example, let us assume that there are four consumers in a market demanding eggs. When the price of one dozen eggs is Rs.10, A buys one dozen and B buys 2 dozens. When price falls to Rs.8, A buys 2 , B buys 3 and C buys one dozen. When price falls to Rs.6, A buys 3 b buys 4,C buys 2 and D buys one dozen and so on. By adding up the quantity demanded by all the four consumers at various prices we get the market demand curve. So last column of the above demand schedule gives the total demand for eggs at different prices,ie,"Market Demand" as given below;



Assumptions of Law of Demand

Law of demand is based on certain basic assumptions. They are as follows

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. For e.g. when the price of tomato is high, it will be used only for cooking purpose. When it is cheaper, it will be used for preparing jam, pickle etc...

6) Psychology of people.

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 (positive slopes). These phenomena may due to;

1) Giffen paradox

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. When the price of maize falls, the poor will not buy it more but they are willing to spend more on superior goods than on maize. Thus fall in price will result into reduction in quantity. This paradox is first explained by Sir Robert Giffen.

2) Veblen or Demonstration effect.

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.

Some times 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 necessaries like rice, vegetables etc., People buy more even at a higher price.

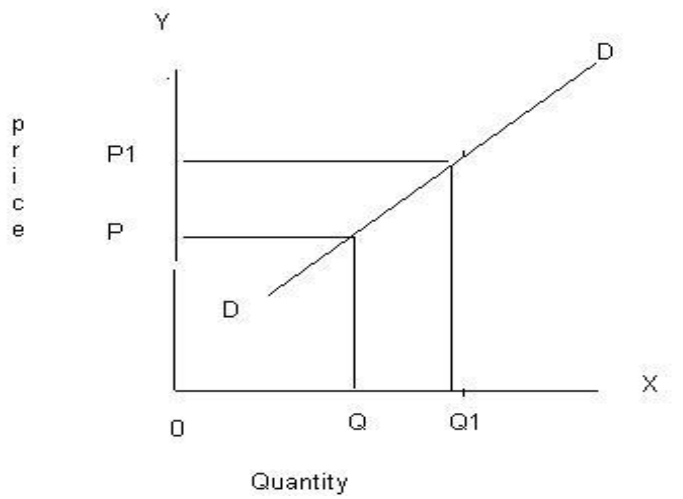
7) Brand Loyalty

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.

Exceptional Demand Curve (perverse demand curve)



When price raises from OP to OP1 quantity demanded also increases from OQ to OQ1. In other words, from the above, we can see that there is positive relation between price and demand. Hence, demand curve (DD) slopes upward.

CHANGES IN 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...

CHANGE IN QUANTITY DEMANDED VS CHANGE IN DEMAND

In economics the terms change in quantity demanded and change in demand are two different concepts.

Change in quantity demanded refers to change in the quantity purchased due to increase or decrease in the price of a product.

In such a case, it is incorrect to say increase or decrease in demand rather it is increase or decrease in the quantity demanded.

On the other hand, change in demand refers to increase or decrease in demand of a product due to various determinants of demand, while keeping price at constant.

Changes in quantity demanded can be measured by the movement of demand curve, while changes in demand are measured by shifts in demand curve. The terms, change in quantity demanded refers to expansion or contraction of demand, while change in demand means increase or decrease in demand.

1. Expansion and Contraction of Demand:

The variations in the quantities demanded of a product with change in its price, while other factors are at constant, are termed as expansion or contraction of demand. Expansion of demand refers to the period when quantity demanded is more because of the fall in prices of a product. However, contraction of demand takes place when the quantity demanded is less due to rise in the price o a product.

For example, consumers would reduce the consumption of milk in case the prices of milk increases and vice versa. Expansion and contraction are represented by the movement along the same demand curve. Movement from one point to another in a downward direction shows the expansion of demand, while an upward movement demonstrates the contraction of demand.

Figure-11 demonstrates the expansion and contraction of demand:

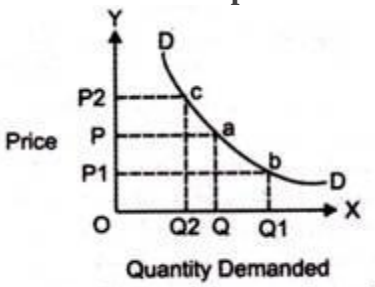


Figure-11: Expansion and Contraction of Demand

When the price changes from OP to OP1 and demand moves from OQ to OQ1, it shows the expansion of demand. However, the movement of price from OP to OP2 and movement of demand from OQ to OQ2 show the contraction of demand.

2. Increase and Decrease in Demand:

Increase and decrease in demand are referred to change in demand due to changes in various other factors such as change in income, distribution of income, change in consumer's tastes and preferences, change in the price of related goods, while Price factor is kept constant Increase in demand refers to the rise in demand of a product at a given price.

On the other hand, decrease in demand refers to the fall in demand of a product at a given price. For example, essential goods, such as salt would be consumed in equal quantity, irrespective of increase or decrease in its price. Therefore, increase in demand implies that there is an increase in demand for a product at any price. Similarly, decrease in demand can also be referred as same quantity demanded at lower price, as the quantity demanded at higher price.

Increase and decrease in demand is represented as the shift in demand curve. In the graphical representation of demand curve, the shifting of demand is demonstrated as the movement from one demand curve to another demand curve. In case of increase in demand, the demand curve shifts to right, while in case of decrease in demand, it shifts to left of the original demand curve.

Figure-12 shows the increase and decrease in demand:

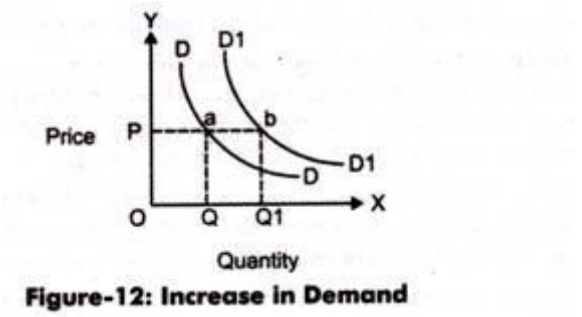


Figure-12: Increase in Demand

In Figure-12, the movement from DD to D1D1 shows the increase in demand with price at constant (OP). However, the quantity has also increased from OQ to OQ1.

Figure-13 shows the decrease in demand:

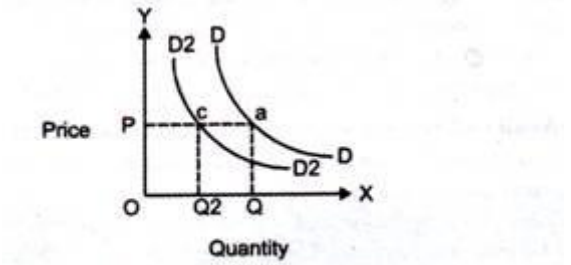


Figure-13: Decrease in Demand

In Figure-13, the movement from DD to D2D2 shows the decrease in demand with price at constant (OP). However, the quantity has also decreased from OQ to OQ2.

Demand Function.

There is a functional relationship between demand and its various determinants. I.e., a change in any determinant will affect the demand. When this relationship expressed mathematically, it is called Demand Function. Demand function of a commodity can be written as follows:

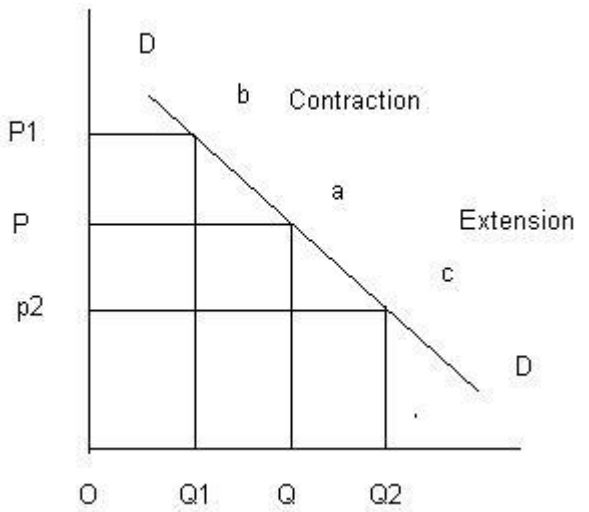
D = f (P, Y, T, Ps, U)

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)

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. A change in demand solely due to change in price is called extension and contraction. When the quantity demanded of a commodity rises due to a fall in price, it is called extension of demand. On the other

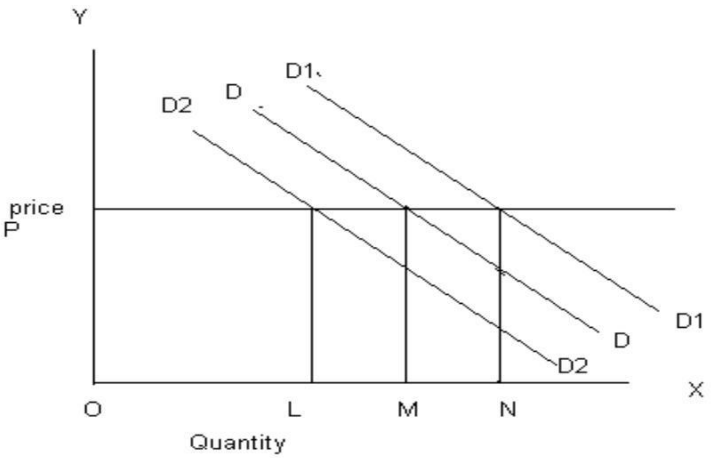
hand, when the quantity demanded falls due to a rise in price, it is called contraction of demand. It can be understand from the following diagram.



When the price of commodity is OP, quantity demanded is OQ. If the price falls to P2, quantity demanded increases to OQ2. When price rises to P1, demand decreases from OQ to OQ1. In demand curve, the area **a** to**c** is extension of demand and the area **a** to **b** is contraction of demand. As result of change in price of a commodity, the consumer moves along the same demand curve.

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. Shift in demand cannot be shown in same demand curve. The increase and decrease in demand (upward shift and downward shift) can be expressed by the following diagram.



DD is the original demand curve. Demand curve shift upward due to change in income, taste & preferences etc of consumer, where price remaining the same. In the above diagram demand curve D1-D1 is showing upward shift or increase in demand and D2-D2 shows downward shift or decrease in demand.

Comparison between extension/contraction and shift in demand

SL. No	Extension/Contraction of Demand	Shift in Demand
1	Demand is varying due to changes in price	Demand is varying due to changes in other factors
2	Other factors like taste, preferences, income etc... remaining the same.	Price of commodity remain the same
3	Consumer moves along the same demand curve	Consumer may moves to higher or lower demand curve

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 s 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

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. Nutshell, it shows the rate at which changes in demand take place.

Elasticity of demand can be defined as "the degree of responsiveness in quantity demanded to a change in price". Thus it represents the rate of change in quantity demanded due to a change in price.

There are mainly three 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.

$$\text{Price Elasticity} = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

OR

$$Ep = \frac{\text{Change in Quantity demanded / Quantity demanded}}{\text{Change in Price/price}}$$

OR

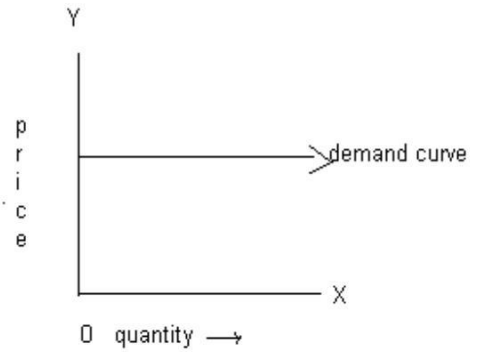
$$Ep = \frac{(Q2-Q1)/Q1}{(P2-P1)/P1},$$

Where: Q1 = Quantity demanded before price change Q2 = Quantity demanded after price change P1 = Price charged before price change
P2 = Price charge after price change.

There are five types of price elasticity of demand. (Degree of elasticity of demand) Such as perfectly elastic demand, perfectly inelastic demand, relatively elastic demand, relatively inelastic demand and unitary elastic demand.

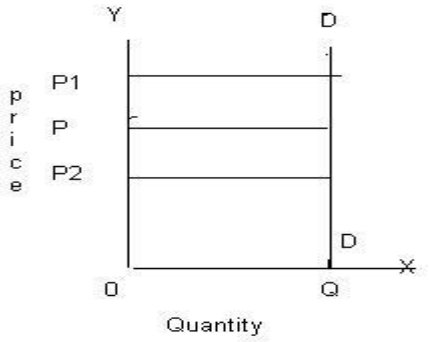
1) Perfectly elastic demand (infinitely elastic)

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 **ep**=∞)



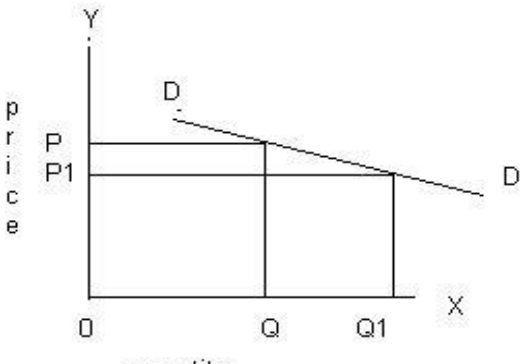
2) Perfectly inelastic demand

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**



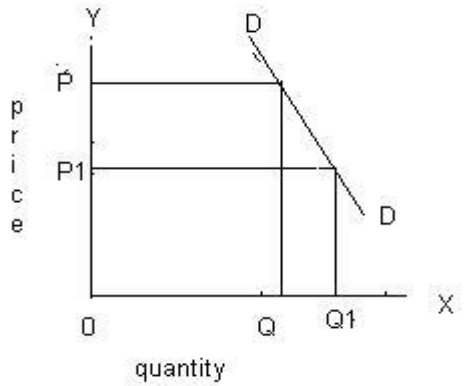
3) Relatively elastic demand

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**



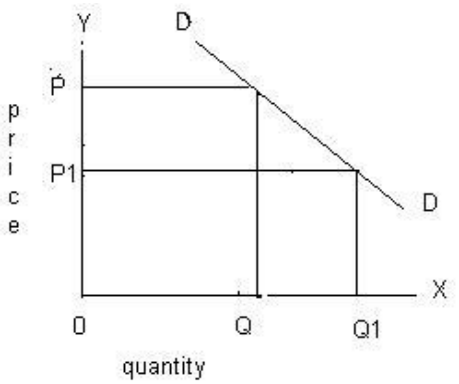
4) Relatively inelastic demand

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**.**



The above five types of elasticity can be summarized as follows

SL No	type	Numerical expression	description	Shape of curve
1	Perfectly elastic	α	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

3.3 Income Elasticityof 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:

$$Ey = \frac{\text{Proportionate Change in Quantity Demanded}}{\text{Proportionate Change in Income}}$$

Income elasticity of demand mainly of three types:
1) Zero income Elasticity.
2) Negative income Elasticity
3) Positive income Elasticity.

Zero income elasticity – In this case, quantity demanded remain the same, eventhogh money incomeincreases.ie, changes in the income doesn‟t influence the quantity demanded (Eg.salt,sugaretc). Here
Ey(income elasticity) = **0**

Negative income elasticity -In this case, when income increases, quantity demanded falls.Eg, inferiorgoods. Here **Ey = < 0.**

Positive income Elasticity - In this case, an increase in income may lad to an increase in the quantitydemanded. i.e., when income rises, demand also rises. (**Ey =>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, **Ey= 1**
b) Income elasticity greater than unity: An increase in income brings about a more than proportionate increase in quantity demanded.i.e, **Ey =>1**
c) Income elasticity less than unity: when income increases quantity demanded is also increases but less than proportionately. I.e., **Ey = <1**

Business decision based on income elasticity.

The concept of income elasticity can be utilized for the purpose of taking vital business decision. A businessman can rely on the following facts.

If income elasticity is greater than Zero, but less than one, sales of the product will increase but slower than the general economic growth

If income elasticity is greater than one, sales of his product will increase more rapidly than the general economic growth.

Firms whose demand functions have high income elasticity have good growth opportunities in an expanding economy. This concept helps manager to take correct decision during business cycle and also helps in forecasting the effect of changes in income on demand.

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 = Proportionate Change in Quantity Demanded of a Commodity / Proportionate Change in the 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. The substitute goods (tea and Coffee) have positive cross elasticity because the increase in the price of tea may increase the demand of the coffee and the consumer may shift from the consumption of tea to coffee.

Complementary goods (car and petrol) have negative cross elasticity because increase in the price of car will reduce the quantity demanded of petrol.

The concept of cross elasticity assists the manager in the process of decision making. For fixing the price of product which having close substitutes or compliments, cross elasticity is very useful.

Advertisement Elasticity of Demand

Advertisement elasticity of demand (Promotional elasticity of demand) measure the responsiveness of demand due to a change in advertisement and other promotional expenses. This can be measured by the following formula;

Advertisement Elasticity = Proportionate Increase in Sales
Proportionate increase in Advertisement expenditure.

There are various determinants of advertisement elasticity, they are;

1. Type of commodity- elasticity will be higher for luxury, new product, growing product etc.,
2. Market share – larger the market share of the firm lower will be promotional elasticity.
3. Rival‟s reaction – if the rivals react to increase in firm‟s advertisement by increasing their own advertisement expenditure, it will reduce the advertisement elasticity of the firm.
4. State of economy – if economic conditions are good, the consumers are more likely to respond to the advertisement of the firm.

Advertisement elasticity helps in the process of decision making. It helps to deciding the optimum level of advertisement and promotional cost. If the advertisement elasticity is high, it is profitable to spend more on advertisement. Hence, advertisement elasticity helps to decide optimum advertisement and promotional outlay.

Importance of Elasticity.

The concept of elasticity of demand is much of practical importance;

1. **Production**- Producers generally decide their production level on the basis of demand for theirproduct. 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 theelasticity 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. Forexample, 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 acommodity, the government should take into consideration the demand elasticity.
6. **Nationalization**- Elasticity of demand helps the government to decide about nationalization ofindustries.
7. **Price discrimination**- A manufacture can fix a higher price for the product which have inelasticdemand and lower price for product which have elastic demand.
8. **Others**- The concept elasticity of demand also helping in taking other vital decisionEg.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 forcomfort and luxury good are elastic.

2. **Availability/range of substitutes –** A commodity against which lot of substitutes are available, thedemand 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 elasticdemand.Eg.Demand for steel, electricity etc..

4. **Postponement/urgency of demand-** if the consumption of a commodity can be post pond, then itwill have elastic demand. Urgent commodity has inelastic demand.

5. **Income level-** income level also influences the elasticity. E.g. Rich man will not curtail theconsumption 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 ofhis 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, thedemand 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 demandsince a slight change in price will not affect the quantity demand.
10. **Others –** the habit of consumers, demand for complimentary goods, distribution of income andwealth in the society etc., are other important factors affecting elasticity.

Measurement of Elasticity

There are various methods for the measurement of elasticity of demand. Following are the important methods:

1. **Proportional or Percentage Method**: Under this method the elasticity of demand is measuredby 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:

$$ED = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price.}}$$

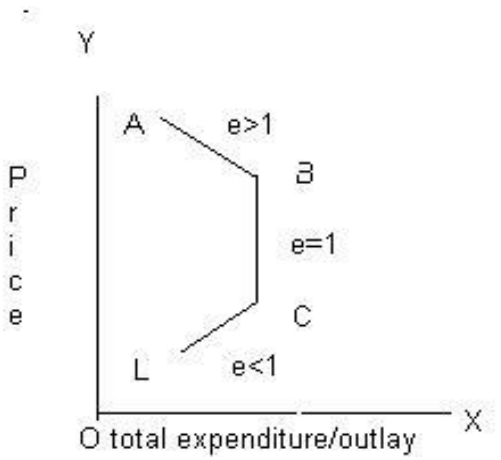
OR

$$= \frac{\text{Change in Demand}}{\text{Original Quantity demanded}} \Big/ \frac{\text{Change in Price}}{\text{Original price}}$$

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

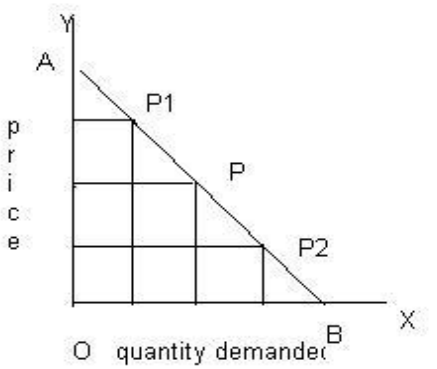
- If the price changes, but total expenditure remains constant, unit elasticity exists.
- If the price changes, but total expenditure moves in the opposite directions, demand is elastic (>1).
-

If the price changes and total revenues moves in the same direction, demand is inelastic (<1). This can be expressed by the following diagram.



3. **Geometric or Point method:** This also developed by Marshall. This is used as a measure of thechange 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 = <u>Lower section of the Demand curve</u> Upper section of Demand curve.



In the above diagram, AB is a straight line demand curve with P as its middle point. Further it is assumed that AB is 6 cm. then,
At point P, ED = PB/PA=3/3=1
At point P1, ED = P1B/P1A= 4.5/1.5=
3=>1, At point A, ED = AB/A= 6/0= α
(infinity),

At point P2, ED = P2B/P2A = 1.5/4.5 = 1/3 =
<1, At point B, ED = B/BA = 0/6 = 0

4. **Arc Method**: the point method is applicable only when there are minute (very small) changes inprice 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:

ED = ΔQ/ ΔP × (P1+P2)/ (Q1+Q2) or $\frac{\text{Change in D}}{\text{Average DChange in P.}} \times \frac{\text{Average P}}{}$

Where, ΔQ= change in quantity Q1= original quantity
P1 = original price Q2= new quantity
P2 = New price ΔP= change in price

REVENUE CONCEPTS

Meaning of Revenue:

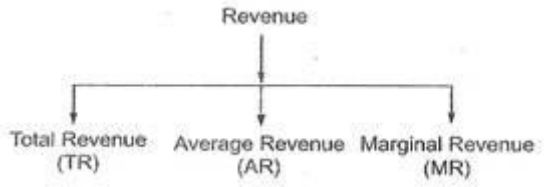
The amount of money that a producer receives in exchange for the sale proceeds is known as revenue. For example, if a firm gets Rs. 16,000 from sale of 100 chairs, then the amount of Rs. 16,000 is known as revenue.

Revenue refers to the amount received by a firm from the sale of a given quantity of a commodity in the market.

Revenue is a very important concept in economic analysis. It is directly influenced by sales level, i.e., as sales increases, revenue also increases.

Concept of Revenue:

The concept of revenue consists of three important terms; Total Revenue, Average Revenue and Marginal Revenue.



Total Revenue (TR):

Total Revenue refers to total receipts from the sale of a given quantity of a commodity. It is the total income of a firm. Total revenue is obtained by multiplying the quantity of the commodity sold with the price of the commodity.

Total Revenue = Quantity × Price

For example, if a firm sells 10 chairs at a price of Rs. 160 per chair, then the total revenue will be: 10 Chairs × Rs. 160 = Rs 1,600

Average Revenue (AR):

Average revenue refers to revenue per unit of output sold. It is obtained by dividing the total revenue by the number of units sold

Average Revenue = Total Revenue/Quantity

For example, if total revenue from the sale of 10 chairs @ Rs. 160 per chair is Rs. 1,600, then:

Average Revenue = Total Revenue/Quantity = 1,600/10 = Rs 160

AR and Price are the Same:

We know, AR is equal to per unit sale receipts and price is always per unit. Since sellers receive revenue according to price, price and AR are one and the same thing.

This can be explained as under:

TR = Quantity × Price … (1)

AR = TR/Quantity …… (2)

Putting the value of TR from equation (1) in equation (2), we get

AR = Quantity × Price / Quantity

AR = Price

AR Curve and Demand Curve are the Same:

A buyer's demand curve graphically represents the quantities demanded by a buyer at various prices. In other words, it shows the various levels of average revenue at which different quantities of the good are sold by the seller. Therefore, in economics, it is customary to refer AR curve as the Demand Curve of a firm.

Marginal Revenue (MR):

Marginal revenue is the additional revenue generated from the sale of an additional unit of output. It is the change in TR from sale of one more unit of a commodity.

$MR_n = TR_n - TR_{n-1}$

Where:

MR_n = Marginal revenue of nth unit;

TR_n = Total revenue from n units;

TR_{n-1} = Total revenue from (n – 1) units; n = number of units sold For example, if the total revenue realised from sale of 10 chairs is Rs. 1,600 and that from sale of 11 chairs is Rs. 1,780, then MR of the 11th chair will be:

$MR_{11} = TR_{11} – TR_{10}$

MR_{11} = Rs. 1,780 – Rs. 1,600 = Rs. 180

One More way to Calculate MR:

We know, MR is the change in TR when one more unit is sold. However, when change in units sold is more than one, then MR can also be calculated as:

MR = Change in Total Revenue/ Change in number of units = $\Delta TR/\Delta Q$

Let us understand this with the help of an example: If the total revenue realised from sale of 10 chairs is Rs. 1,600 and that from sale of 14 chairs is Rs. 2,200, then the marginal revenue will be:

MR = TR of 14 chairs – TR of 10 chairs / 14 chairs -10 chairs = 600/4 = Rs. 150

TR is summation of MR:

Total Revenue can also be calculated as the sum of marginal revenues of all the units sold.

It means, $TR_n = MR_1 + M_2 + MR_3 + \ldots\ldots\ldots MR_n$

or, $TR = \sum MR$

The concepts of TR, AR and MR can be better explained through Table 7.1.

Table 7.1: TR, AR and MR:

Units Sold (Q)	Price (Rs.) (P)	Total Revenue (Rs.) TR = Q x P	Average Revenue (Rs.) AR = TR÷Q = P	Marginal Revenue (Rs.) $MR_n=TR_n-TR_{n-1}$
1	10	10=1×10	10 =10 + 1	10 =10-0
2	9	18 =2×9	9 =18 + 2	8 =18-10
3	8	24 =3×8	8 =24 + 3	6 =24-18
4	7	28 = 4×7	7 =28 + 4	4 =28-24
5	6	30 = 5×6	6 =30 + 5	2 =30-28
6	5	30 = 6 x 5	5 =30 + 6	0 =30-30
7	4	28 = 7×4	4 =28 + 7	-2 =28-30

Incremental Revenue

Incremental revenue simply refers to increase in revenue. It is the difference between the new total revenue and the existing total revenue. It measures the impact of decision alternatives on the total revenue . The formula for measuring incremental revenue is as follows:

$IR = R_2 - R_1$

Where, IR = Incremental revenue R_2 = New total revenue

R_1 = Old or existing total revenue

Suppose the present volume of production is 50000 units and the selling price is Rs.3. The existing total revenue is Rs.150000 (i.e.,50000 x 3). Suppose the firm has decided to increase the production to 75000 units. The firm expects that the 75000 units can be sold at a price of Rs.2.50. Then the total revenue (new) would be Rs.187500(i.e.,75000x2.5).In this case the incremental revenue would be Rs.37500 (i-e1,87,500-1,50,000). As a result of the decision taken to increase the production from 50,000 units to 75,000 units, there is an increase in the total measure by Rs. 37,500.This is the incremental revenue. It may be noted that incremental revenue will result not from change in price alone but from any decision alternative.

MARKET EQUILIBRIUM

Equilibrium

Consumers and producers react differently to price changes. Higher prices tend to reduce demand while encouraging supply, and lower prices increase demand while discouraging supply.

Economic theory suggests that, in a free market there will be a single price which brings demand and supply into balance, called equilibrium price. Both parties require the scarce resource that the other has and hence there is a considerable incentive to engage in an **exchange**.

Price discovery

In its simplest form, the constant interaction of buyers and sellers enables a price to emerge over time. It is often difficult to appreciate this process because the retail prices of most manufactured goods are set by the seller. The buyer either accepts the price. or does not make the purchase. While an individual consumer in a shopping mall might haggle over the price, this is unlikely to work, and they will believe they have no influence over price. However, if all potential buyers haggled, and none accepted the set price, then the seller would be quick to reduce price. In this way, collectively, buyers have influence over market price. Eventually a price is found which enables an exchange to take place. A rational seller would take this a step further, and gather as much market information as possible in an attempt to set a price which achieves a given number of sales at the outset. For markets to work, an effective flow of **information** between buyer and seller is essential.

Market clearing

Equilibrium price is also called *market clearing price* because at this price the exact quantity that producers take to market will be bought by consumers, and there will be nothing ‘left over’. This is

efficient because there is neither an excess of supply and wasted output, nor a shortage – the market clears efficiently. This is a central feature of the price mechanism, and one of its significant benefits.

Example

The weekly demand and supply schedule for a brand of soft drink at various prices (between 30p and £1.10p) is shown opposite.

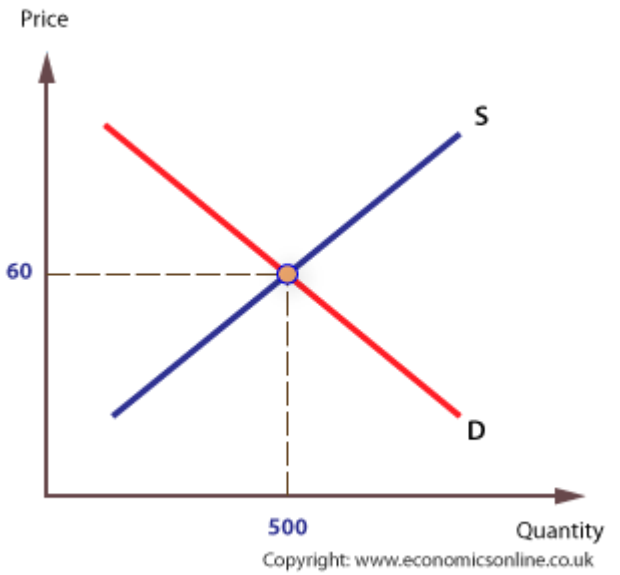
PRICE (£)	QUANTITY DEMANDED	QUANTITY SUPPLIED
1.10	0	1000
1.00	100	900
90	200	800
80	300	700
70	400	600
60	500	500
50	600	400
40	700	300
30	800	200

Equilibrium

As can be seen, this market will be in equilibrium at a price of 60p per soft drink. At this price the demand for drinks by students equals the supply, and the market will clear. 500 drinks will be offered for sale at 60p and 500 will be bought - there will be no excess demand or supply at 60p.

PRICE (£)	QUANTITY DEMANDED	QUANTITY SUPPLIED
1.10	0	1000
1.00	100	900
90	200	800
80	300	700
70	400	600
60	**500**	**500**
50	600	400
40	700	300

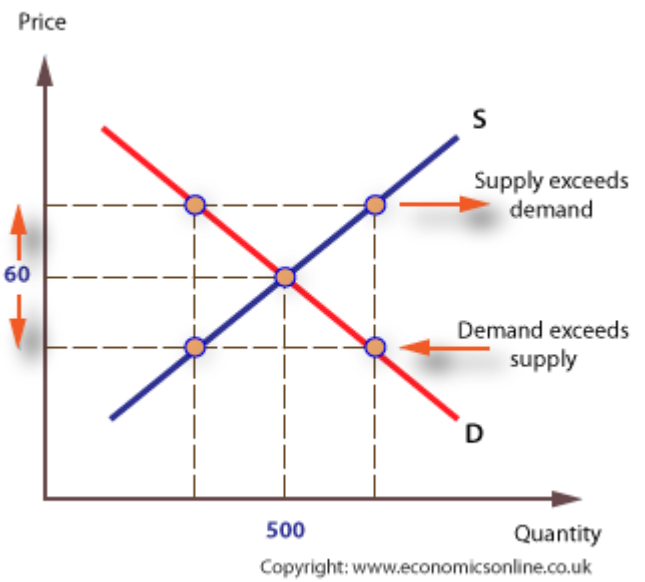
30	800	200



How is equilibrium established?

At a price higher than equilibrium, demand will be less than 500, but supply will be more than 500 and there will be an excess of supply in the short run.

Graphically, we say that demand *contracts inwards* along the curve and supply *extends outwards* along the curve. Both of these changes are called *movements along* the demand or supply curve in response to a price change.



Demand contracts because at the higher price, the **income effect**and **substitution effect** combine to discourage demand, and demand extends at lower prices because the income and substitution effect combine to encourage demand.

In terms of supply, higher prices encourage supply, given the supplier's expectation of higher revenue and profits, and hence higher prices reduce the opportunity cost of supplying more. Lower prices discourage supply because of the increased opportunity cost of supplying more. The opportunity cost of supply relates to the possible alternative of the factors of production. In the case of a college canteen which supplies cola, other drinks or other products become more or less attractive to supply whenever the price of cola changes. Changes in demand and supply in response to changes in price are referred to as the **signalling** and **incentive** effects of price changes.

If the market is working effectively, with information passing quickly between buyer and seller (in this case, between students and a college canteen), the market will quickly readjust, and the excess demand and supply will be eliminated.

In the case of excess supply, sellers will be left holding excess stocks, and price will adjust downwards and supply will be reduced. In the case of excess demand, sellers will quickly run down their stocks, which will trigger a rise in price and increased supply. The more efficiently the market works, the quicker it will readjust to create a stable equilibrium price.

Changes in equilibrium

Graphically, changes in the underlying factors that affect demand and supply will cause *shifts* in the position of the demand or supply curve at every price.

Whenever this happens, the original equilibrium price will no longer equate demand with supply, and price will adjust to bring about a return to equilibrium.

Changes in equilibrium

For example, if there is a particularly hot summer, students may prefer to drink more soft drinks at all prices, as indicated in the new demand schedule, QD_1 .

PRICE (£)	QD	QD_1	QUANTITY SUPPLIED
1.10	0	200	1000
1.00	100	300	900
90	200	400	800
80	300	500	700
70	400	**600**	**600**
60	**500**	700	**500**
50	600	800	400
40	700	900	300

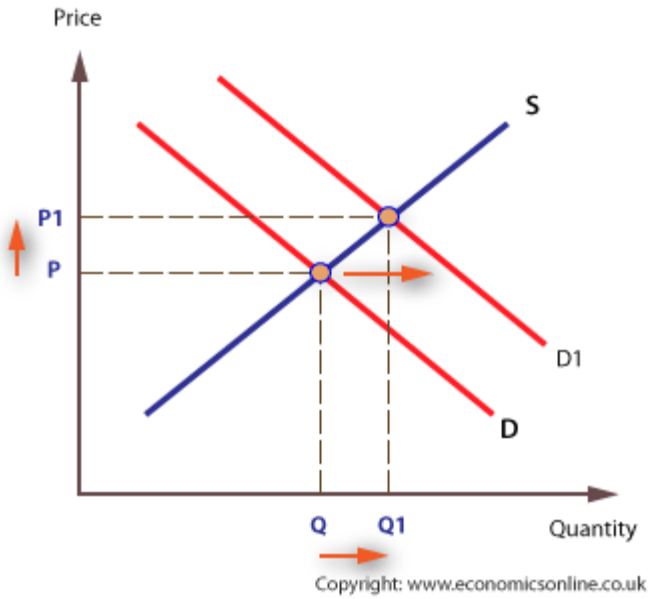
30	800	1000	200

At the higher level of demand, keeping the price at 60p would lead to an excess of demand over supply, with demand at 700 and supply at 500, with an excess of 200. This will act as an incentive for the seller to raise price, to 70p. Equilibrium will now be re-established at the higher price.

There are four basic causes of a price change:

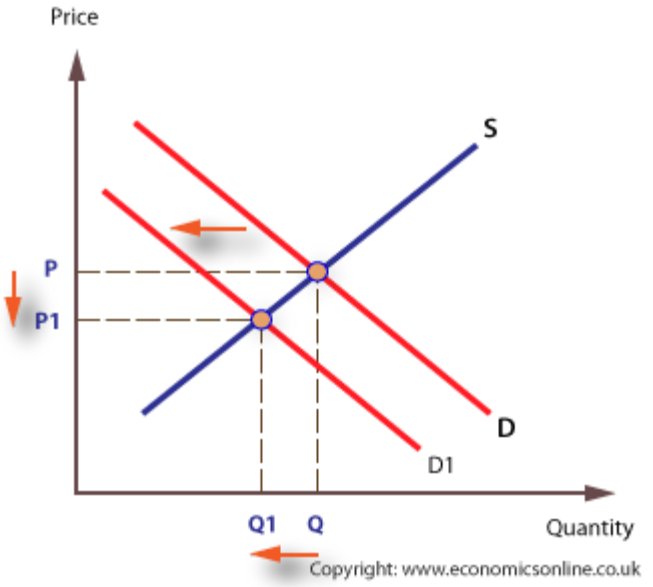
An increase in demand shifts the demand curve to the right, and raises price and output.

Demand shifts to the right



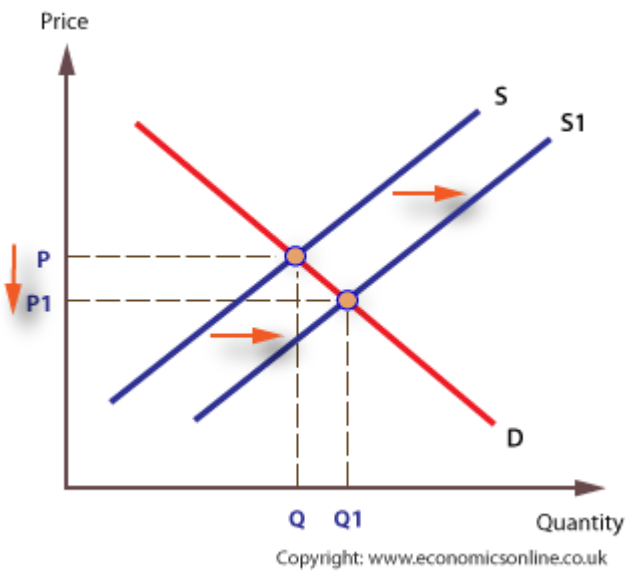
Demand shifts to the left

A decrease in demand shifts the demand curve to the left and reduces price and output.



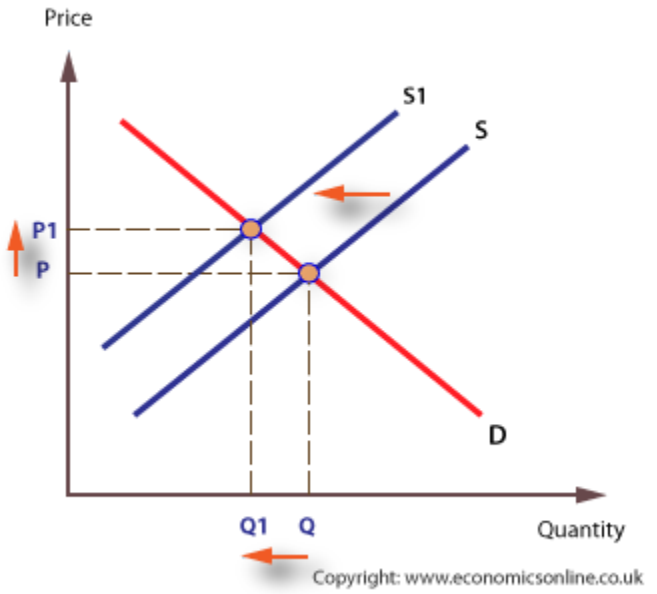
Supply shifts to the right

An increase in supply shifts the supply curve to the right, which reduces price and increases output.



Supply shifts to the left

A decrease in supply shifts the supply curve to the left, which raises price but reduces output.



The entry and exit of firms

In a competitive market, firms may enter or leave with little difficulty. Firms may be attracted into a market for a number of reasons, but particularly because of the expectation of profit. This causes the market supply curve to shift to the right. Rising prices may provide a sufficient incentive and provide a *signal* to potential entrants to enter the market.

There is a chain reaction, starting with an increase in demand, from D to D1. This raises price to P1, which provides the incentive for existing firms to supply more, from Q to Q1. The higher price also provides the incentive for new firms to enter, and as they do the supply curve shifts from S to S1.

A market where prices are rising provides the best opportunity for the entrepreneur. Conversely, lower prices encourage firms to leave the market.

MARGINAL UTILITY THEORY

Marginal utility theory examines the increase in satisfaction consumers gain from consuming an extra unit of a good.

- Utility is an idea that people get a certain level of satisfaction / happiness / utility from consuming goods and service.
- Marginal utility is the benefit from consuming an extra unit

This utility is not constant. Often we get diminishing marginal utility. The first piece of chocolate cake gives more utility than the 7th piece.

Quantity (Q)	Total Utility	Marginal Utility
1	100	100
2	170	70
3	190	20
4	180	-10
5	140	-40

In the above example, total utility (190) is maximised after just three pieces of chocolate cake.

Utility and price

- One way to measure utility is to give the utility a monetary value.
- For example, if I would pay £0.70 for a piece of cake, then we can say the utility is at least £0.70

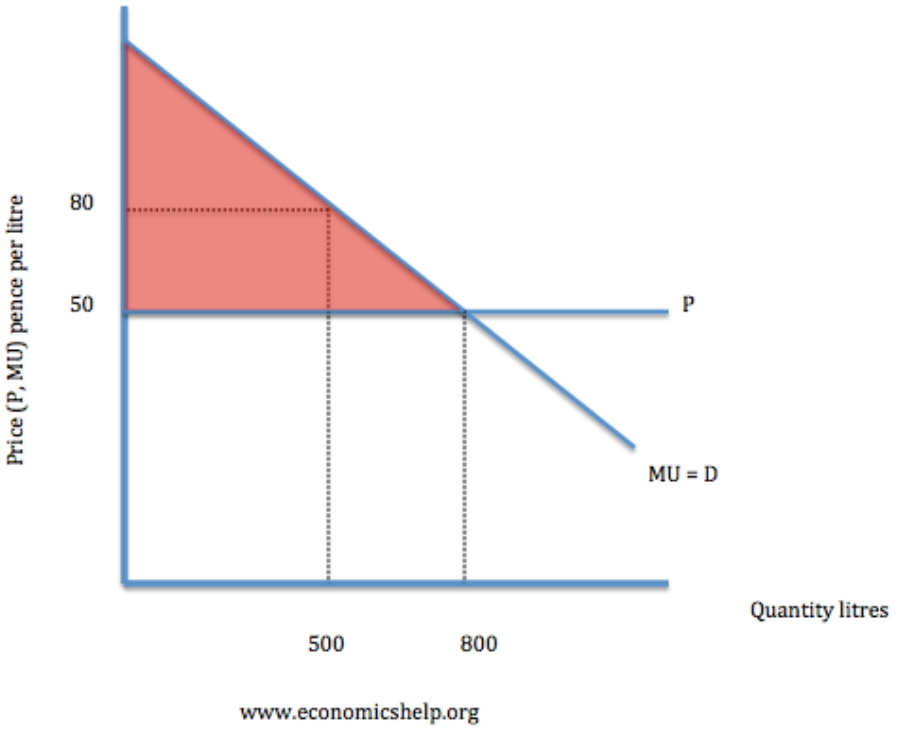
How much to consume?

- In the above example, if a piece of cake cost 70p, it would make sense to consume 2 pieces.
- The first piece gives 100p of utility – which is greater than the price of 70p.
- The second piece gives a utility equal to the price.
- The third piece would give marginal utility of only 20 – which is less than the price of 70p

Consumer surplus

This is the excess of what a consumer would have been prepared to pay compared to what they actually pay.

A Person's Consumer Surplus from Petrol



- In the above diagram, at Q 500 litres, the MU is 80p > than the price = 50p. Therefore, a rational consumer will increase consumption of petrol, until the MU of petrol equals the price at 50p and a quantity of 800.
- Marginal Consumer Surplus = The excess of a person's total utility from the consumption of a good (MU) over the price paid: MCS = MU – P

Optimum level of consumption

For one good, the optimum level of consumption would be to consume a quantity of the good unto the point where MU = Price.

There's no point paying 75p for cake, if it only gives us 50p worth of utility.

Demand curve and Marginal Utility

Our demand curve is derived from our marginal utility.

If a good gives us more satisfaction, e.g. it becomes more fashionable, our MU and demand curve will shift to the right.

Choosing between different goods

In the real world, we are not just deciding how much of one good to buy. We are also deciding how to choose between different combinations of goods.

The Equi Marginal principle in consumption states that consumers will maximise total utility from their incomes by consuming that combination of goods where:

MUa = Pa
—— —-
MUb = Pb

For example, suppose bread = £1 and Chicken = £2.

- Chicken is twice as expensive. Therefore, it would make sense to choose a quantity of chicken, where the marginal utility of chicken was twice the MU of bread.
- Therefore, you would tend to buy less chicken to make sure the marginal utility of chicken justified its higher price.
- If chicken was giving three times as much marginal utility, but was only twice as expensive, it would make sense to buy more chicken until the marginal utility fell to that ratio.

INDIFFERENCE CURVE THEORY

When a consumer consumes various goods and services, then there are some combinations, which give him exactly the same total satisfaction. The graphical representation of such combinations is termed as indifference curve.

Indifference curve refers to the graphical representation of various alternative combinations of bundles of two goods among which the consumer is indifferent. Alternately, indifference curve is a locus of points that show such combinations of two commodities which give the consumer same satisfaction. Let us understand this with the help of following indifference schedule, which shows all the combinations giving equal satisfaction to the consumer.

Table 2.5: Indifference Schedule

	Apples	
	ADVERTISEMENTS:	
		Bananas
Combination of Apples and Bananas	(A)	(B)
P	1	15

Q	2	10
R	3	6
S	4	3
T	5	1

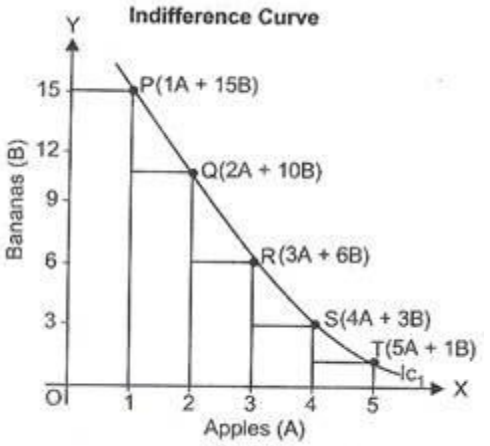


Fig. 2.4

As seen in the schedule, consumer is indifferent between five combinations of apple and banana. Combination 'P' (1A + 15B) gives the same utility as (2A + 10B), (3A + 6B) and so on. When these combinations are represented graphically and joined together, we get an indifference curve 'IC_1' as shown in Fig. 2.4.

In the diagram, apples are measured along the X-axis and bananas on the Y-axis. All points (P, Q, R, S and T) on the curve show different combinations of apples and bananas. These points are joined with the help of a smooth curve, known as indifference curve (IC_1). An indifference curve is the locus of all the points, representing different combinations, that are equally satisfactory to the consumer. Every point on IC_1, represents an equal amount of satisfaction to the consumer. So, the consumer is said to be indifferent between the combinations located on Indifference Curve 'IC_1'. The combinations P, Q, R, S and T give equal satisfaction to the consumer and therefore he is indifferent among them. These combinations are together known as 'Indifference Set'.

Monotonic Preferences:

Monotonic preference means that a rational consumer always prefers more of a commodity as it offers him a higher level of satisfaction. In simple words, monotonic preferences imply that as consumption

increases total utility also increases. For instance, a consumer's preferences are monotonic only when between any two bundles, he prefers the bundle which has more of at least one of the goods and no less of the other good as compared to the other bundle.

Example: Consider 2 goods:

Apples (A) and Bananas (B).

(a) Suppose two different bundles are: 1st: (10A, 10B); and 2nd: (7A, 7B).

Consumer's preference of 1st bundle as compared to 2nd bundle will be called monotonic preference as 1st bundle contains more of both apples and bananas.

(b) If 2 bundles are: 1st: (1 OA, 7B); 2nd: (9A, 7B).

Consumer's preference of 1st bundle as compared to 2nd bundle will be called monotonic preference as 1st bundle contains more of apples, although bananas are same.

Indifference Map:

Indifference Map refers to the family of indifference curves that represent consumer preferences over all the bundles of the two goods. An indifference curve represents all the combinations, which provide same level of satisfaction. However, every higher or lower level of satisfaction can be shown on different indifference curves. It means, infinite number of indifference curves can be drawn.

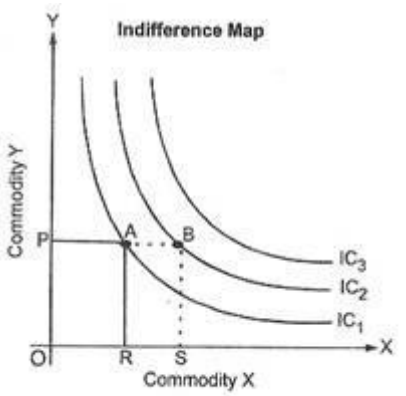


Fig. 2.5

In Fig. 2.5, IC_1 represents the lowest satisfaction, IC_2 shows satisfaction more than that of IC_1 and the highest level of satisfaction is depicted by indifference curve IC_3. However, each indifference curve shows the same level of satisfaction individually.

It must be noted that 'Higher Indifference curves represent higher levels of satisfaction' as higher indifference curve represents larger bundle of goods, which means more utility because of monotonic preference.

Marginal Rate of Substitution (MRS):

MRS refers to the rate at which the commodities can be substituted with each other, so that total satisfaction of the consumer remains the same. For example, in the example of apples (A) and bananas (B), MRS of 'A' for 'B', will be number of units of 'B', that the consumer is willing to sacrifice for an additional unit of 'A', so as to maintain the same level of satisfaction.

MRS_{AB} = Units of Bananas (B) willing to Sacrifice / Units of Apples (A) willing to Gain

$MRS_{AB} = \Delta B/\Delta A$

MRS_{AB} is the rate at which a consumer is willing to give up Bananas for one more unit of Apple. It means, MRS measures the slope of indifference curve.

It must be noted that in mathematical terms, MRS should always be negative as numerator (units to be sacrificed) will always have negative value. However, for analysis, absolute value of MRS is always considered.

The concept of MRS_{AB} is explained through Table 2.6 and Fig. 2.6

Table 2.6: MRS between Apple and Banana:

Combination	Apples (A)	Banana (B)	MRS_{AB}

P	1	15	–
Q	2	10	5B:1 A
R	3	6	4B:1A
S	4	3	3B:1A
T	5	1	2B:1 A

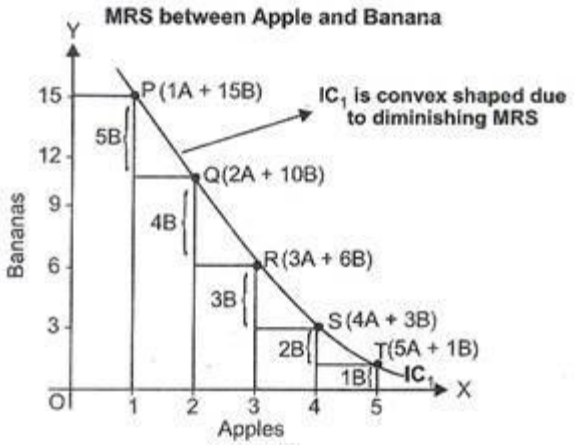


Fig. 2.6

As seen in the given schedule and diagram, when consumer moves from P to Q, he sacrifices 5 bananas for 1 apple. Thus, MRS_{AB} comes out to be 5:1. Similarly, from Q to R, MRS_{AB} is 4:1. In combination T, the sacrifice falls to 2 bananas for 1 apple. In other words, the MRS of apples for bananas is diminishing.

Why MRS diminishes?

MRS falls because of the law of diminishing marginal utility. In the given example of apples and bananas, Combination 'P' has only 1 apple and, therefore, apple is relatively more important than bananas. Due to this, the consumer is willing to give up more bananas for an additional apple. But as he consumes more and more of apples, his marginal utility from apples keeps on declining. As a result, he is willing to give up less and less of bananas for each apple.

Properties of Indifference Curve:

1. Indifference curves are always convex to the origin:

An indifference curve is convex to the origin because of diminishing MRS. MRS declines continuously because of the law of diminishing marginal utility. As seen in Table 2.6, when the consumer consumes more and more of apples, his marginal utility from apples keeps on declining and

he is willing to give up less and less of bananas for each apple. Therefore, indifference curves are convex to the origin (see Fig. 2.6). It must be noted that MRS indicates the slope of indifference curve.

2. Indifference curve slope downwards:

It implies that as a consumer consumes more of one good, he must consume less of the other good. It happens because if the consumer decides to have more units of one good (say apples), he will have to reduce the number of units of another good (say bananas), so that total utility remains the same.

3. Higher Indifference curves represent higher levels of satisfaction:

Higher indifference curve represents large bundle of goods, which means more utility because of monotonic preference. Consider point 'A' on IC_X and point 'B' on IC_2 in Fig. 2.5. At 'A', consumer gets the combination (OR, OP) of the two commodities X and Y. At 'B', consumer gets the combination (OS, OP). As OS > OR, the consumer gets more satisfaction at IC_2.

4. Indifference curves can never intersect each other:

As two indifference curves cannot represent the same level of satisfaction, they cannot intersect each other. It means, only one indifference curve will pass through a given point on an indifference map. In Fig. 2.7, satisfaction from point A and from B on IC_1 will be the same.

Similarly, points A and C on IC_2 also give the same level of satisfaction. It means, points B and C should also give the same level of satisfaction. However, this is not possible, as B and C lie on two different indifference curves, IC_1 and IC_2 respectively and represent different levels of satisfaction. Therefore, two indifference curves cannot intersect each other.

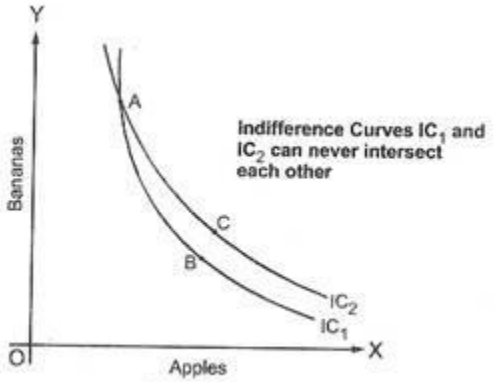


Fig. 2.7

Assumptions of Indifference Curve

The various assumptions of indifference curve are:

1. Two commodities:

It is assumed that the consumer has a fixed amount of money, whole of which is to be spent on the two goods, given constant prices of both the goods.

2. Non Satiety:

It is assumed that the consumer has not reached the point of saturation. Consumer always prefer more of both commodities, i.e. he always tries to move to a higher indifference curve to get higher and higher satisfaction.

3. Ordinal Utility:

Consumer can rank his preferences on the basis of the satisfaction from each bundle of goods.

4. Diminishing marginal rate of substitution:

Indifference curve analysis assumes diminishing marginal rate of substitution. Due to this assumption, an indifference curve is convex to the origin.

5. Rational Consumer:

The consumer is assumed to behave in a rational manner, i.e. he aims to maximize his total satisfaction.

SUPPLY

Supply is defined as a quantity of a commodity offered by the producers to be supplied at a particular price and at a certain time.

Individual Supply and Market Supply

Individual supply	• It refers to the quantity of a commodity which a firm is willing to produce and offer for sale. • An individual supply schedule shows the different qualities of a commodity that a producer of a firm would offer for sale at different prices.
Market Supply	• The quantity which all producers are willing to produce and sell is known as market supply. • A market supply schedule shows the various quantities of a commodity that all the firms are willing to supply at each market price during a specified time period.

Law of Supply

If the price of commodity rises, the level of quantity supplied rises, after factors remaining constant.

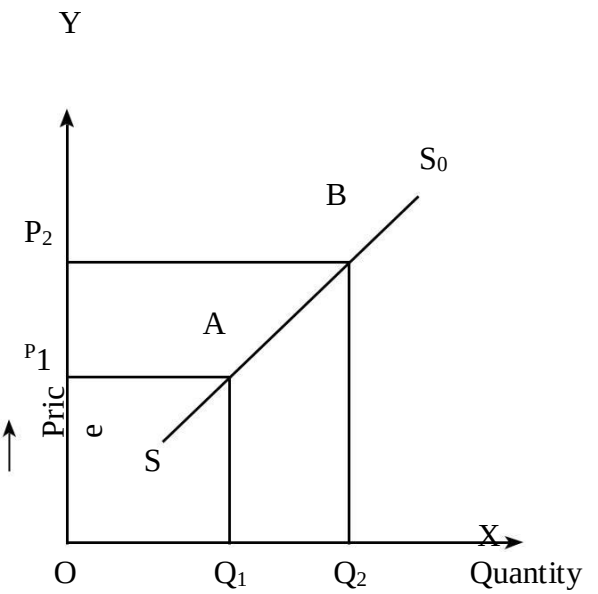


Fig.1.16 : Supply Curve

Supply Curve: in the grophical representation of supply schedule when ither factors affecting supply remain constant.

- Movement from A to B: Extension in Supply
- Movement from B to A: Contraction in Supply

 # Factor Determining Supply or Supply Function:

(i) Price of the commodity: When the price of a commodity in the market rises, seller increases the price.

The cost of production remaining constant the higher will be the profit margin. This will encourage the producers to supply more at higher prices. The reverse will happen when the price fall.

(ii) Goals of the firm : Firms may try to work on various goals for eg. Profit maximization, sales maximization,employment maximization. If the objective is to maximize profit, then higher the profit from the sale of a commodity, the higher will be the quantity supplied by the firm and vice-versa. Thus, the supply of goods will also depend upon the priority of the firm regarding these goals and the extent to which it is prepared to sacrifice one goal to the other.

(iii) Input Prices : The supply of a commodity can be influenced by the raw materials, labour and otherinputs. If the price of such inputs rise leading to a lower profit margin becomes less. This will ultimately lead to a lower supply. On the other hand, if there is a fall in input cost firm, will be ready to supply more than before at a given price level.

(iv) State of Technology : If improved and advanced technology is used for the production of acommodity, it reduces its cost of production and increases the supply. On the other hand, the supply of those goods will be less whose production depend on unfair and old technology.

(v) Government policies : The impostion of sales tax reduces supply and grant of subsidy on the otherhand increases the supply.

(vi) Expectation about future prices : If the producers expect an increase in the price of a commodity,then they will supply less at the present price and hoard the stock in order to sell it at a higher price in the near future. This will be opposite in case if they anticipate fall in future price (eg. fruit seller)

(vii) Prices of the other commodities : Usually an increase in the prices of other commodities makes theproduction of that commodity whose price has not risen relatively less attractive we thus, expect that other things remaining the same, the supply of one commodities falls as the price of other goods rises. For eg. suppose a farmer produces wheat and pulses in his firm. If the price of pulses increases he grows less wheat. Hence the supply of wheat decrease.

(viii)Number of firms in the market : Since the market supply is the sum of the suppliers made by individualfirms, hence the supply varies with changes in the number of firm in the market and increases the supply. An decreases in the number of firm reduces the supply.

(ix)Natural factor : In case of natural disorders flood, drought, etc. the supply of a commodity speciallyagricultural products is adversely affected.

 # Movement & Shift of Supply Curve

The quantity supplied of a commodity may change broadly due to two reasons :

When the quantity supplied changes due to change in the price of that commodity it is called change in quantity supplied or movement along the supply curve or extension and contraction of supply.

On the other hand when the supply changes due to change in other factors, price of the commodity remaining unchanged, such a change in supply curve, increase and decrease of supply or change in supply.

(a) Movement along the supply curve or extension or contraction of supply or change in quantity supplied

(b) Extension of Supply : When the quantity supplied of a commodity rises with a rise in price ofthat commodity other determinants of supply remaining unchanged. It is known as extension of supply or movement along the same supply curve towards the right.

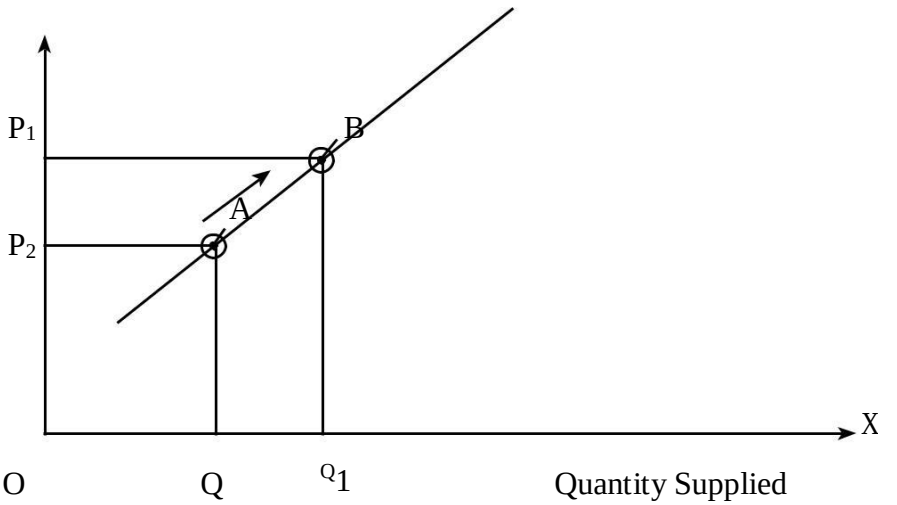
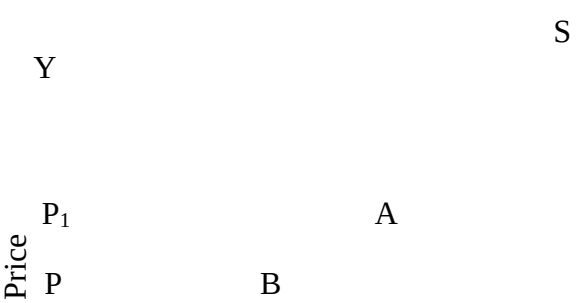


Fig.1.17:(a) Movement along Supply Curve (rising price)

In the diagram as the price rises from P2 to P1 the quantity supplied Q to Q_1. This is shown by a movement along the supply curve from point a to point b (towards the right). It is called extension of supply.

(ii) Contraction of supply : When the quantity supply of a commodity falls with a fall in its price, otherfactors remaining comtant, it is known as contraction of supply.



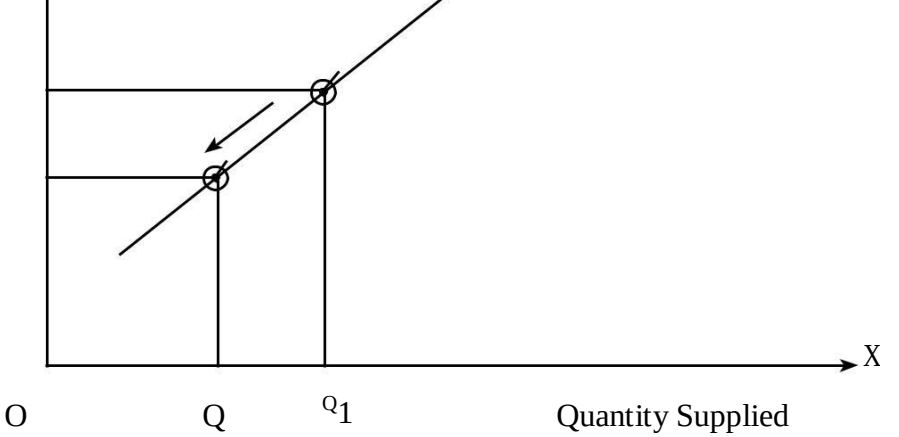


Fig. 1.17: (b) Movement along Supply Curve (falling price)

Here, the quantity supplied as fallen from Q_1 to q due to a fall in price of the commodity from P_1 to P. This is shown by a movement along the supply curve S from point a to point b (towards the left).

The extension and contraction of a supply can be shown together in a single diagram.

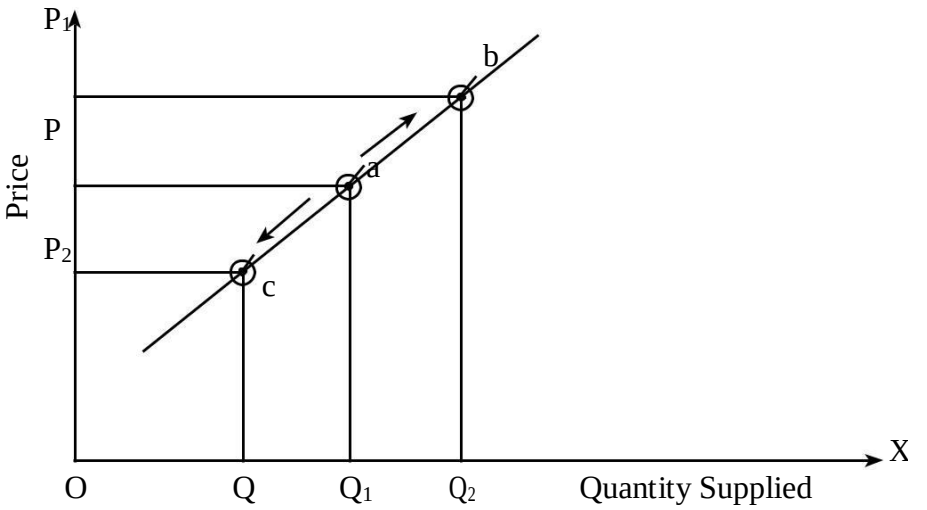


Fig.1.17: (c) Movement along Supply Curve

(b) Shift of Supply Curve or Increase & Decrease of supply curve or change in supply :

(i) Increase in Supply : When the quantity supplied increase due to other determinants of supply priceremaining constant it is called increase in supply.

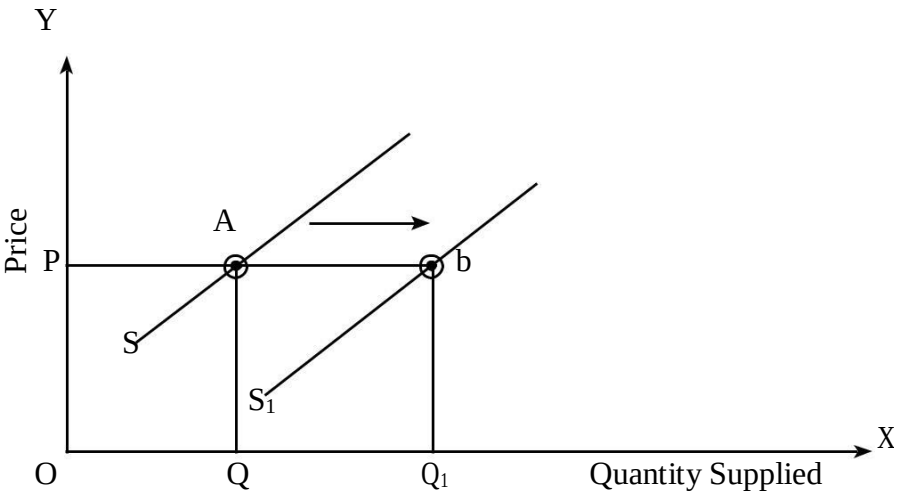


Fig.1.18 : Shift of Supply Curve (rightward)

In the diagram we see that quantity supplied has increased from Q to Q_1, the price of the commodity remaining constant at OP. This is shown by the shift of the original supply curve S to the right to from a new supply curve S_1.

(ii) Decrease in Supply : When quantity supplied of the commodity decrease due to change in factorsdetermining supply but for price. It is termed as decrease in supply or shift of supply curve towards the left.

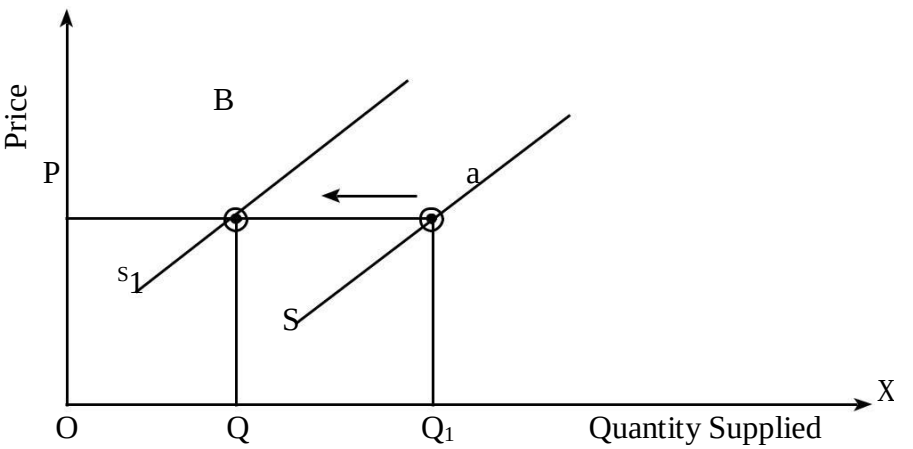


Fig.1.19: Shift of Supply Curve (leftward)

In the diagram we see that supply has fallen from Q_1 to Q, the price remaining constant at P. this is shown by a shift of the original supply curve S to the left to form a new supply curve S_1.

Both the Increase and Decrease in supply can be shown in a single diagram.

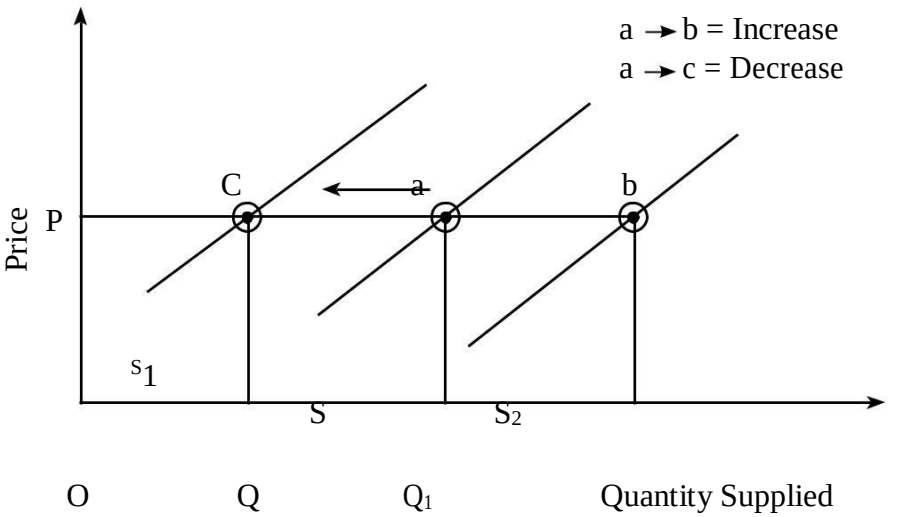


Fig.1.20: Shift of Supply Curve

1.4.5 Exceptions to the Law of Supply :

(i) Agricultural Goods : In case of such goods the supply cannot be adjusted to market conditions.The production of agriculture goods is largely dependent on natural phenomenon and therefore its supply depends upon natural factors like rainfall, etc. Moreover the supply of such goods is mostly seasonal and therefore it cannot be increased with a rise in price.

(ii) Rare objects : These are certain commodities like rare coins, classical paintings old manuscripts,etc. whose supply cannot be increased or decreased with the change in price. Therefore, such goods are said to have inelastic supply and the supply curve is a vertical straight line parallel to
Y – axis

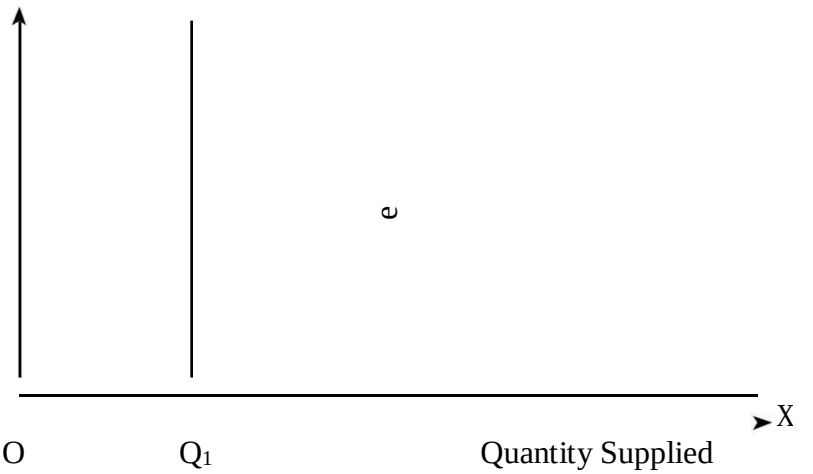


Fig.1.21: Inelastic Supply Curve

In the diagram, the supply remains constant at OQ with respect to any change in price.

(iii) LabourMarket : In the labour market, the behavior of the supply of labour goes against the law ofsupply.

In case of such labourers, if the wages rise the workers will work for less hour, so as to enjoy more leisure.

This is explained with the following diagram:

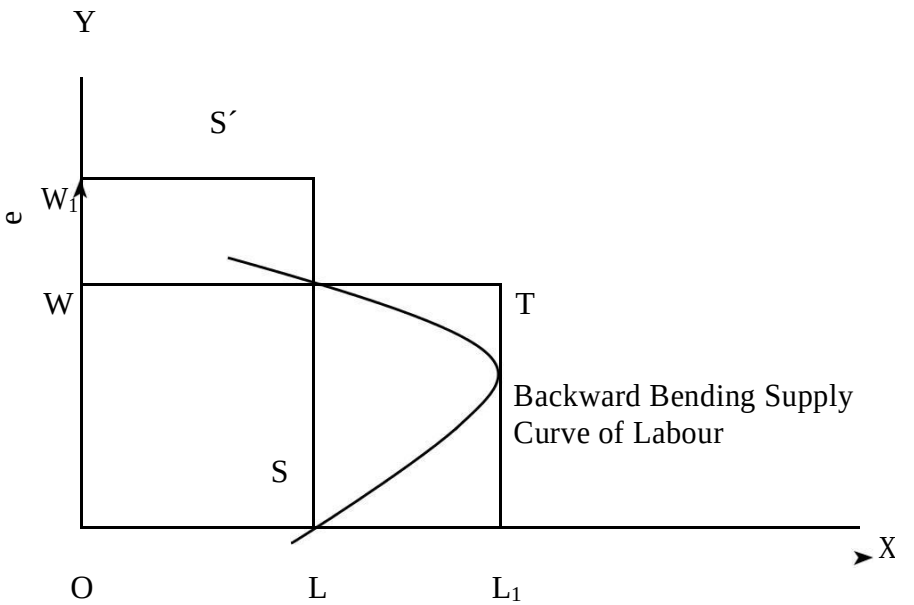


Fig.1.22: Supply Curve of Labour Market

In the diagram we measure labour supply along the X-axis and wages along the Y – axis. When wages was OW the labour supply was OL. Now, when the wages rise to OW_1, the labour supply instead of rising falls to OL_1. As a result, the supply curve S moves to the left instead of rising any further. Hence the labour market remains an exception to the law of supply.

1.4.6 Elasticity of Supply

Elasticity of supply is defined as the degree of responsiveness of quantity supplied of a commodity due to change in its price. Elasticity of supply is expressed as :

e_s = % changes in qty. supplied / % changes in price

= (dq/q x 100) /(dp/p x 100)

= (dq/dp x p/q)

Where d = change, q = original quantity supplied, p = original price.

Determinants of Elasticity of Supply

(i) Nature of the commodity : The supply of durable goods can be increased or decreased effectivelyin response to change in price and hence durable goods are relatively elastic.

On the other hand the perishable goods cannot be stored and thus supply cannot be altered significantly in response to change in their price. Hence the price of the perishable goods are relatively less elastic.

(ii) Time Factor :A price change may have a small response on the quantity supplied because outputmay change by small quantity in the short period since the production capacity may have been limited. Therefore, in the short run supply tends to be relatively inelastic.

On the other hand in the long run production capacity may be increased or supply may also be raised therefore in the long run supply is elastic.

(iii) Availability of facility for expanding output : If producers have sufficient production facilities suchas availability of power, raw materials, etc, they would be able to increase their supply in response to rise in price.

On the other hand if there is a shortage of such facilities then expansion of supply will not be possible due to rise in price.

(iv) Change in cost of production : Elasticity of supply depends upon the change in cost. If an increaseof output by a firm in an industry causes only a slight increase in the cost then supply will remain fairly elastic.

On the other hand if an increase in output bring about a large increase in cost due to rise in price of inputs etc, then supply will be relatively inelastic.

(v) Nature of inputs : Elasticity of supply depend upon the nature of inputs for the production of acommodity. If the production requires inputs that are easily available, then its supply will be relatively elastic.

On the other hand, if it uses specialized inputs then its supply will be relatively inelastic.

(vi) Risk Taking : If entrepreneurs are willing to take risk, then supply will be more elastic and if they arereluctant to take risk then supply would be inelastic.

UNIT -2

PRODUCTION

Introduction

In Economics the term production means process by which a commodity(or commodities) is transformed in to a different usable commodity. In other words, production means transforming inputs(labour ,machines ,raw materials etc.) into an output. This kind of production is called manufacturing. The production process however does not necessarily involve physical conversion of raw materials in to tangible goods .it also includes the conversion of intangible inputs to intangible outputs . For example , production of legal, medical ,social and consultancy services- where lawyers, doctors, social workers consultants are all engaged in producing intangible goods.
An „*input*` is good or service that goes in to the process of production and "*out put* is any good or service that comes out of production process.

Fixed and variable inputs.

In economic sense, a fixed input is one whose supply is inelastic in the short run

.Therefore, all of its users cannot buy more of it in short run. Conceptually, all its users, cannot employ more of it in the short run. If one user buys more of it, some other users will get less of it. A variable input is defined as one whose supply in the short run is elastic, eg:Labour, raw materials etc. All the users of such factors can employ larger quantity in the short run.
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 . A firm has two types of production function:-

(1) Shot run production function

(2) Long run production function

Production function

Production function shows the technological relationship between quantity of out put 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. In other words, It is the tool of analysis which is used to explain the input - output relationships. In general, it tells that production of a commodity depends on the specified inputs. in its
specific tem it presents the quantitative relationship between inputs and output . inputs are classified as:-

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

Short run and Long run

Shot 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 increases 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 extent 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.
In the strict sense ,production function is defined as the transformation of physical input in to physical out put where out put is a function input .It can be expressed algebraically as;

Q=f (K,L etc).Where

Q- Is the quantity of out put produced during a particular period
K, L etc are the factors of production
f -denotes the function of or depends on.

The production functions are based on certain assumptions;

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

The laws of production

Production function shows the relationship between a given quantity of input and its maximum possible out put.Given the production function, the relationship between additional quantities of input and the additional output can be easily obtained. This kind ofrelationship yields the law of production The traditional theory of production studies the marginal input-output relationship under :

(I) Short run; and (II) long run.
In the short run, input-output relations are studied with one variable input, while other inputs are held constant .The Law of productionunder theseassumptions are called " the Laws of variable production".

In the long run input output relations are studied assuming all the input to be variable. The long-run input output relations are studied under `Laws of Returns to Scale.

Law of Diminishing Returns (Law of Variable Proportions)

The Laws of returns states the relationship between the variable input and the output in the short term. By definition certain factors of production (e.g.-Land, plant, machinery etc) are available in short supply during the short run . Such factors which are available in unlimited supply even during the
short periods are known as variable factor. In short-run there fore ,the firms can employ a limited or fixed quantity of fixed factors and an unlimited quantity of the variable factor . In other words, firms can employ in the short run varying quantities of variable inputs against given quantity of fixed factors. This kind of change in input combination leads to variation in factor proportions. The Law which brings out the relationship between varying factor properties and output are there fore

known as the Law of variable proportions..

The variation in inputs lead to a disproportionate increase in output more and more units of variable factor when applied cause an increase in output but after a point the extra output will grow less and less. The law which brings out this tendency in production is known as‟ Law of Diminishing Returns`

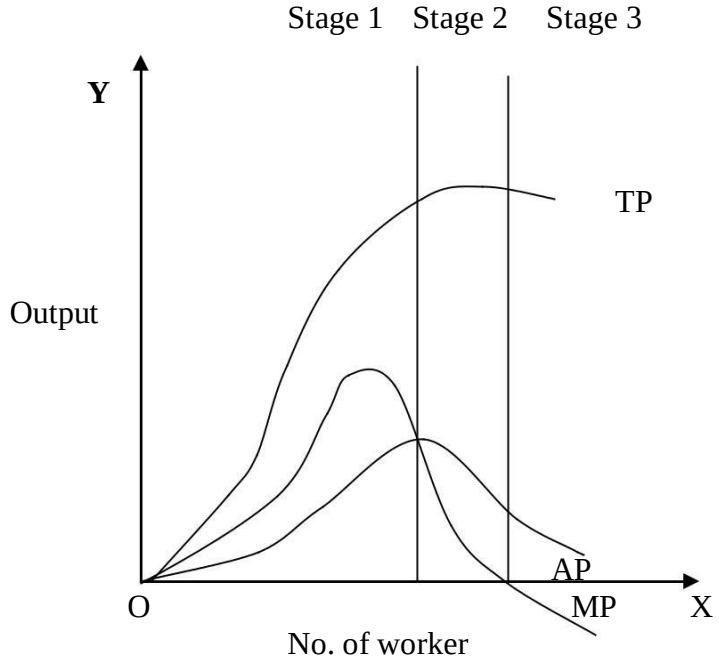
The Law of Diminishing returns levels that any attempt to increase output by increasing only one factor finally faces diminishing returns. The Law states that when some factor remain constant ,more and more units of a variable factor are introduced the production may increase initially at an increasing rate; but after a point it increases only at diminishing rate. Land and capital remain fixed in the short-term whereas labour shows a variable nature.

The following table explains the operation of the Law of Diminishing Returns.

No. of Workers	Total Product	Average product	Marginal product
1	10	10	10
2	22	11	12
3	36	12	14
4	52	13	16
5	66	13.2	14
6	76	12.7	10
7	82	11.7	6
8	85	10.5	3
9	85	905	0
10	83	8.3	(-2)

The above table illustrates several important features of a typical production function .With one variable input.- here both Average Product (AP) and Marginal Product (MP) first rise ,reach a maximum – then decline. Average product is the product for one unit of labour . It is arrived at by dividing the Total Product (TP) by number of workers Marginal product is the additional product resulting term additional labour. It is found out by dividing the change in total product by the change in the number of workers. The total output increases at an increasing rate till the employment of the 4^{th} worker. The rate of increase in the marginal product reveals this .Any ddition al labour employed beyond the 4^{th} labour clearly faces the operation of the Law of Diminishing Returns. The maximum marginal product is 16 after which it continues to fall , ultimately becoming negative. Thus when more and more units of labour are combined with other fixed factors the total output increase first at an increasing rate then at a diminishing rate finally it becomes negative.

<u>The graphical representation the above table is shown below</u>



OX axis represents the units of labour and OY axis represents the unit of output . The total output(TP)curve has a steep rise till the employment of the 4th worker. This shows that the output increases at an increasing rate till the employment of the 4th labour . TP curve still goes on increasing but only at a diminishing rate. Finally TP curve shows a downward trend.

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 increases in total product .The average product also increases. This stage T

continues up o 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 on wards .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 become 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

The Law of Diminishing Returns is based on the following assumptions;-

Returns is based on the following assumptions;-

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

In the long –run all the factor of production are variable ,and an increase in output is possible by increasing all the inputs. The Law of Returns to scale explains the technological relationship
between changing scale of input and output. The law of returns of scale explain how a simultaneous and proportionate Increase in all the inputs affect the total output. The increase in output may be proportionate , more than proportionate or less than proportionate. If the increase in output is proportionate to the increase in input , it is constant Returns to scale .If It is less then proportionate it is diminishing returns to scale . The increasing returns to the scale comes first ,then constant and finally diminishing returns to scale happens.

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

The factors which cause the operation of the laws of returns the scale are grouped under economies and diseconomies of scale . Increasing returns to scale operates because of economies of scale and decreasing returns to scale operates because of diseconomies of scale where economies and diseconomies arise simultaneously. Increasing returns to scale operates when economies of scale are greater then The diseconomies of scale and returns to scale decreases when diseconomies .overweight the economies of scale . Similarly when economies and diseconomies are in balance ,returns to scale becomes constant.

When a firm increases all the factor of production it enjoys the same advantages of economies of production . The economies of scale are classified as ;

1. Internal economies.

2..External economies

Internal economies of scale

Internal economies are those which arise form the explanation of the plant-size of the firm .Internal economies of scale may be classified;-

(a) Economies in production.

(b) Economies in marketing

(c) Economies in economies

(d) Economies in transport and storage

A . Economies in production :-it arises term

1. Technological advantages
2. Advantages of division of labour and specialization

B . Economies in marketing;-It facilitates through

1. Large scale purchase of inputs.
2. Advertisement economies ;
3. Economies in large scale distribution
4. Other large-scale economies

C . Managerial economies ;- It achieves through

1. Specialization in management
2. Mechanization of managerial function.

D . Economies in transport and storage

Economies in transportation and storage costs arise form fuller utilization of transport and storage facilities.

External Economies of scale

External or pecuniary economies to large size firms arise from the discounts available to it due to;

1 . Large scale purchase of raw materials
2 . Large scale acquisition of external finance at low interest
3 . Lower advertising rate fun advertising media.
4 . Concessional transport charge on bulk transport.
5. Lower wage rates if a large scale firm is monopolistic employer of certain kind of specialized labour

Thus External economies of scale are strictly based on experience of large –scale firms or well managed small scale firms. Economies of scale will not continue for ever. Expansion in the size of the firms beyond a particular limit , too much specialization, inefficient supervision, Improper labour relations etc will lead to diseconomies of scale .

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. Thus it includes all expenses from the time the raw material are bought till the finished products reach the wholesaler.

A managerial economist must have a proper understanding of the different cost concept which are essential for clear business thinking. The cost concept which are relevant to business operation and decision can be grouped on the basis of their propose under two overlapping categories:

1. Concept used for accounting purpose

2. Concept used in economics analysis of the business

Types of Cost (or Cost Concepts)

There are several types of costs(or cost concepts).Following are the important items:-

Money Cost : money cost means the total money expenses incurred by a business firm on the variousitems entered into the production of a particular product. For example , money payments made on wages and salaries to workers and managerial staff, payments for raw materials purchased, expenses on power and light ,insurance ,transportation ,advertisement ;and also payments made on the purchase of machinery and equipments etc. constitute money cost of production. Money cost is also called nominal cost.

Real Cost : Real cost means the real cost of production of a particular product. It is the next bestalternative sacrificed in order to obtain that product. .It also denotes the „efforts" of workers and sacrifices of owners undergone in the production of a particular 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. As Adam smith observed , if a hunter can bag a deer or a beaver in the single day , the cost of deer is a beaver and the cost of beaver is a deer. A man who marries a girl is foregoing the opportunity of marrying another girl. A film actress can either act in films or do modeling work. She cannot do both the jobs at the same time. Her acting in the film results in the loss of an opportunity of doing modeling work .Likewise , if an old building is proposed to be used for a business, where rent of the building is the opportunity cost . The opportunity cost concept was first developed by an Austrian economist, Wieser .

The opportunity cost concept plays an important role in managerial decisions. It is useful in determination of relative prices of different goods. It is also useful in fixing the price of an output factor. Above all, it helps in the best allocation of available resources.

Sunk Cost : Sunk costs are those which have already been incurred and which cannot be changedby 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.

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 paidout costs.

Implicit Cost: Implicit costs are those costs, which are not paid in cash to anyone. These are notactually 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, wages of entrepreneur, interest on owned capital etc. Implicit costs are also known as imputed costs or hypothetical costs.

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. Since all the expenses on production are in money terms, the accounting costs are money costs or nominal costs.

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.)

Difference between Accounting Cost and Economic Cost

Accounting cost means the expenses incurred by the firm on production and sale of goods or service. These are paid by the firm to the outsiders. For example, payment made for wages, raw materials, fuel,
power, building etc. are the accounting costs. Accounting cost is the money paid for contractual payments. It includes payments and charges made by the enterprise to the suppliers of resources. It is the explicit cost. But economic cost includes not only explicit cost but also implicit or imputed cost. Implicit cost includes rent charged on owned premises, interest charged on owned capital, wages paid to entrepreneur etc. Implicit cost is not included in accounting cost. Accounting cost includes only explicit costs which are recorded in the books of account. Implicit cost will not be recorded in the books of account. Thus the economist‟s concept of cost is more comprehensive as compared to accountant‟s concept of cost.

Accounting cost are generally used for financial reporting and control. Economic costs are used for decision-making

In short, accounting costs involve only cash payments made by the entrepreneur. On the other hand, economic costs include all these accounting costs plus the implicit cost

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. Social costs include not only the cost borne by the owners of a business(or producers) but also the cost passed on to the society. For example, production of certain commodities (chemical, rubber, petroleum, steel etc) causes environment pollution . Pollution caused while producing a commodity imposes a social cost on those residents who suffer ill health. Some industries leave wastes which the adjoining areas have to bear. A cost that is not borne by the firm but is incurred by others in the society is called external cost. Social cost includes external costs and privet cost (because firms are also apart of society). Thus, social cost is the total cost of the society on account of production of a commodity. For example, the social cost of liquor sold by a firm includes the cost incurred by the firm (private cost) and the cost like expenditure of additional police force to deal with the drunken people and such other incidental expenses for the society. Take another example. When people go for picnic in the park and throw wrappers, then they impose a real cost on the residents of that area who have to clean up the park. This is social cost.. Thus social cost includes real cost which is the cost borne by the society, directly or indirectly due to the production of goods . In short social costs are those costs ,which are incurred by the society in producing commodities and services. It is the sum of private costs of production and economic damage upon society.

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. Private costs have to be borne by only those persons or firms who make decision . These do not include the effect of the produced commodity on the society.

Difference between Private Cost and Social Cost

Private costs are the costs incurred by a firm while producing a commodity or service. But social costs are those costs , which are incurred by the society in producing commodities or services. Social costs include private costs and external costs. Private costs include both explicit and implicit costs. Private costs do not include external costs.

The concept of social cost enables to understand the social implication of the utilization of scarce resources among the different sections of the society . The economic optimum is the yardstick in matters of private cost, but social optimum is the governing factor in the case of social cost.

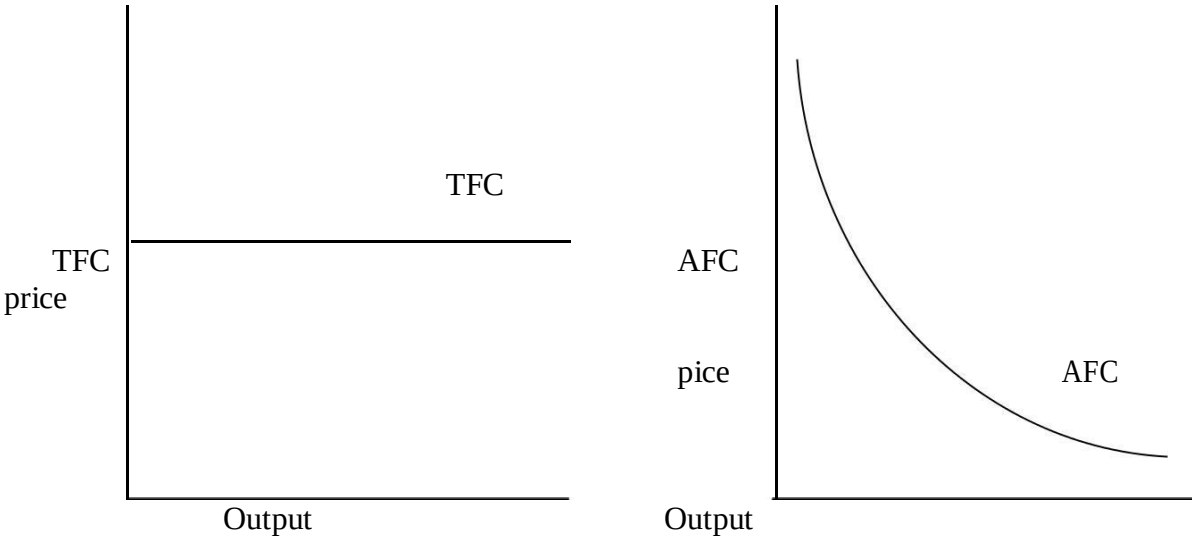
Fixed and Variable Cost :-

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

production is zero, a firm will have to incur fixed costs. Examples are rent, interest, depreciation, insurance, salaries etc. The fixed costs are also called supplementary costs, capacity costs or period costs or overhead costs.

Average fixed cost(fixed cost per unit) changes with a change in the quantity of production. If the volume of production increases, average fixed cost will decrease . If the quantity of production decrease, average fixed cost will increase. Thus, there Is an inverse relationship between fixed costs and quantity of production.

Average fixed cost is obtained by dividing total fixed cost by total output. Total fixed cost curve and average fixed cost curve are shown below :



From the above graph it is clear that the total fixed cost curve is horizontal to the OX axis.. On the other hand the average fixed cost curve slopes from left to right. This implies that as the output increases , the average fixed cost falls.

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. Thus , there is a direct relationship between variable cost and volume of production.

Variable costs are also known as prime costs or direct costs. Examples are materials, wages, power, stores etc . Prime or variable cost consist of direct material cost, direct labour cost and other direct expenses

Business cost and full cost

Business cost include all the expenses which are incurred to carryout 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. These cost concepts are used for calculating business profits and losses and for filing returns for income- tax and also for other legal purposes

The concept of full costs ,includes business costs, opportunity costs and normal profits.The opportunity cost includes the expected earnings from the second best use of the resources,or the market rate of interest on the total money capital and also the value

of the entrepreuners own services which are not charged for in the current business.Normal profit is a necessary minimum earning in addition to the opportunity cost,which a firm must get to remain in its present occupation.

Total cost, Average cost and Marginal cost

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

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

Short run and Long run costs

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. But on the other hand long run is a period which is enough to adjust all input factors . Thus long run costs are those costs which vary with output when all input factors(fixed and variable) are variable.

Cost function

The relationship between cost and output is technically known as cost function where – TC = f (Q) TC= Total cost, f= functio n of, Q=Qu antity produc ed

MARKET STRUCTURES AND PRICE OUTPUT DETERMINATION

Introduction

The determination of price of the product is an important managerial function. Price affects profit through its effect both on revenue and cost. profit is concerned With the difference between cost and the revenue .It always depends on cost and volume of sales. Therefore the management always tries to find out the optimum combination of price and output which offers the maximum profit to the firm. Thus pricing occupies on important place in economic analysis of firms.

The knowledge of market and market structure with which a firm operates is more helpful in price output decisions . Market in economic term means a meeting place where buyers and sellers deal directly or indirectly. Clark and Clark defines market as that “any body of persons who are in intimate business relations and carry on extensive transactions in any commodity” . 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

The term perfect competition is used in wider sense. perfect competition means all the buyers and sellers in the market are aware of price of products .The following are the characteristics of perfectly competitive market

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.

When the first three assumptions are satisfied there exists pure competition .competition becomes perfect only when all the assumptions are satisfied . In perfect competition ,the demand for the output for each producer is perfectly elastic .With the larger number of firms and homogeneous products, no individual firm is in a position to influence the price .

Equilibrium Price

The demand curve normally slopes downwards showing that more quantity of commodity will be demanded at a lower price than at a higher prices. Similarly supply curve showing an upward trend where the producers will offer to sell a larger quantity at a higher price than at a lower price . Thus the quantity demanded and quantity supplied vary with price .The price that tends to settle down or comes to stay in the market (where both buyers and sellers are satisfied) is at which quantity demanded equals quantity supplied. The point so formed is known as equilibrium point and price is known as equilibrium price.

Effect of time on supply

According to Marshall ,time has great influence on the determination of price .The following are the market periods based on time- market period, short period and long period.

1.Very short period(Market period) 2.Short period
3.Long period

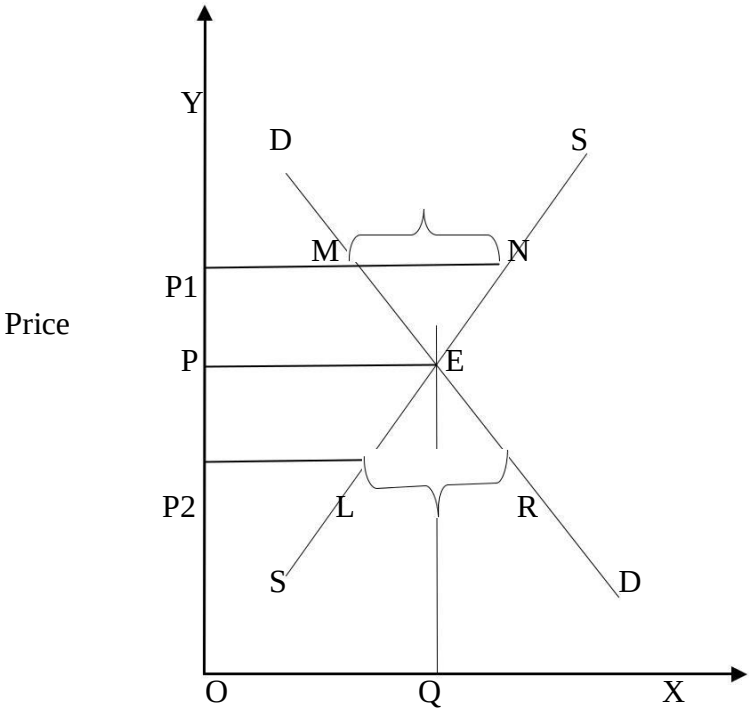
Market period or very short period may be only a day or very few days .Change in supply is not possible where the period is very short and quantity demanded will be the determining factor in this period Further, supply curve in the market period is remain fixed showing vertical straight line.

The short period is a period not sufficient to make any changes in the existing fixed plant capacity. Increase in supply in the short period is possible by increasing the variable factors of production only The supply curve slopes upward to right showing that some increase in supply is possible when the price increases.

Long period is a time long enough to adjust the supply to any changes in demand .The long run supply curve is less steep then short run supply curve showing increase in quantity supplied when price changes

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.



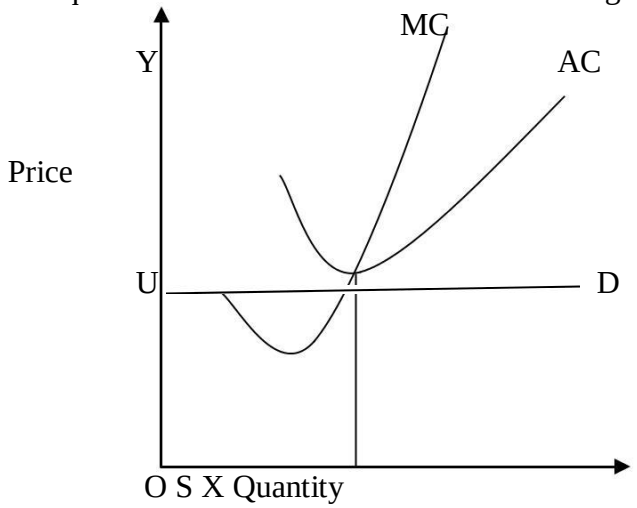
In the above diagram ,DD denotes the demand curve and SS denotes the supply curve . Demand and supply curves slopes in opposite direction. In this diagram OP is the equilibrium price where the demand curve equates with the supply curve. In this figure , the point E determines the equilibrium price and OQ is the equilibrium quantity.From the diagram it can be noted that if the price increases to OP_1 ,the demand will be P_1M and supply will be P_1N.So MN will be excess supply . under this circumstance, the firm will be forced to lower the price in order to sell the excess stock. It the firm can minimizes the price, the profit will be low .Thus we can say that at the point of equilibrium firm can derive maximum profit. At the point of equilibrium, there are two conditions to be satisfied.

1) MC=MR Where MC =marginal Cost(Cost of producing an additional unit)
MR=marginal Revenue realized from the sale of an additional unit)

2) MC Curve Cuts MR curve from below that is MC Curve should have positive slope.

Under perfect competition ,the following equations are satisfied.
MC=MR, MR=AR Price=AR=AC There fore ,Price= MR=MC=AR=AC.

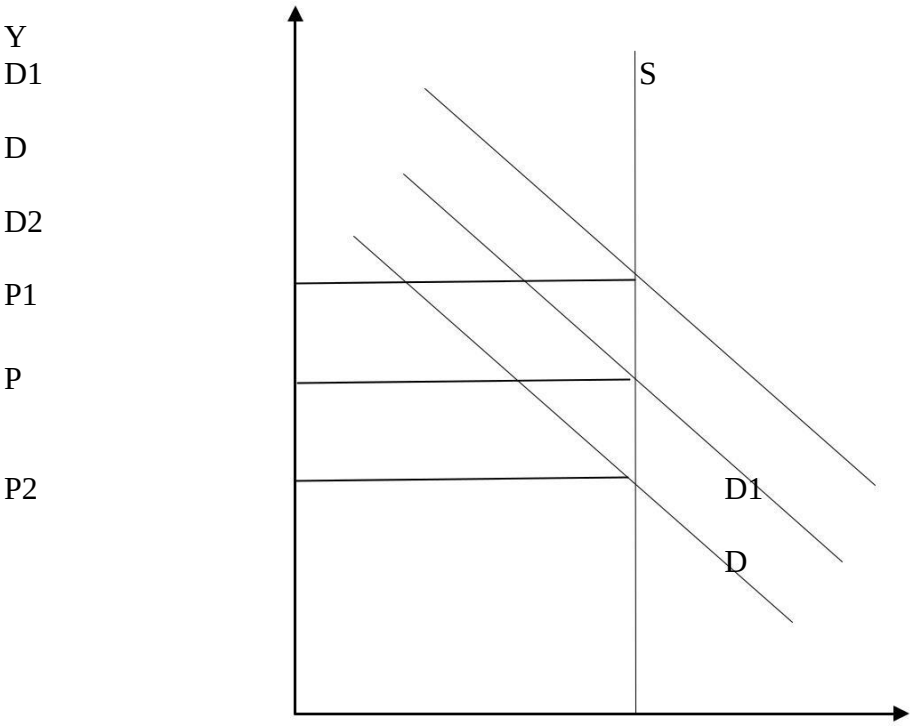
The equations can be satisfied with the following diagrams



When the firm is OS quantity of goods, the MC curve cuts the AC curve at its lowest. At the lowest point the AC curve is tangential to the demand (ie AC=MC=AR) curve .Thus the price OU is equal to the marginal cost(ST)which is again equal to average cost (ST).

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.



D2

O Q X

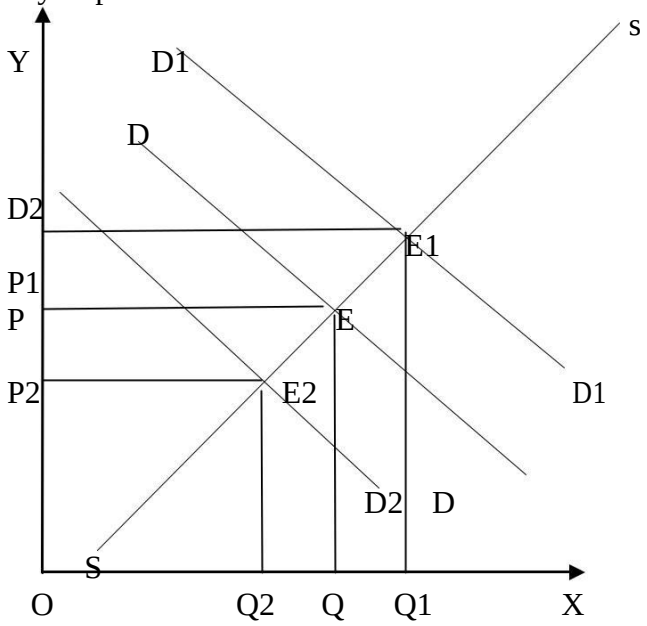
In the above diagram, SP is the supply curve. It means where ever the price is ,the fixed supply is to be sold in the market .Here DD is the demand curve .The supply is SQ .The point of equilibrium is at

„S" so the equilibrium is OP. Here the demand alone determines the price because supply is fixed. If the demand increases to D1D1, the price will increase from OP to OP_1 and vice versa ,ie, if the demand decreases to D2D2 , the price will decrease to OP_2.

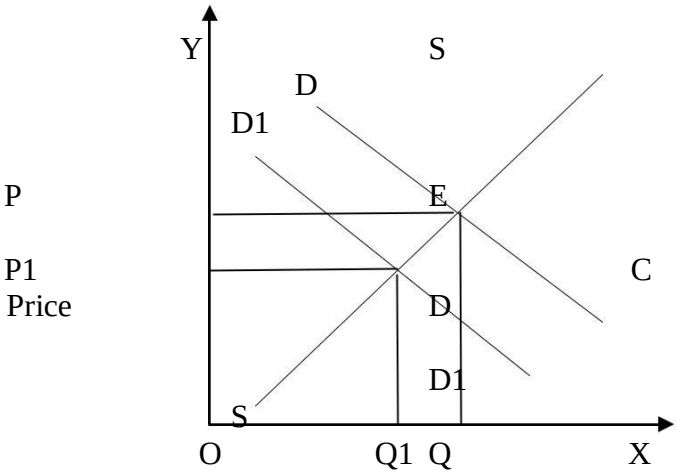
If the commodity is non- perishable, It can be stored .The seller does not sell the goods if the price is low. But the price is high he will sell whole stock .The curve will be curved at beginning ;then it will become a straight line .Under very short period , the demand alone determines the price.

During short period

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



In this diagram ,DD is the demand curve and SS is the supply curve. At point „E" the demand curve equals the supply curve ,the equilibrium price is OP.If the demand is increased to D1D1 the equilibrium price will be OP1 and if the demand decreased to D2D2 , the equilibrium will be OP2. But the quantity will be decreased from OQ to OQ2. The firm in the short run can produce output by increasing the variable inputs. . A firm gets maximum profit where MC=MR .The price determination by the industry is given in the following diagram.



Quantity demanded and supplied

In the above diagram, it can be revealed that the price is determined by the industry OP**.** when the demand is shifted to D1D1 then the quantity demanded is decreased from OQ to OQ1 and also price decreases from OP to OP1. In the case of a firm, MR=AR, thus demand =AR=MR=price

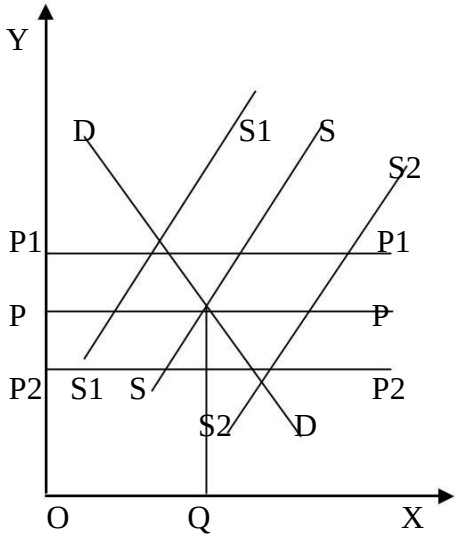
<u>In the long run</u>

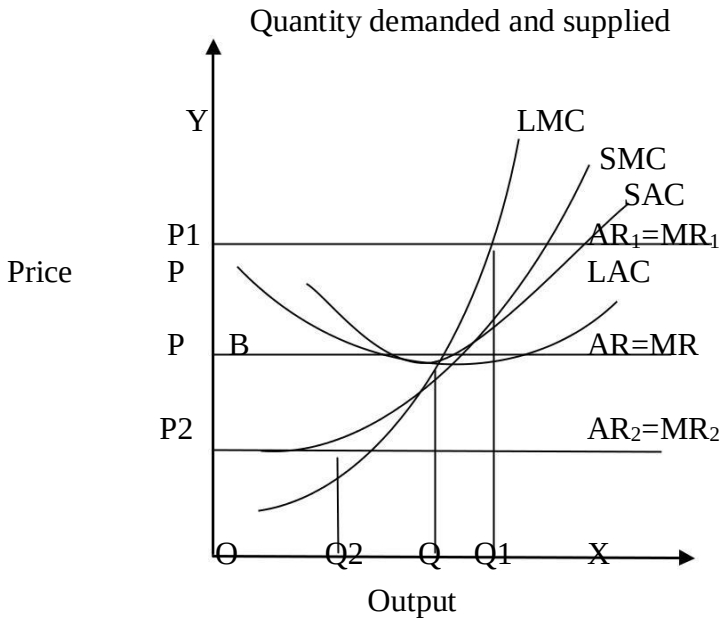
In the long run , the firms in the industry are eager to get super normal profits . The price determination is explained through the diagram given below;

In output decision making in the long run .Long run Average Cost (LAC) and Long run Marginal Cost (LMC) are to be taken in to consideration .under this condition ,the firm is in equilibrium

When AR=MR=LAC=LMC

Figure 1





In the above diagram. (1) DD is the long run . Demand curve and S_1S_1 short run supply curve

.The price is determined at OP.In the figure 2,the equilibrium output is at point E. At this point

.AR_1=MR=LMC

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

The following are the important features of monopoly :-

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

Causes of Monopoly

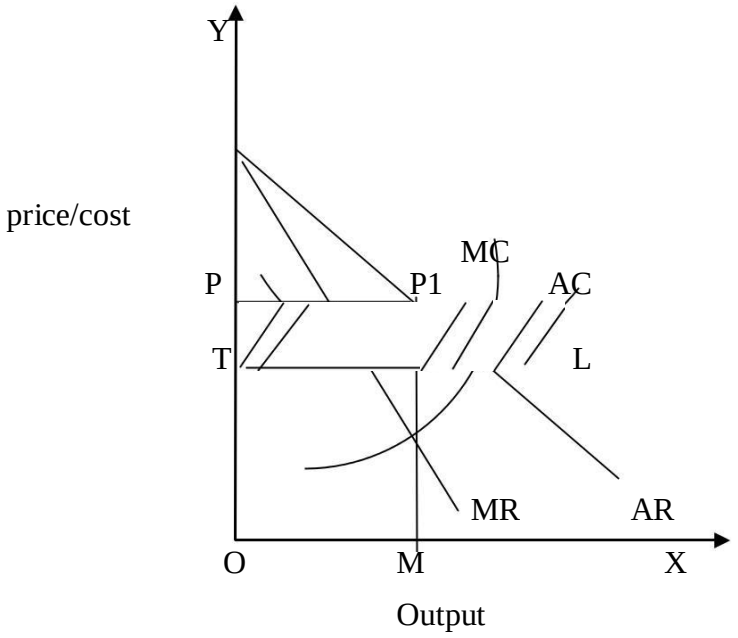
1. Legal restrictions
2. Exclusive ownership or control over the raw materials.
3. Economies of large scale production
4. Exclusive knowledge of a production technique.

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 .As the single firm constitutes the industry the demand curve of the monopoly firm and the industry will be the same. But under perfect competition the firm`s demand curve is a horizontal straight line ,but the industry"s demand curve slopes down wards. Since average revenue falls when more units of output are sold marginal revenue will be less than average revenue .MR curve thus declines at a greater rate than .AR curve and it falls below AR curve .Though the monopolist has the freedom to fix any price he will prefer a price output combination that gives him maximum profit.. He goes on producing so long as additional units add more to revenue than to cost He will stop at that point beyond which additional units of production add more to cost than to revenue. In other words he will be in equilibrium position at the output level at which MR equal MC and MC cuts MR from below.

Short Run Monopoly Equilibrium

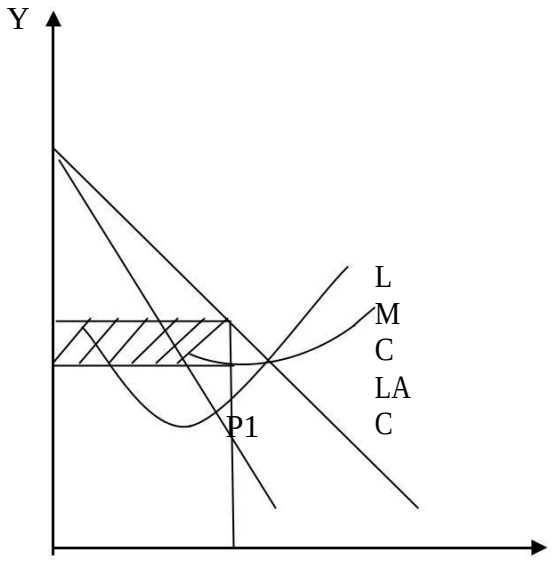
The monopolist will be in short run equilibrium where the output having MR equal MC



In the following figure the monopolist will be in short run equilibrium at output OM where MR is equal to the short run marginal cost curve MC.
At an output OM ,MP` is the average revenue (price) and ML is the average cost of production Therefore P_1L is the monopoly profit per unit . The total profit is equal to product of profit per unit with total output .The following are the result of monopoly operation in the market
If AR greater than AC-results super normal profit
If AR equals AC results normal profit
If AR less than AC that results loss to the firm

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 out put where the long run marginal cost curve MC Intersects the marginal revenue curve MR



The shaded rectangle `PP`LI ` shows the long run monopolist an increasing trend .he will fix a high price and sell a large quantity. This will help him to make maximum profit

.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 Chemberlin of America, Monopolistic Competition means a market situation In which competition is imperfect . The products of the firms under monopolist competition , are mainly close substitutes to each other .

Features /Assumptions of Monopolistic Competition.

The following are the important features of Monopolistic Competition.

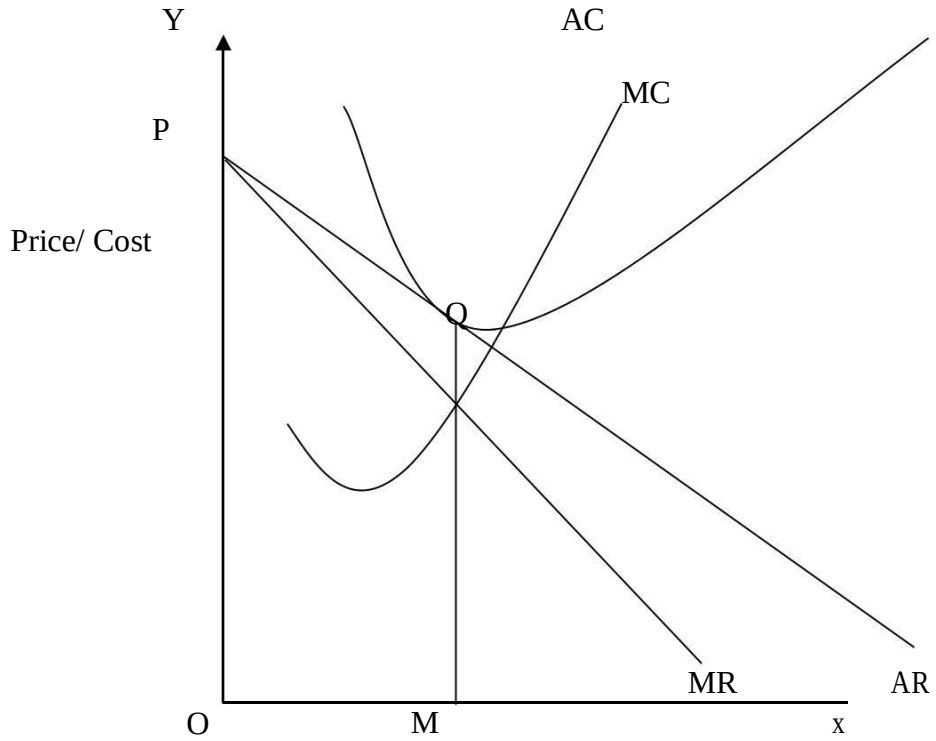
1. There are large numbers of producers or sellers
2. It deals with differentiated products.
3. There are free entry and exit of firms to the markets.
4. The selling cost determines the demand for the products.
5. There is no association of firms
6. There is no price competition.
7. There is lack of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



In the above diagram , the equilibrium output is OM where MC =MR and AC=AR
Abnormal profit disappears because TC=TR.(Total cost=Total Revenue)

Difference between Perfect Competition and Monopolistic Competition

Perfect Competition	**Monopolistic Competition**
1)Products are identical .	1) Products are differentiated
2) It is not a real concept	2) It is real concept .
3) Large Number of buyers and sellers .	3) Buyers and Sellers are not so large
4) Perfect knowledge of market Condition	4) Lack of perfect knowledge of market Condition
5) Selling Cost do not play any role .	5) Selling cost has an important role.
6)They are price takers	6) They are price markers .
7) Demand curve is horizontal	7) Demand curve is downward sloping
8)AR,.MR curves are parallel to x axis and price = demand = AR=MR	8) 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 revels`. Further ,they may produce homogeneous or differentiated products.

Characteristics

Oligopoly is a distinct market condition . It has the following features:

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

KINDS OF OLIGOPOLY

1. Pure or Perfect Oligopoly:

If the firms produce homogeneous products, then it is called pure or perfect oligopoly.

Though, it is rare to find pure oligopoly situation, yet, cement, steel, aluminum and

chemicals producing industries approach pure oligopoly.

2. Imperfect or Differentiated Oligopoly:

If the firms produce differentiated products, then it is called differentiated or imperfect

oligopoly. For example, passenger cars, cigarettes or soft drinks. The goods produced by

different firms have their own distinguishing characteristics, yet all of them are close

substitutes of each other.

3. Collusive Oligopoly:

If the firms cooperate with each other in determining price or output or both, it is called

collusive oligopoly or cooperative oligopoly.

4. Non-collusive Oligopoly:

If firms in an oligopoly market compete with each other, it is called a non-collusive or non-cooperative oligopoly.

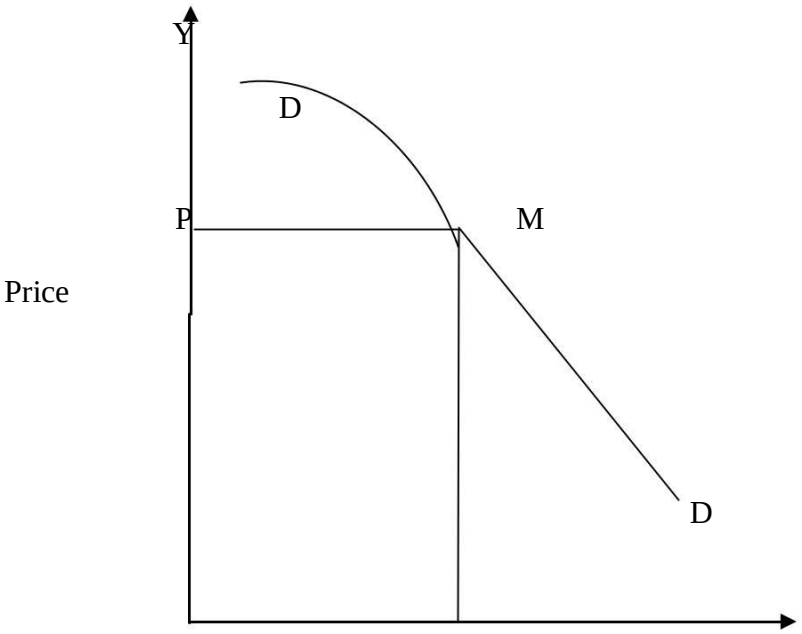
Price Determination Under Oligopoly

Pricing many be in condition of independent pricing ,Pricingunder 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 some times, 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. Firms usually do not change their price in response to small changes in costs.

The kinked demand curve has two segments i.e(i) the relatively elastic portion of the demand curve and(ii)the relatively inelastic portion of the demand curve. The following diagram will give you the clear idea:



O Q X

Output

Kinked demand curve DD with a kink at point M. The price prevailing in the market is OP and the firm produces OQ output . Here .D, M is the relatively elastic of the demand curve and MD Is the relatively inelastic portion. This difference in the elasticities of demand due to the particular competitive reaction pattern assumed by the Kinked demand Curve hypothesis.

Pricing under Price Leadership

The price leadership means the leading firm determines the price and others follow it. All the firms in the industry adjusts , 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 small number of firms in the industry .

Price -Output determination Under Price Leadership

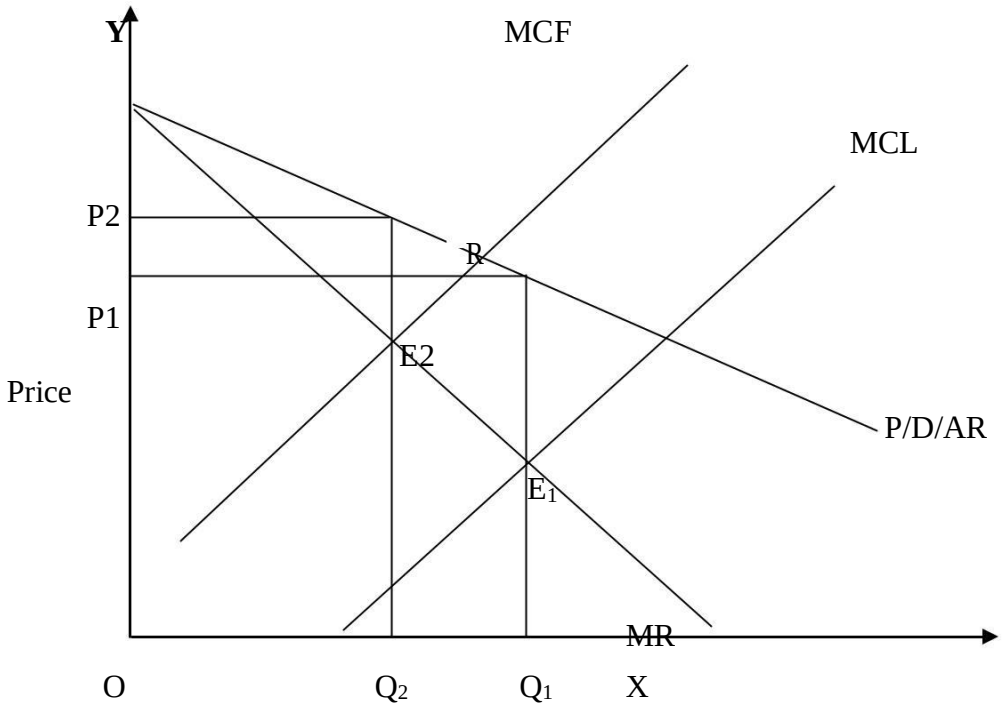
In order to determine the price and output under price leadership .we have to make two assumptions. They are,

1. There are two firms –L and F, in which the cost of production of L is less than that of F and

2. Product are identical

The following diagram will give the clear picture of price output determination.

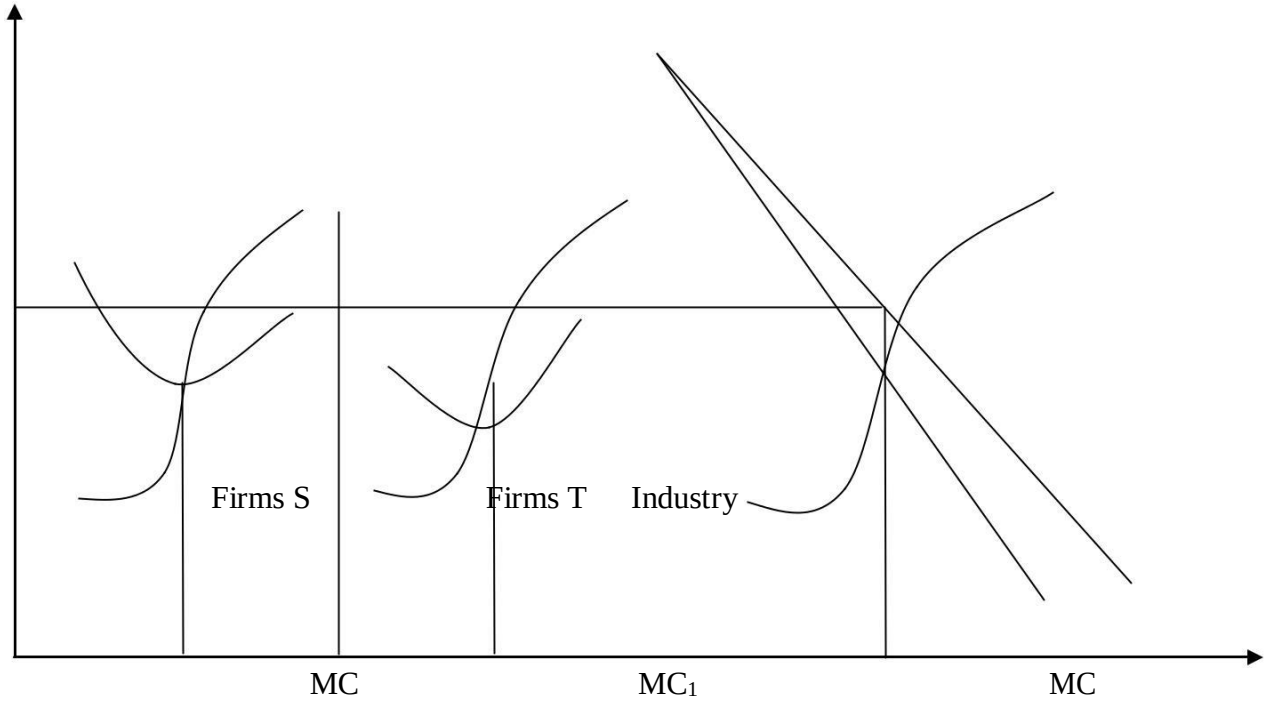
Figure 11

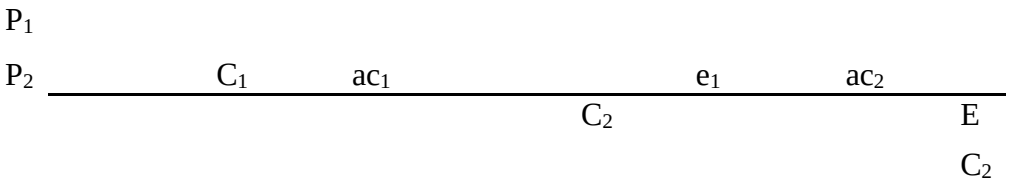


In the above diagram , MC and MC_1 are the marginal cost curves of the firms F and L respectively. By analysing this diagram it can be known that the firm L will fix at point E2 , where MC=MR. The price of the firms F and L are OP_1 and OP_2 and the output are Oq_1 and OQ_2 respectively.

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 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 . The following diagram will give the idea more clear or to make an assumption that there are only two firms viz. firm S and firm T .





MR PD=AR

O Q1 O Q2 O Q X

Figure 12 Figure13 Figure13

In the above diagram, MC denotes the marginal cost curve of industry and MC_1 and MC_2 are the MC for the firm S and T . MR is Marginal Revenue Curve .The industry is in equilibrium at point E and equilibrium output is OQ and the price is OP. The equilibrium output of two firms are determined based on this own MC curve. The share of output of each firm will be obtaining by drawing a parallel line through E to the X axis .

The points E1 and E2 determines the level of output for the firm S and the firm T respectively

.$OQ_1$and OQ_2 determine the market share of firms and Firm T respectively Here , we can say that , $OQ_1+OQ_2=OQ$, $OP_1+OP_2=OP$

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 price 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.

Types of Price Discrimination

1. Price relatively elastic portion of the demand curve of the first degree –charging different price for different persons for the same product .
2. Price discrimination of the second degree –Under this, the buyers are classified into different divisions .
3. Price discrimination of the third degree –Here , the markets are divided according to elasticity of demand

Conditions of Price Discrimination

There are three conditions to be satisfied to apply the price discrimination They are :

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 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 to 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 `

Theory of factor pricing (Marginal Productivity Theory)

Factors of production can be defined as inputs used for producing goods or services with the aim to make economic profit.

In economics, there are four main factors of production, namely land, labor, capital, and enterprise. The price that an entrepreneur pays for availing the services of these factors is

called factor pricing.An entrepreneur pays rent, wages, interest, and profit for availing the services of land, labor, capital, and enterprise respectively. The theory of factor pricing deals with the price determination of different factors of production.The determination of factor prices is always assumed to be similar to the determination of product prices. This is because in both the cases, the prices are determined with the help of demand and supply forces. Moreover, the demand for factors of production is similar to the demand for products.

However, there are two main differences on the supply side of factors of production and products. Firstly, in product market, the supply of a product is determined by its marginal cost of production. On the other hand, in factor market, it is not possible to determine the supply of factors on the basis of marginal cost.

For example, it is difficult to ascertain the exact cost of production for factors, such as land and capital. Secondly, the supply of factors of production cannot be readily adjusted as in the case of products. For instance, if the demand for a land increases, then it is not possible to increase its supply immediately.

Concept of Factor Pricing:

Factor pricing is associated with the prices that an entrepreneur pays to avail the services rendered by the factors of production. For example, an entrepreneur needs to pay wages to labor, rents for availing land, and interests for capital so that he/she can earn maximum profit. These factors of production directly affect the production process of an organization.

In context of an economy, these four factors of production when combined together produce a net aggregate of products, which is termed as national income. Therefore, it is important to determine the prices of these four factors of production. The theory of factor pricing deals with the determination of the share prices of four factors of production, namely land, labor, capital and enterprise.

In other words, the theory of factor pricing is concerned with the principles according to which the price of each factor of production is determined and distributed. Therefore, the theory of factor pricing is also known as theory of distribution. According to Chapman, the theory of distribution, “accounts for the sharing of the wealth produced by a community among the agents, or the owners of the agents, which have been active in its production.”

There are two aspects of each factor of production, which are as follows:

i. Price Aspect:Refers to the aspect in which an organization pays a certain amount to avail the services of factors of production. For example, wages, rents, and interests constitute the price of factors of production.

ii. Income Aspect:

Refers to another aspect in which a certain amount is received by a factor of production. For instance, rents received by a landlord and wages received by labor constitute the income generated from the factors of production.

Generally, it is assumed that factor pricing theory is similar to product pricing theory. However, there are certain differences between the two theories. Both the theories assume the determination of prices by the interaction of two market forces, namely demand and supply.

However, there are differences in the nature of demand and supply of factors of production with respect to that of products. The demand for factors of production is derived demand, while demand for products is direct demand. Moreover, the demand for the factors of production is joint demand.

This is because a product cannot be produced using a single factor of production. On the other hand, the supply of products is closely related with the cost of production, whereas there is no cost of production for factors. For example, there is no cost of production for land, labor, and capital. Therefore, the factor pricing is separated from product pricing.

Theories of Factor Pricing:

The theory of factor pricing is concerned with the principles according to which the price of each factor of production is determined and distributed. The distribution of factors of production can be of two types, namely personal and functional. Personal distribution is concerned with the distribution of income among different individuals.

It is associated with the amount of income generated not with the source of income. For example, an individual earns Rs. 20,000 per month; this income can be earned by him/her by wages, rents, or dividends. On the other hand, functional distribution is associated with the distribution of income among different factors of production as per their functions.It is concerned with the source of income, such as wages, rents, interests, and profits. In regard of distribution of factors of production, there are two theories, namely marginal productivity theory and modern theory of factor pricing.

MARGINAL PRODUCTIVITY THEORY

Marginal productivity theory contributes a significant role in factor pricing. It is a classical theory of factor pricing that was advocated by a German economist, T.H. Von Thunen in 1826.

The theory was further developed and discussed by various economists, such as J.B. Clark, Walras, Barone, Ricardo, and Marshall.

According to this theory, under perfect competition, the price of services rendered by a factor of production is equal to its marginal productivity. Marginal product refers to the increase in amount of output by the addition of one unit of factor of production while keeping the other factors constant. The increase in the output with the addition of one unit of factors of production is known as marginal productivity.

Some of the popular definitions of marginal productivity theory are as follows:
In the words of J.B. Clark, "Under static conditions, every factor including entrepreneur would get a remuneration equal to marginal product." As per Mark Blaug, "The marginal productivity theory contends that in equilibrium each productive agent will be rewarded in accordance with its marginal productivity."

When an organization increases one unit of a factor of production (while keeping the other factors constant), the marginal productivity increases to a certain level of production. After reaching a certain level, the marginal productivity starts declining. This is because when an organization keeps on increasing the amount of a particular factor of production, the marginal cost also increases.

After reaching a certain point, the marginal cost exceeds marginal revenue, thus the marginal productivity declines. On the other hand, if the marginal revenue is greater than marginal cost, the organization opts for employing an additional unit of factor of production.

Types of Marginal Productivity:
The theory of marginal productivity can be understood more clearly by gaining knowledge regarding the different types of marginal productivity.

The different types of marginal productivity are explained as follows:

i. Marginal Physical Productivity:

Refers to an increase in output occurred due to the increase in one unit of factor of production. According to M.J. Ulmer, "Marginal physical productivity may be defined as the addition to total production resulting from employment of one unit of a factor of production, all other things being constant."

Let us understand the concept of marginal physical productivity with the help of an example. Suppose one labor is able to produce four quintals of wheat. If one more labor is hired, then the yield of wheat would reach to eight quintals. In such a case, the marginal physical productivity for the additional labor is four quintals of wheat (8-4=4).

The general formula for marginal physical productivity is as follows:

$MPP_n = TPP_n - TPP_{n-1}$

Where MPP_n = Marginal physical productivity for nth unit of labor

TPP_n = Total physical productivity of n units of labor

TPP_{n-1} = Total physical productivity of n-1 units of labor

ii. Marginal Revenue Productivity:

Refers to the concept of marginal productivity with respect to change in total revenue. As per M.J. Ulmer, "Marginal revenue productivity may be defined as the addition to total revenue resulting from employment of one unit of a factor of production, all other things being constant."

Let us understand the concept of marginal revenue productivity with the help of an example. Suppose one labor is able to produce wheat, which is worth of Rs. 50. If one more labor is hired, then the revenue generated from wheat would be Rs. 60. In such a case, the marginal revenue productivity for the second labor is Rs. 10 (60-50-10).

The formula for calculating marginal revenue productivity is as follows:

MRP = MPP * MR

Where MRP = Marginal Revenue Productivity

MR= Marginal Revenue

iii. Value of Marginal Productivity:

Refers to the value obtained by multiplying marginal physical productivity with the price of product produced. According to Ferguson, "The value of marginal product of a

variable factor is equal to its marginal product multiplied by the market price of the commodity in question."

The formula of value of marginal productivity is as follows:
VMP = MPP* AR

Where, VMP = Value of marginal productivity

MPP = Marginal physical productivity

AR = Market price of product

Let us understand the concept of value of marginal productivity with the help of an example. Suppose the market price of wheat is Rs. 10 per quintal and the marginal physical productivity for the additional labor is four quintals of wheat. In such a case, the value of marginal productivity for the additional labor would be Rs. 40 (4*10=40).

Assumptions of Marginal Productivity Theory:
The assumptions of marginal productivity theory are as follows:
i. Perfect competition in product market:
Refers to one of the main assumptions of marginal productivity theory. In marginal productivity theory, it is assumed that there is perfect competition in the product market. Thus, the change in output of an organization would not affect the market price of the product. In such a case, marginal revenue is equal to the average revenue of the product.

ii. Perfect competition in factor market:
Implies that organizations are required to purchase the factor of production at the prevailing market price only. In case of perfect competition, all the factors of production are perfectly mobile. In addition, the supply of factors of production is perfectly elastic.

iii. Homogeneity of factors:
Assumes that all the units of a factor of production are homogeneous in nature. Therefore, the units are perfect substitutes of each other.

iv. Substitutability of factors:
Assumes that various factors of production act as substitutes of each other. For example, capital act as the substitute of labor.

v. Divisible factors:
Assumes that various factors of production can be divided in small parts.

vi. Maximum profit:
Assumes that the main aim of every organization is to maximize their profit.

vii. Full employment:
Refers to one of the assumptions of marginal productivity theory. Under full employment condition, the supply of a factor of production is fixed in quantity.

viii. Variable input coefficient:
Assumes that an organization can use the factors of production in different quantities. In other words, the quantity of a factor can be changed, while keeping the other factors constant. For example, a land owner can employ two to three workers to plough a one hectare land.

ix. Same state of technology:
Assumes that the technology used in production is constant.

Limitations of Marginal Productivity Theory:
Marginal productivity theory contributes a significant role in factor pricing.

In spite of its major contribution in factor pricing, the theory suffers from certain limitations, which are as follows:
i. Unrealistic assumptions:
Refer to one of the major limitations of marginal productivity theory. Marginal productivity theory stands true only under certain conditions, such as homogeneity of factors of production, perfect competition, and perfect mobility of factors of production.

Moreover, the theory is applicable in a static economy, while the real world economy is dynamic. A perfectly competitive market does not exist in reality. In addition, perfect mobility of factors is also not possible. Therefore, the marginal productivity theory of factor pricing is not applicable in the real world.

ii. Difficulty in measurement:
Implies that the marginal productivity of a factor of production cannot be measured accurately. This is because while determining the marginal productivity of a factor, other

factors are kept constant, which is not possible in the real scenario. For example, if the number of labor is increasing, then the other factors of production, such as tools, machinery, and raw material, needs to be increased for increasing the output.

WELFARE ECONOMICS (SOCIAL WELFARE)

Welfare economics focuses on the optimal allocation of resources and goods and how the allocation of these resources affects social welfare. This relates directly to the study of income distribution and how it affects the common good. Welfare economics is a subjective study that may assign units of welfare or utility to create models that measure the improvements to individuals based on their personal scales. These criteria or norms serve as a basis for recommending economic policies which will increase social welfare. Thus the norms established By welfare economics are supposed to guarantee the optimal allocation of economic resources of the society.

Putting it more specifically, Prof. Baumol writes, "Welfare Economics has concerned itself mostly with policy issues which arise out of the allocation of resources, with the distribution of inputs among the various commodities and the distribution of commodities among various consumers." And it may be emphasised again that allocation of resources is efficient or optimum when social welfare is maximum.

PARETO CONCEPT OF SOCIAL WELFARE : According to Pareto criterion of optimality or efficiency, any change that makes at least one individual better off without making any other worse off is an improvement in social welfare. Of course, when a certain change makes everyone in the society better off, social welfare will undoubtedly

increase. On the other hand, social welfare will decrease if a certain change makes no individual better off while it makes at least one individual worse off. With the aid of this criterion we can define the state of maximum social welfare or what is known as Pareto optimality or economic efficiency.

Economic state or situation is said to be Pareto-optimal or efficient in which allocation of resources is such that by any rearrangement of them it is impossible to make any individual better off without making any other worse off.

This concept of Pareto-optimality or economic efficiency is the basis of welfare economics and has a large number of applications in applied economics.
Pareto criterion and the concept of Pareto optimality do not embrace those changes in economic state which make some better off and others worse off. This involves interpersonal comparisons of utility which were ruled out by Pareto and his followers.

MEASUREMENT OF SOCIAL WELFARE

Many indices have been developed to measure the social welfare or wellbeing of a nation, roughly equivalent to standard of living. These measures are intended to compare nations across time or with each other on facets of societal health and progress. The most common measure--although not specifically developed to assess social welfare--is growth in Gross Domestic Product or GDP. Many of the alternative measures are intended to override the drawbacks of GDP.

Gross domestic product

Gross domestic product or GDP is the market value of all the goods and services that are produced by a nation in one year. GDP per capita, and corrected for inflation, is often utilized as an index to company the social welfare or standing of living across nations or time.

Calculations of GDP

Three techniques can be applied to calculate GDP, called the products, income, and expenditure approach, all of which should yield the same answer.

- The products approach represents the sum of outputs from every enterprise
- Given that each output must be purchased, the sum of these purchases must also equal GDP, called the expenditure approach. Expenditure could equal the sum of private consumption, government purchases, gross investment, and exports minus inputs.
- The income of people who produce these products-such as wages, profits, and interest--must also equal the value this expenditure, called the incomes approach.

GDP differs from gross national product. GDP represents the value of goods and services that are produced within the nation. Gross national product represents the value of goods and services that are produced by organizations or operations that are owned by the citizens of the nation

UNIT -3

National Income

National Income is defined as the sum total of all the goods and services produced in a country, in a particular period of time. Normally this period consists of one year duration, as a year is neither too short nor long a period. National product is usually used synonymous with National income.

Irving Fisher defined national income as

"*The national dividend or income consists solely of services as received by the ultimate consumers,whether from their material or from human environments. Thus, a piano or an overcoat made for me this year is not a part of this year's income, but an addition to capital. Only the services rendered to me during this year by these things are income."*

Central Statistical Organization defines National income as

"National Income is the sum of factor income earned by the normal residents of a country in the form of wages, rent, interest and profit in an accounting year."

Concepts / Aggregates of National Income

There are different concepts of National Income, namely; GNP, GDP, NNP, Personal Income and Disposable Income.

Gross National Product (GNP)

GNP at market price is sum total of all the goods and services produced in a country during a year and net income from abroad. GNP is the sum of Gross Domestic Product at Market Price and Net Factor Income from abroad.

(1) Gross Domestic Product at Market Price	+	(2) Net Factor Income from Abroad	=	(3) GNP at Market Price (1+2)

While calculating GNP, the final goods and services of the following

are considered: (*a*) Consumer goods and services.

(*b*) Gross private domestic income.

(*c*) Goods and services produced by

Government. (*d*) Net income from abroad.

Keynes had suggested three approaches to National Income in his famous book titled '*The GeneralTheory*' (1937) namely;

1. Aggregate expenditure (on consumption and investment goods) approach.
2. Factor income approach.
3. Sale proceeds minus cost approach.

Approaches to GNP

There are three different approaches to GNP, namely income approach, expenditure approach and product approach.

1. *Income approach*

In income approach, we find the different categories of Income namely; (1) Wages and salaries (2) Rents
(3) Interest (4) Dividends (5) Undistributed corporate profits (6) Mixed incomes (7) Direct taxes (8) Indirect taxes (9) Depreciation (10) Net income from abroad.

2. *Expenditure approach*

In expenditure approach, we find the different categories of expenditure namely, (1) Private consumption expenditure (2) Gross domestic private income (3) Net foreign income (4) Government expenditure on goods and services.

3. *Product approach*

In product approach, we find the following categories of output. (1) Final market value of goods and services
(2) Less cost of intermediate goods.

The following factors are to be considered while calculating the GNP:

1. Only those goods and services which can be measured by Money.
2. Market price of final goods and services alone will be considered.
3. Services which are done free of cost are not considered.
4. Productions done in current year alone are considered.
5. Illegal activities are not included.

GNP at Market Price

If we multiply the total output produced in one year by their 'Market Prices', we get GNP at market price.

Gross National Product at Factor Cost or Gross National Income

The gross national product at factor cost is the difference between gross national product and net indirect taxes. It is also called gross national income. Gross national income is the sum total of compensation of employees, operating surplus, mixed income, depreciation and net factor income from abroad.

GNP at factor cost refers to income which the factors of production receive in return for their service alone.

GNP at FC	=	GNP at Market Price	–	Net Indirect Taxes	+	Subsidies

Subsidies

Subsidies refer to difference between the Market Price and Cost of Production.

Gross Domestic Product (GDP)

Gross Domestic Product is the market value of the final goods and services produced within the domestic territory of a country during one year inclusive of depreciation.

Components of GDP

In GDP we find different components of income namely (1) Wages and salaries (2) Rent (3) Interest (4) Divi-dends (5) Undistributed Profit (6) Mixed income (7) Direct taxes.

GDP at market price

GDP at Market Price is estimated by deducting the value of intermediate consumption from the value of output produced by all the producers within the domestic territory of a country. In other words, it is estimated as the sum total of gross value added at the market price.

Gross domestic product at market price

Value of output Produced by all producing units within the Domestic Territory (1)	–	Value of Intermediate Consumption (2)	=	GDP at Market Price [(1) – (2)]

Difference between GDP and GNP

GDP/I = NI – Net income from abroad. The major difference between GNP and GDP is that the former includes net income from abroad whereas the latter includes only that income which has been produced within the political boundary of the nation.

Gross Domestic Product at factor cost or gross domestic income.

Gross Domestic Product at factor cost or gross domestic income is the sum total of the compensation of employees, operating surplus and mixed income earned by the

factors of production in an accounting year plus depreciation or consumption of fixed capital.

Gross Domestic Product at factor cost can also be estimated by deducting net indirect taxes from gross domestic product at market price.

Net National Product (NNP)

In the process of production of goods and services, there will be some depreciation of fixed capital also called as consumption of fixed capital, if the value of depreciation is deducted from the value of gross national product in a year, we obtain the value of net national product.

Thus, NNP at market price is gross national product at market price minus depreciation.

GNP – Depreciation = NNP

NNP at market price

GNP at Market Price – Depreciation = NNP at Market Price

NNP at Factor Cost

Net National Product at factor cost is also called as national income. Net National Product at factor cost is equal to sum total of value added at factor cost or net domestic product at factor cost and net factor income from abroad.

NNP at Factor Cost = NNP at Market Price – Net Indirect tax

Income earned by factors of production though participation in the production process such as wages, salaries, rents and profits is also termed as National Income.

Net Domestic Product at Market Price

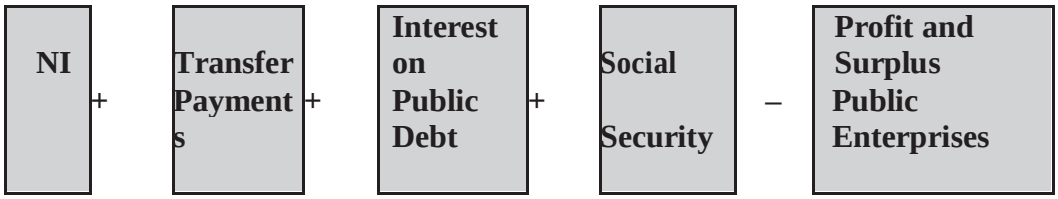
Net Domestic Product at market price is the market value of final goods and services produced by all the producers in the domestic territory of a country during an accounting year exclusive of consumption of fixed capital. It is equal to the net value added at market price.

Net Domestic Income or Net Domestic Product at Factor Cost

"NDI is the income generated in the form of wages, rent, interest and profit in the domestic territory of a country by all the producers (normal residents and non-residents) in an accounting year"(Hanson).

Private Income

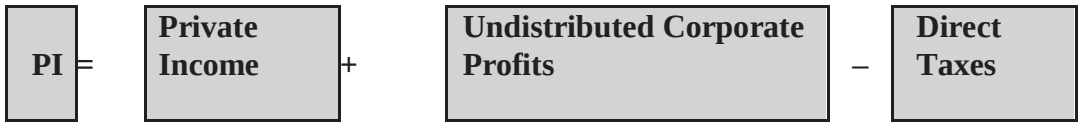
Central Statistical Organization defines Private Income as *"the total of factor income from all sources andcurrent transfers from the government and rest of the world accruing to private sector" or in other words the private income refers to the* income from socially accepted source including retained income of corporation.



Personal Income

Prof. Peterson defines Personal Income as "*the income actually received by persons from all sources in the*
form of current transfer payments and factor income."

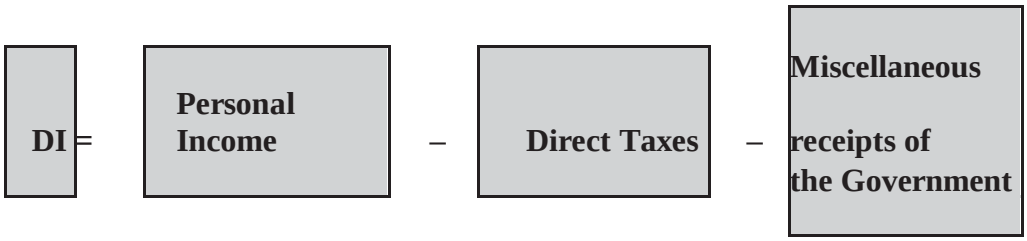
Total income received by the citizens of a country from all sources before direct taxes in a year.



Disposable Income

Prof. Peterson defined Disposable Income as *"the income remaining with individuals after deduction of alltaxes levied against their income and their property by the government."*

Disposable Income refers to the income actually received by the households from all sources. The individual can dispose this income according to his wish, as it is derived after deducting direct taxes.



Real Income

Goods and services produced in terms of money at current prices will not express/indicate real state often. Hence, real income is the national income expressed in terms of a general level of prices of a particular year, considered as the base year.

Percapita Income

Percapita Income is derived from dividing national income from the total population of the country.

PCI= NI/Population

KEYNESIAN THEORY OF INCOME DETERMINATION

According to Keynes' own theory of income and employment:

"In the short period, level of national income and so of employment is determined by aggregate demand and aggregate supply in the country. The equilibrium of national income occurs where aggregate demand is equal to aggregate supply. This equilibrium is also called effective demand point".

- **Effective demand represents that aggregate demand or total spending (consumption expenditure and investment expenditure) which matches with aggregate supply (national income at factor cost).**
- **Effective demand is the equilibrium between aggregate demand (C+I) and aggregate supply (C+S).**
- **This equilibrium position (effective demand) indicates that the entrepreneurs neither have a tendency to increase production nor a tendency to decrease production. It implies that the national income and employment which correspond to the effective demand are equilibrium levels of national income and employment.**
- **Unlike classical theory of income and employment, Keynesian theory of income and employment emphasizes that the equilibrium level of employment would not necessarily be full employment. It can be below or above the level of full employment.**
- **Determinants of NATIONAL INCOME**
- **The determinants of effective demand and so of equilibrium level of national income and employment are the aggregate demand and aggregate supply.**
- **Aggregate Demand (C+l):**
- **Aggregate demand refers to the sum of expenditure households, firms and the government is undertaking on consumption and investment in an economy.**

- **The aggregate demand price is the amount of money which the entrepreneurs actually expect to receive as a result of the sale of output produced by the employment of certain number of workers.**
- **An increase in the level of employment raises the expected proceeds and a decrease in the level of employment lowers it.**
- **The aggregate demand curve AD (C+I) would be positively sloping signifying that as the level of employment increases, the level of output also increases, thereby increasing of aggregate demand (C+l) for goods.**
- **The aggregate demand (C+l) depends directly on the level of real national income and indirectly on the level of employment.**
- **(2) Aggregate Supply (C+S):**
- **The *aggregate supply* refers to the flow of output produced by the employment of workers in an economy during a short period.**
- **In other words, the aggregate supply is the value of final output valued at factor cost.**
- **The aggregate supply price is the minimum amount of money which the entrepreneurs must expect to receive to cover the costs of output produced by the employment of certain number of workers.**
- **The aggregate supply is denoted by (OS) because a part of this is consumed (C) and the other part is saved (S) in the form of inventories of unsold output.**
- **The aggregate supply curve, (C+S) is positively sloped indicating that as the level of employment increases, the level of output also increases, thereby, increasing the aggregate, supply. Thus, the aggregate supply (C+S) depends upon the level of employment through the economy's aggregate production function**
- **According to Keynes, the equilibrium levels of national income and employment are determined by the interaction of aggregate demand curve (AD) and aggregate supply curve (AS).**
- **The equilibrium level of income determined by the equality of AD and AS does not necessarily indicate the full employment level. The equilibrium position between aggregate demand and aggregate supply can be below or above the level of full employment as is shown in the curve below.**

Effective Demand point

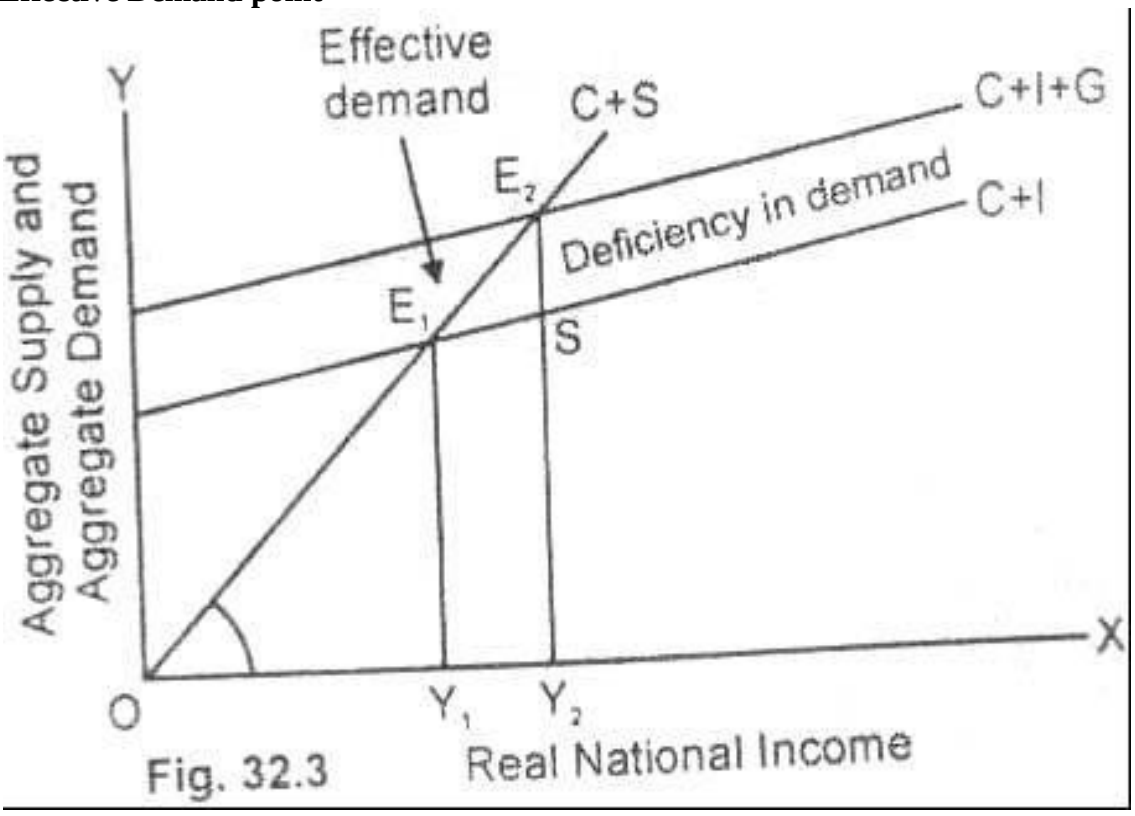


Fig. 32.3

- **In the above figure , the aggregate demand curve (C+l), intersects the aggregate supply curve (OS) at point E^1 which is an effective demand point. At point E^1, the equilibrium of national income is OY^1.**
- **Let us assume that in the generation of OY^1 level of income, some of the workers willing to work have not been absorbed. It means that E^1 (effective demand point) is an under employment equilibrium and OY^1 is under employment level of income.**
- **The unemployed workers can be absorbed if the level of output can be increased from OY^1 to OY^2 which we assume is the full employment level.**
- **We further assume that due to spending by the government, the aggregate demand curve (C+I+G) rises. As a result of this, the economy moves from lower equilibrium point E^1 to higher equilibrium point E^2. The OY is now the new equilibrium level of income along with full employment. Thus E^2 denotes full employment equilibrium position of the economy.**
- **Thus government spending can help to achieve full employment. In case the equilibrium level of national income is above the level of full employment, this means that the output has increased in money terms only. The value of the output is just the same to the national income at full employment level.**

Importance of Effective Demand

The importance of the principle of effective demand in macro economics, in brief, is as under:

(i) Determinant of employment. Effective demand determines the level of employment in the country. As effective demand increases employment also increases. When effective demand falls, the level of employment also decreases.

(ii) Say's Law falsified. It is with the help of the principle of effective demand that Says Law of Market has been falsified. According to the concept of effective demand whatever is produced in the economy is not automatically consumed. It is partly saved. As a result, the existence of full employment is not possible.

(iii) Role of investment. The principle of effective demand explains that for achieving full employment level, real investment must equal to the gap between income and consumption. In other words, employment cannot expand, unless investment expands. Therein lies the importance of the concept of effective demand.

(iv)Capitalistic economy. The principle of effective demand makes clear that in a rich community, the gap between income and expenditure is large. If required investment is not made to fill this gap, it will lead to deficiency of effective demand resulting in unemployment.

Criticism on Keynesian Theory

From mid 1970 onward, the Keynesian theory of employment came under sharp criticism from the monetarists.

The monetarists believed that J. M. Keynes laid more emphasis on the determinants of aggregate demand and to a greater extent ignored the determinants of aggregate supply.

The 'General Theory of Keynes is applicable to the developed economies. The Keynesians concepts are not very useful for policy purposes in less developed countries.

CONSUMPTION AND INVESTMENT

Consumption, in economics, is the use of goods and services by households. The purchase of goods and services by use of households is called consumption expenditure. Consumption differs from consumption expenditure primarily because durable goods, such as automobiles, generate an expenditure mainly in the period when they are purchased, but they generate “consumption services” (for example, an automobile provides transportation services) until they are replaced or scrapped**.**

TYPES OF CONSUMPTION

1.Direct or Final consumption: when the goods satisfy human wants directly and immediately. E.g. taking of meals, use of furniture etc.

2.Indirect or Productive consumption when the goods are not meant for final consumption but for producing other goods which will satisfy human wants, e.g. use of fertilizer in agriculture etc

WHAT IS INVESTMENT?

 Investment is the expenditure on capital goods made for the purpose of income regeneration.

In other words, an investment is the purchase of goods that is not used today but is used in the future to create wealth or income.
The building of a factory used to produce goods and the investment one makes by going to college or university are both examples of investments in the economic sense.

INVESTMENT TYPES:

1.AUTONOMOUS INDUCED
2.AUTONOMOUS INVESTMENT

1.Expenditure made that is independent of economic growth. They are investments made for the good of society and not for the goal of making profits
For example: The Government invests on infrastructure items, such as roads and highways, and other investments that keep the economic running.
2. Investment which changes with the changes in the income level, is called as Induced Investment.
Induced Investment is positively related to the income level. That is, at high levels of income entrepreneurs are induced to invest more and vice-versa. At a high level of income, Consumption expenditure increases this leads to an increase in investment of capital goods, in order to produce more consumer goods.

THEORIES OF CONSUMPTION
1.ABSOLUTE THEORY OF CONSUMPTION
2.RELATIVE CONSUMPTION THEORY
3.LIFE CYCLE THEORY

ABSOLUTE THEORY OF CONSUMPTION

The Absolute Income Hypothesis is theory of consumption proposed by English economist John Keynes.
It is also known as the Absolute Income Hypothesis.
This theory states that real consumption is a function of real disposable income, total income net of taxes. As income rises, the theory asserts, consumption will also rise but not necessarily at the same rate.
While this theory has success modeling consumption in the short term, attempts to apply this model over a longer time frame have proven less successful**.**

RELATIVE CONSUMPTION THEORY

• This theory was developed by James Duesenberry.
• It states that an individual's attitude to consumption and saving is not solely dependent on income. Hence, the percentage of income consumed by an individual depends on his position in the income distribution demographic.

THE LIFE CYCLE THEORY

 This hypothesis addresses individual consumption patterns The life-cycle hypothesis implies that individuals both plan their consumption and savings behaviour over the long-term and intend to even out their consumption in the best possible manner over their entire lifetimes The key assumption is that all individuals choose to maintain stable lifestyles. This implies that they usually don't save up a lot in one period to spend furiously in the next period, but keep their consumption levels approximately the same in every period.

THE LIDUIDITY PREFERENCE THEORY OF INVESTMENT

In the liquidity preference theory, Keynes said that people value money for both "the transaction of current business and its use as a store of wealth." Thus, they will sacrifice the ability to earn interest on money that they want to spend in the present, and that they want to have it on hand as a precaution. On the other hand, when interest rates increase, they become willing to hold less money for these purposes in order to secure a profit.

Or, in other words:

The rate of interest is determined by the matching of demand and supply of liquidity

According to Keynes, the demand for liquidity is a result of three motives:

- The Transaction Motive: people prefer to have liquidity to assure basic transactions, for their income is not constantly available. The amount of liquidity demanded is determined by the level of income: the higher the income, the more money demanded for carrying out increased spending.

• The Precautionary Motive: people prefer to have liquidity in the case of social unexpected problems that need unusual costs. The amount of money demanded for this purpose increases as income increases.

• Speculative Motive: People retain liquidity to speculate that bond prices will fall. When the interest rate decreases people demand more money to hold until the interest rate increases, which would drive down the price of an existing bond to keep its yield in line with the interest rate. Thus, the lower the interest rate, the more money demanded (and vice versa).

FACTORS DETERMINING CONSUMPTION

SUBJECTIVE FACTORS

1. Human nature

OBJECTIVE FACTORS

1. Level of income

2. Distribution of wealth

3. Expectations in change in price

4. Change in rat of interest

5. Changes in Fiscal Policy

6. Availability of goods

7. Attitude towards saving

FACTORS DETERMINING INVESTMENT

The two primary factors that influence economic investment are:

 Income: An increase in income encourages higher investment from both firms and individual consumers.

 Interest Rates: However, a high interest rate can discourage investment because high interest rates make it more expensive to borrow money. To encourage investment, interest rates need to be lower.

MARGINAL EFFICIENCY OF CAPITAL

The marginal efficiency of capital displays the expected rate of return from investment, at a particular given time. The marginal efficiency of capital is compared to the rate of interest.

Keynes described the marginal efficiency of capital as:

"The marginal efficiency of capital is equal to that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital asset during its life just equal to its supply price."
This theory suggests investment will be influenced by:

1. The marginal efficiency of capital
2. The interest rates

Generally, a lower interest rate makes investment relatively more attractive.

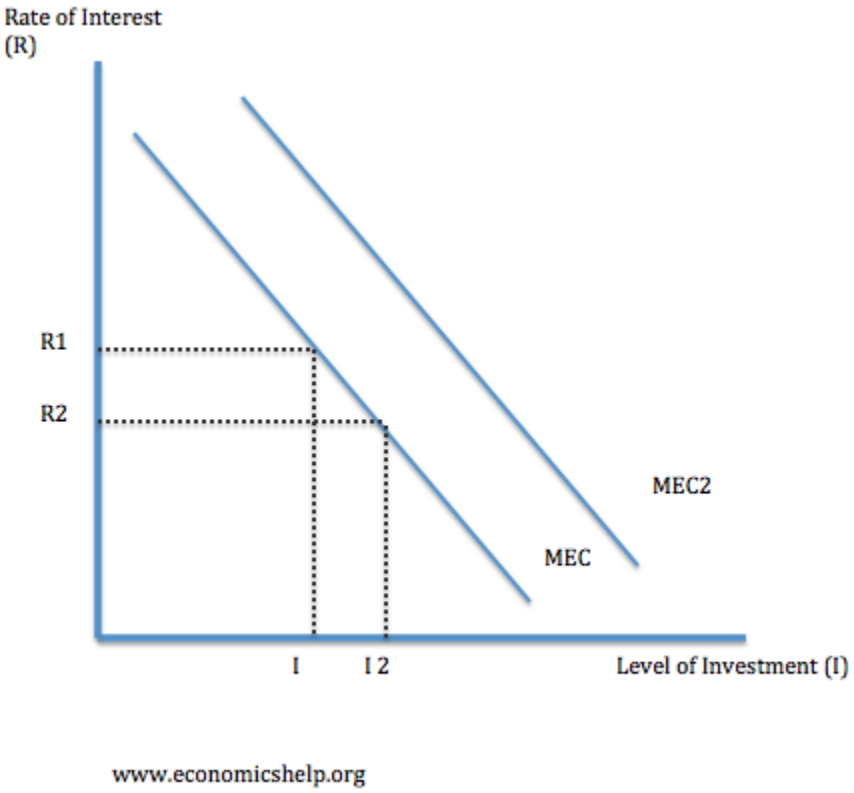
If interest rates, were 3%, then firms would need an expected rate of return of at least 3% from their investment to justify investment.

If the marginal efficiency of capital was lower than the interest rate, the firm would be better off not investing, but saving the money.

Why are interest rates important for determining the Marginal efficiency of capital?

To finance investment, firms will either borrow or reduce savings. If interest rates are lower, it's cheaper to borrow or their savings give a lower return making investment relatively more attractive.

Marginal Efficiency of Capital



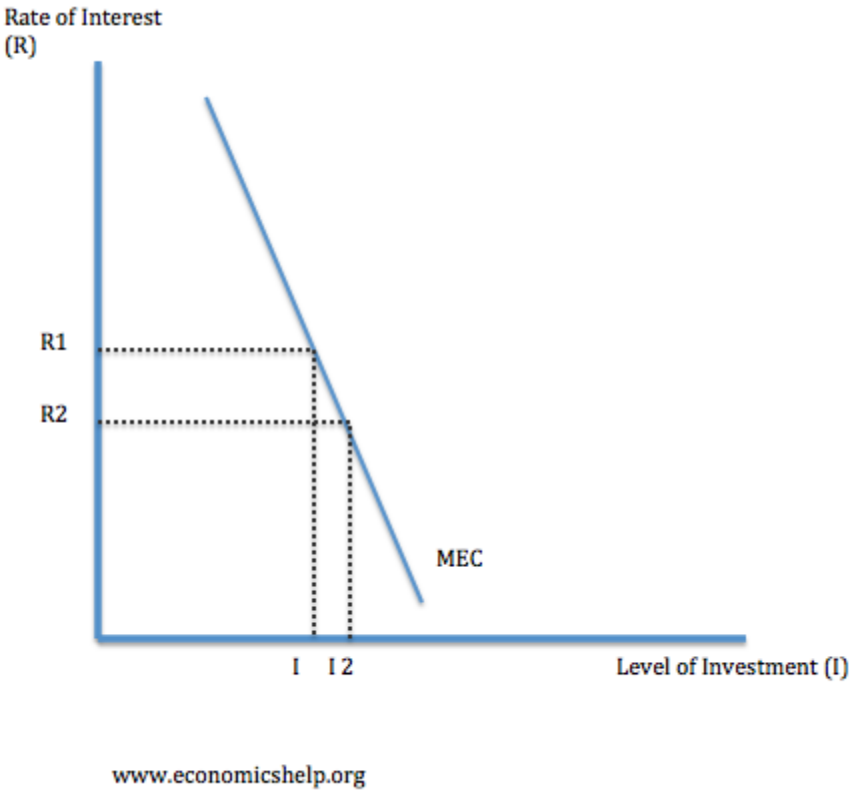
- A cut in interest rates from R1 to R2 will increase investment to I2.

1. The alternative to investing is saving money in a bank, this is the opportunity cost of investment.

   If the rate of interest is 5% then only projects with a rate of return of greater than 5% will be profitable.

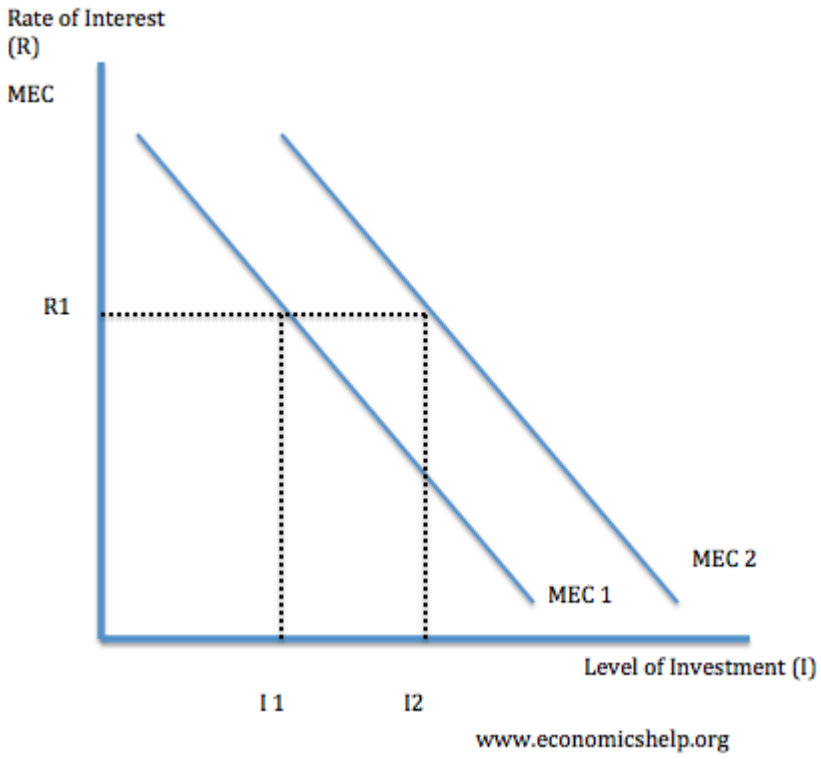
   How Responsive is Investment to Interest Rates?

   In Keynesian investment theory, interest rates are one important factor. However, in a liquidity trap, investment may be unresponsive to lower interest rates. In some circumstances,



In a liquidity trap, business confidence may be very low. Therefore, despite low interest rates, firms don't want to invest because they have low expectations of future profits.

Factors which shift the Marginal Efficiency of Capital



1. The cost of capital. If capital is cheaper, then investment becomes more attractive. For example, the development of steel rails made railways cheaper and encouraged more investment.

2. Technological change. If there is an improvement in technology, it can make investment more worthwhile.

3. Expectations and business confidence.

If people are optimistic about the future, they will be willing to invest because they expect higher profits. In a recession, people may become very pessimistic, so even lower interest rates don't encourage investment. (e.g. during recession 2008-12, interest rates were zero, but investment low)

4. Supply of finance. If banks are more willing to lend money investment will be easier.

5. Demand for goods. Higher demand will increase profitability of capital investment.

6. Rate of Taxes. Higher taxes will discourage investment. Sometimes, governments offer tax breaks to encourage investment.

MARGINAL EFFICIENCY OF INVESTMENT

Economists call the expected rate of return on an addition to capital investment as the marginal efficiency of investment (MEI).

More precisely, it is the expected rate of return over cost of an additional unit of a capital good. Thus, there can be MEI or expected rate of return of 25 percent for one type of investment, 15 percent for another, and so on.

As pointed out by terner, what Keynes had called MEC was in fact the MEI.

In order to gain a better understanding of the MEI we study its graph given in Figure.

The figure 8.6 shows that, at any given time, a business firm is faced with a number of investment opportunities these may include:

1. Renovating its existing plant

2. Purchasing new machines

3. Acquiring additional power facilities

4. Installing a computer system

Each project competes for a firm's limited funds. However, some projects are expected to be more profitable—that is, to have a higher rate of return (or MEI) than others. In view of this, which projects should management select? Or, in other words, how much investment expenditure should management undertake?

The first step in answering this question is to imagine that the management of a firm rank alternative investment projects in decreasing order of their MEIs.

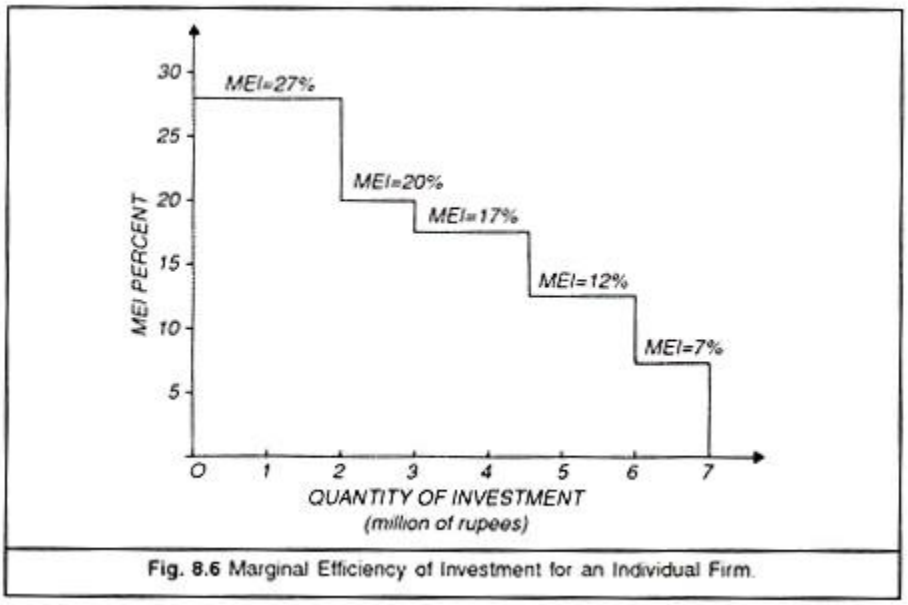


Fig. 8.6 Marginal Efficiency of Investment for an Individual Firm.

Figure, each project's cost and the corresponding MEIs are shown. The most attractive investment open to the firm is the renovation of its plant at a cost of Rs. 2 million. For this, the firm anticipates a rate of return, or MEI, of 27 percent, which is read from the vertical axis, the next most profitable investment is the addition of a new wing to its factory at a cost of Rs. 1 million, for which the MEI is 20 percent. Each remaining investment project is interpreted similarly.

If we assume that the risks of loss associated with these investments are the same, the descending order of MEI suggests two things:

1. Fewer investment opportunities are available to a firm at higher rates of return than at lower ones. For example, it is harder to find investment yielding 25 percent than to find investments yielding 10 percent.

2. A firm will tend to choose those investment projects which have the highest MEIs. Therefore, a project with a higher anticipated rate of return over cost is likely to be selected over a project with a lower one.

Figure 8.6 shows the solid stepped line as an individual firm's MEI curve. It shows the amount of investment the firm will make at various interest rates or cost of funds at any given time. The MEI curve is then the firm's demand curve for investment. These are many such stepped curves at any given time, one for each firm in the economy.

Figure 8.7 shows the MEI curve for all firms. It is a smooth line obtained by summing individual MEI curves. It shows the total amount of private sector investment which will be made at various interest rates. The MEI curve in this chart is the economy's aggregate demand curve for private-sector investment.

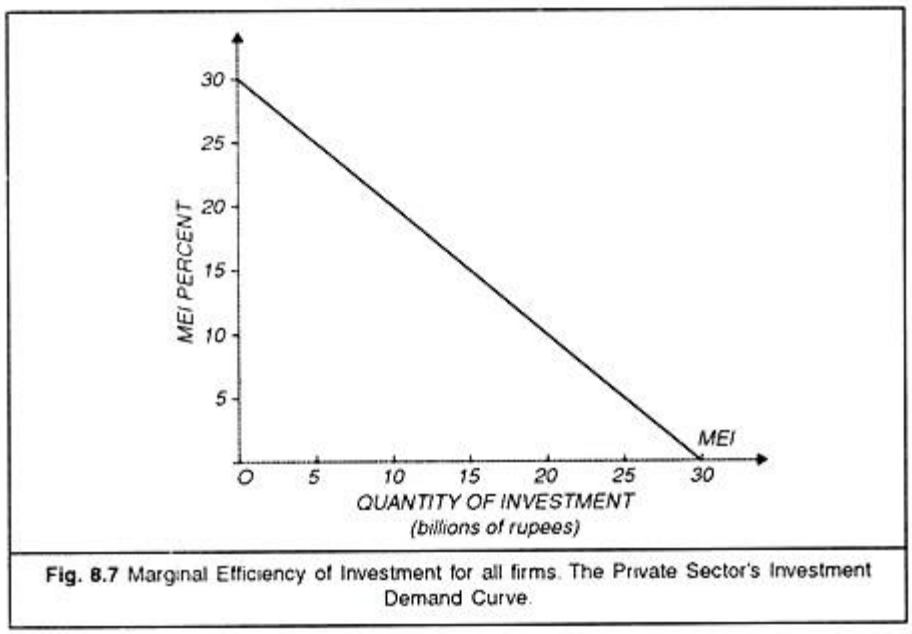


Fig. 8.7 Marginal Efficiency of Investment for all firms. The Private Sector's Investment Demand Curve.

Marginal Rate of Investment (MEI) # Cost of Funds: The Rate of Interest:

Once the MEI (or rate of return) on an investment is estimated, the next step is to establish the cost of funds needed to finance the investment. Only then can one decide if the investment is worth undertaking. The cost of funds needed to finance an investment is expressed as a percentage.

Thus, if a business firm borrows money for investment and agrees to pay an annual interest charge of, say, 10 percent, then that is the firm's cost of funds.

Alternatively, if the firm uses its own money, instead of borrowing, the interest return sacrificed by not lending the money in the financial markets (through the purchase of bonds or other securities) may be thought of as the company's cost of funds.

This cost of course is the opportunity cost of funds. In any case, the MEI and the cost of funds are each quoted as percentages. Therefore, they can be easily compared. This makes it possible to determine the amount of investment which will take place.

.

- **A permanent income hypothesis** is a theory of consumer spending which states that people will spend money at a level consistent with their expected long term average income. The level of expected long term income then becomes thought of as the level of "permanent" income that can be safely spent. A worker will save only if his or her current income is higher than the anticipated level of permanent income, in order to guard against future declines in income.

BREAKING DOWN 'Permanent Income Hypothesis'

The permanent income hypothesis was formulated by the Nobel Prize winning economist Milton Friedman in 1957. The hypothesis implies that changes in consumption behavior are not predictable, because they are based on individual expectations. This has broad implications concerning economic policy. Under this theory, even if economic policies are successful in increasing income in the economy, the policies may not kick off a multiplier effect from increased consumer spending. Rather, the theory predicts there will not be an uptick in consumer spending until workers reform expectations about their future incomes.

The life-cycle hypothesis

The life-cycle hypothesis suggests that individuals plan their consumption and savings behaviour over their life-cycle. They intend to even out their consumption in the best possible manner over their entire lifetimes, doing so by accumulating when they earn and dis-saving when they are retired. The key assumption is that all individuals choose to maintain stable lifestyles. This implies that they usually don't save up a lot in one period to spend furiously in the next period, but keep their consumption levels approximately the same in every period. The first period should be ignored otherwise housing depreciates below its marginal rate of substitution.

Absolute Income Hypothesis:

Keynes' consumption function has come to be known as the 'absolute income hypothesis' or theory. His statement of the relationship between income and consumption was based on the 'fundamental psychological law'.

He said that consumption is a stable function of current income (to be more specific, current disposable income—income after tax payment).

Because of the operation of the 'psychological law', his consumption function is such that $0 < MPC < 1$ and $MPC < APC$. Thus, a non- proportional relationship (i.e., $APC > MPC$) between consumption and income exists in the Keynesian absolute income hypothesis. His consumption function may be rewritten here with the form

$C = a + bY$, where $a > 0$ and $0 < b < 1$.

It may be added that all the characteristics of Keynes' consumption function are based not on any empirical observation, but on 'fundamental psychological law', i.e., experience and intuition.

Relative income Hypothesis

Under the relative income hypothesis, consumption is a function of current income relative to the highest level of income previously attained.

Several versions of the relative income hypothesis exist.

Since that formulated by James S. Duesenberry has received the most attention, we shall concentrate on it. Duesenberry says strong tendencies exist in our society for people to emulate their neighbours and to strive toward a higher standard of living.

Consequently, if the incomes of individuals increase so as to leave the distribution of income unchanged, consumption increases in proportion to the increase in income. Given these drives and the fact that income increases in the long run, the relevant consumption function is that previously labelled the long-run function. Thus, under the relative income hypothesis, the basic function is the long-run function.

The short-run consumption function is produced by cyclical movements in income. Suppose, in Figure 6.14, income has increased steadily to F_0 and consumption has increased to Co. Now suppose income falls to, say, Y_1. Instead of consumption falling to C_1 people who had a standard of living afforded by income Y_0 try to maintain that standard by consuming relatively more of their income.
Consequently, consumption falls, but only to C_1 Should income fall still further, say, to Y_2, the same phenomenon occurs. Instead of consumption falling to C_2 on the long-run function, it falls to C_2' as people try to maintain their previous standard of living.

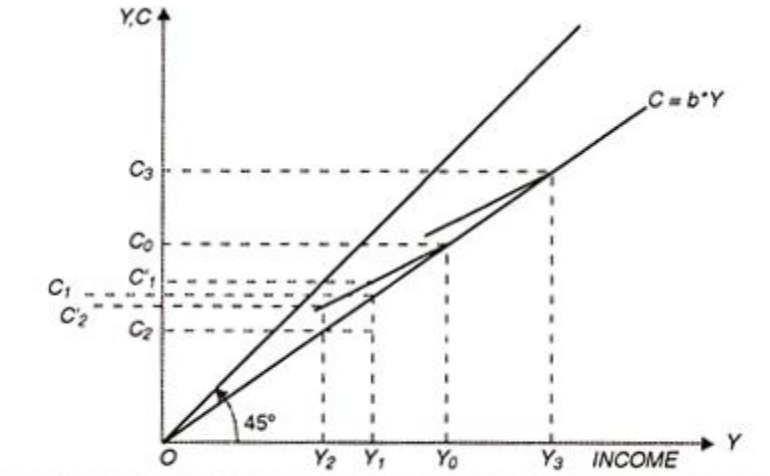


Fig. 6.14 The Relative Income Hypothesis and the Consumption Function.

Suppose income now starts to increase; consumption increases along the short-run or cyclical consumption function until the long-run consumption function is reached. Once the previous peak income (and consumption) is attained, consumption increases along the long-run function as income increases. Suppose, however, income reaches $F_3$with consumption level C_3.

ADVERTISEMENTS:

If income falls, consumption decreases along the short- run consumption function. Thus, cyclical movements in income produce the short- run consumption function. If there were no business cycles, only the long-run consumption function would be observed.

We have considered two hypotheses, the absolute and relative income hypotheses, which purport to explain consumer behavior. In terms of the analysis of multiplier, the implications of the hypotheses differ. For example, under the absolute income hypothesis, the marginal propensity to consume is constant. Consequently, the values of the multipliers do not vary with the business cycle.

This is not so under the relative income hypothesis. If the economy is in a recession, the marginal propensity to consume is less than when the economy's income is increasing to new, higher levels of income. As the marginal propensity to consume varies over the business cycle, so will the values of the multipliers. For policy reasons, it is important to know whether the multipliers are constant or variable over the business cycle. Thus, it is desirable to determine which hypothesis better explains consumer behavior.

Empirical evidence can be cited to support both hypotheses; consequently, it is difficult to accept one hypothesis and to reject the other. Moreover, there is empirical evidence to support other hypotheses, particularly, the permanent income hypothesis.

UNIT -4

Balance of Payment

The Balance of Payment (BOP) of a country is a systematic account of all economic transactions between a country and the rest of the world, undertaken during a specific period of time. BOP is the difference between all receipts from foreign countries and all payments to foreign countries. If the receipts exceed payments, then a country is said to have favourable BOP, and vice versa.

According to Charles Kindle Berger "The BOP of a country is a systematic recording of all economic transactions between residents of that country and the rest of the world during a given period of time".

The Balance of payments record is maintained in a standard double - entry book - keeping method. International transactions enter into record as credit or debit. The payments received from foreign countries enter as credit and payments made to other countries as debit. The following table shows the elements of BOP.

BALANCE OF PAYMENTS ACCOUNT

Receipts (Credits)	Payments (Debits)
1. Export of goods.	Imports of goods.
Trade Account Balance	
2. Export of services. 3. Interest, profit and dividends received. **4.** Unilateral receipts.	Import of services. Interest, profit and dividends paid. Unilateral payments.
Current Account Balance (1 to 4)	
5. Foreign investments. **6.** Short term borrowings. **7.** Medium and long term borrowing.	Investments abroad. Short term lending. Medium and long term lending.
Capital Account Balance (5 to 7)	
8. Errors and omissions. **9.** Change in reserves. (+)	Errors and omissions. Change in reserve (-)
Total Reciepts = Total Payments Total payments.	

1. Trade Balance :-

Trade balance is the difference between export and import of goods, usually referred as visible or tangible items. If the exports are more than imports, there will be trade surplus and if imports are more than exports, there will be trade deficit. Developing countries have most of the time suffered a deficit in their balance of payments. The trade balance forms a part of current account. In 2008-09, trade deficit of India was 118.6 US $ billion.

2. **Current Account Balance**:-

It is the difference between the receipts and payments on account of current account which includes trade balance. The current account includes export of services, interest, profits, dividends and unilateral receipts from abroad and the import of services, profits, interest, dividends and unilateral payments abroad. There can be either surplus or deficit in current account. When debits are more than credits or when payments are more than receipts deficit takes place. Current account surplus will take place when credits are more and debits are less.

Current account balance is very significant. It shows a country's earning and payments in foreign exchange. A surplus balance strengthens the country's international financial position. It could be used for development of the country. A deficit is a problem for any country but it creates a serious situation for developing countries. In 2009-10 India's current account deficit was 38.4 US $ billion.

3. **Capital Account Balance :-**

It is the difference between receipts and payments on account of capital account. The transactions under this title involves inflows and outflows relating to investments, short term borrowings I lending, and medium term to long term borrowings / lending. There can be surplus or deficit in capital account. When credits are more than debits surplus will take place and when debits are more than credits deficit will take place. In 2009-10. India's capital account surplus was 51.8 US $ billion.

4. **Errors and Omissions :-**

The double entry book - keeping principle states that for every credit, there is a corresponding debit and therefore, there should be a balance in BOP as well. In reality BOP may not balance, due to errors and omissions. Errors may be due to statistical discrepancies (differences) and omissions may be due to certain transactions may not get recorded. For Eg., remittance by an Indian working abroad to India may not get recorded etc. If the current and capital account shows a surplus of 20,000 $, then the BOP should show an increase of 20,000 $. But, if the statement shows an increase of 22,000 $, then there is an error or omission of 2,000 $ on credit side.

5. **Foreign Exchange Reserves** :-

The balance of foreign exchange reserve is the combined effect of current and capital account balances. The reserves will increase when:-

a) The surplus capital account is much more than the deficit in current account.
b) The surplus in current account is much more than deficit in capital account.
c) Both the current account and capital account shows a surplus.

In 2009-10 India's foreign exchange reserves increased by 13.4 US $ billion.

INDIA'S BALANCE OF TRADE:-

Balance of trade is the difference between exports and imports. India's Balance of trade is mostly in deficit. This is due to low share off Exports in world market. Imports are high due to petroleum, oil andlubricant products.

India's export performance is poor. At present, India's share off world export trade is 1%. The share of exports of other developing countries is much more than India.

B. REASONS FOR POOR PERFORMANCE OF INDIA'S EXPORT TRADE

There are Several reasons for India's Poor performance. Some off them are:

I. Export - Related Problems :-

1. **High Prices :-**

As compared to other Asian Countries the price of Indian goods is high. Prices are high due to documentation formalities, high transaction costs & also to make higher profits.

2. **Poor - Quality** :-

Many Indian exporters do not give much importance to quality control, so their products are of poor quality. Due to low quality many times Indian goods are rejected & sent back to India by foreign buyers.

3. **Poor Negotiation Skills** :-

Indian exporters lack Negotiation Skills due to poor training in Marketing. They fail to Convince & induce the foreign buyers to place orders.

4. **Inadequate Promotion :-**

For Export Marketing, Promotion is important. Many Indian Exporters do not give much importance to promotion. A good no. of Indian exporters are not professional in advertising & Sales promotion. They do not take part in trade fairs & exhibitions.

5. **Poor follow-up of sales :-**

Indian exporters are ineffective in providing after-sale-service. They do not bother to find out the reactions of buyers after sale. This results in poor performance of India's export trade.

II. General Causes

1. **Good Domestic Market**

Sellers find a ready market for their goods within the country, so they do not take patns to get orders from overseas markets.

2. **Number of formalities**

There are number of documentation & other formalities due to which the some rnarketers do not enter the export field. So there is a need to simplify formalities.

3. **Problem of Trading Blocs**

Trading blocs reduce trade barriers on member nations, but they impose trade barriers on non-members. As India is not a member of some powerful trading blocs, it has to face some problems.

4. **Negative Attitude**

Some of the overseas buyers have a negative attitude towards Indian goods. They feel that Indian goods are inferior goods. Thus there is a need to correct this attitude.

5. **Poor Infrastructure**

Indian infrastructure is poor. Indian exporters find it difficult to get orders & also to deliver them at time.

Types of Disequilibrium in Balance of Payments

Balance of payments is the difference between the receipts from and payments to foreigners by residents of a country. In accounting sense balance of payments, must always balance. Debits must be equal to credits. So, there will be equilibrium in balance of payments.

Symbolically, **B = R - P**

Where : - **B** = Balance of Payments

R = Receipts from Foreigners

P = Payments made to Foreigners

When B = Zero, there is said to be equilibrium in balance of payments.

When B is positive there is favourable balance of payments; When &. B is negative there is unfavourable or adverse balance of payments.' When there is a surplus or a deficit in balance of payments there is said : to be disequilibrium in balance of payments. Thus disequilibrium refers to imbalance in balance of payments.

B. TYPES OF DISEQUILIBRIUM IN BOP

The following are the main types of disequilibrium in the balance of payments:-

1. <u>Structural Diseguilibrium</u> :-

Structural disequilibrium is caused by structural changes in the economy affecting demand and supply relations in commodity and factor markets. Some of the structural disequilibrium are as follows :-

a. A shift in demand due to changes in tastes, fashions, income etc. would decrease or increase the demand for imported goods thereby causing a disequilibrium in BOP.

b. If foreign demand for a country's products declines due to new and cheaper substitutes abroad, then the country's exports will decline causing a deficit.

c. Changes in the rate of international capital movements may also cause structural disequilibrium.

d. If supply is affected due to crop failure, shortage of raw-materials, strikes, political instability etc., then there would be deficit in BOP.

e. A war or natural calamities also result in structural changes which may affect not only goods

but also factors of production causing disequilibrium in BOP.

f. Institutional changes that take place within and outside the country may result in BOP disequilibrium. For Eg. if a trading block imposes additional import duties on products imported in member countries of the block, then the exports of exporting country would be restricted or reduced. This may worsen the BOP position of exporting country.

2. Cyclical Disequilibrium :-

Economic activities are subject to business cycles, which normally have four phases Boom or Prosperity, Recession, Depression and Recovery. During boom period, imports may increase considerably due to increase in demand for imported goods. During recession and depression, imports may be reduced due to fall in demand on account of reduced income. During recession exports may increase due to fall in prices. During boom period, a country may face deficit in BOP on account of increased imports.

Cyclical disequilibrium in BOP may occur because

a. Trade cycles follow different paths and patterns in different countries.
b. Incomeelasticities of demand for imports in different countries are not identical.
c. Priceelasticities of demand for imports differ in different countries.

3. Short - Run Disequilibrium :-

This disequilibrium occurs for a short period of one or two years. Such BOP disequilibrium is temporary in nature. Short - run disequilibrium arises due to unexpected contingencies like failure of rains or favourable monsoons, strikes, industrial peace or unrest etc. Imports may increase exports or exports may increase imports in a year due to these reasons and causes a temporary disequilibrium exists.

International borrowing or lending for a short - period would cause short - run disequilibrium in balance of payments of a country. Short term disequilibrium can be corrected through short - term borrowings. If short - run disequilibrium occurs repeatedly it may pave way for long - run disequilibrium.

4. Long - Run I Secular Disequilibrium :-

Long run or fundamental disequilibrium refers to a persistent deficit or a surplus in the balance of payments of a country. It is also known as secular disequilibrium. The causes of long - term disequilibrium are

a. Continuous increase in demand for imports due to increasing population.
b. Constant price changes - mostly inflation which affects exports on continuous basis.
c. Decline in demand for exports due to technological improvements in importing countries, and as such the importing countries depend less on imports.

The long run disequilibrium can be corrected by making constant efforts to increase exports and to reduce imports.

5. Monetary Diseguilibrium

Monetary disequilibrium takes place on account of inflation or deflation. Due to inflation, prices of products in domestic market rises, which makes exports expensive. Such a situation may affect BOP equilibrium. Inflation also results in increase in money income with people, which in turn may increase demand for imported goods. As a result imports may turn BOP position in disequilibrium.

6. Exchange Rate Fluctuations :-

A high degree of fluctuation in exchange rate may affect the BOP position. For Eg. if Indian Rupee gets appreciated against dollar, then Indian exporters will receive lower amounts of foreign exchange, whereas, there will be more outflow of foreign exchange on account of higher imports. Such a situation will adversely affect BOP position. But, if domestic currency depreciates against foreign currency, then the BOP position may have positive impact.

CAUSES OF DISEQUILIBRIUM IN BOP

Any disequilibrium in the balance of payment is the result of imbalance between receipts and payments for imports and exports. Normally, the term disequilibrium is interpreted from a negative angle and therefore, it implies deficit in BOP.

The disequilibrium in BOP is caused due to various factors. Some of them are

I. **Import - Related Causes**

The rise in imports has been the most important factor responsible for large BOP deficits. The causes of rapid expansion of imports are :-

1. Population Growth

Population Growth may increase the demand for imported goods such as food items and non food items, to meet their growing needs. Thus, increase in imports may lead to BOP disequilibrium.

2. Development Programme

Increase in development programmes by developing countries may require import of capital goods, raw materials and technology. As development is a continuous process, imports of these items continue for a long time landing the developing countries in BOP deficit.

3. Imports Of Essential Items

Countries which do not have enough supply of essential items like Crude oil or Capital equipments are required to import them. Again due to natural calamities government may resort to heavy imports, which adversely affect the BOP position.

4. Reduction Of Import Duties

When import duties are reduced, imports becomes cheaper as such imports increases. This increases the deficit in BOP position.

5. Inflation

Inflation in domestic markets may increase the demand for imported goods, provided the imported goods are available at lower prices than in domestic markets.

6. Demonstration Effect

An increase in income coupled with awareness of higher living standard of foreigners, induce people at home to imitate the foreigners. Thus, when people become victims of demonstration effect, their propensity to import increases.

II. Export Related Causes :-

Even though export earnings have increased but they have not been sufficient enough to meet the rising imports. Exports may reduce without a corresponding decline in imports. Following are the causes for decrease in exports

1. Increase In Population :-

Goods which were earlier exported may be consumed by rising population. This reduces the export earnings of the country leading to BOP disequilibrium.

2. Inflation :-

When there is inflation in domestic market, prices of export goods increases. This reduces the demand of export goods which in turn results in trade deficit.

3. Appreciation Of Currency :-

Appreciation of domestic currency against foreign currencies results in lower foreign exchange to exporters. This demotivates the exporters.

4. Discovery Of Substitutes :-

With technological development new substitutes have come up. Like plastic for rubber, synthetic fibre for cotton etc. This may reduce the demand for raw material requirement.

5. Technological Development :-

Technological Development in importing countries may reduce their imports. This can be possible when they start manufacturing goods which they were exporting earlier. This will have an adverse effect on exporting countries.

6. Protectionist Trade Policy :-

Protectionist trade policy of importing country would encourage domestic producers by giving them incentives, whereas, the imports would be discouraged by imposing high duties. This will affect exports.

III.Other Causes :-

1. Flight of Capital

Due to speculative reasons, countries may lose foreign exchange or gold stocks. Investors may also withdraw their investments, which in turn puts pressure on foreign exchange reserves.

2. Globalisation

Globalisation and the rules of WTO have brought a liberal and open environment in global trade. It has positive as well as negative effects on imports, exports and investments. Poor countries are unable to cope up with this new environment. Ultimately they become loser and their BOP is adversely affected.

3. Cyclical Transmission

International trade is also affected by Business cycles. Recession or depression in one or more developed countries may affect the rest of the world. The negative effects of trade cycle (low income, low demand, etc.) are transmitted from one country to another. For eg. The current financial crisis in U.S.A. is affecting the rest of the world.

4. Structural Adjustments

Many countries in recent years are undergoing structural changes. Their economies are being liberalised. As a result, investment, income and other variables are changing resulting in changes in exports and imports.

5. Political factors

The existence of political instability may result in disrupting the productive apparatus of the country causing a decline in exports and increase in imports. Likewise, payment of war expenses may also serious affect disequilibrium in the country's BOP. Thus political factors may also produce serious disequilibrium in the country's BOPs.

MEASURES TO CORRECT DISEQUILIBRIUM IN BOP :-

Any disequilibrium (deficit or surplus) in balance of payments is bad for normal internal economic operations and international economic relations. A deficit is more harmful for a country's economic growth, thus it must be corrected sooner than later. The measures to correct disequilibrium can be broadly divided into four groups

MEASURES

Monetary Policy	Fiscal Policy	Exchange Rate Policy	Non-monetary Policy

I. Monetary Measures :-

1) Monetary Policy :-

The monetary policy is concerned with money supply and credit in the economy. The Central Bank may expand or contract the money supply in the economy through appropriate measures which will affect the prices.

A. Inflation :-

If in the country there is inflation, the Central Bank through its monetary policy will make an attempt to reduce inflation. The Central Bank will adopt tight monetary policy. Money supply will be controlled by increase in Bank Rate, Cash Reserve Ratio, Statutory Ratio etc.

The monetary policy measures may reduce money supply, and encourage people to save more, which would reduce inflation. If inflation is reduced, the prices of domestic market will decrease and also that of export goods. In foreign markets there will be more demand for export goods, which would correct BOP disequilibrium.

B. Deflation :-

During deflation the Central Bank of the country may adopt easy monetary policy. It will try to increase money supply and credit in the economy, which would increase investment. More investment leads to more production. Surplus can be exported, which in turn may improve BOP position.

2) Fiscal Policy

Fiscal policy is government's policy on income and expenditure. Government incurs development and non - development expenditure,. It gets income through taxation and non - tax sources. Depending upon the situation governments expenditure may be increased or decreased.

a) **Inflation**

During inflation the government may adopt easy fiscal policy. The tax rates for corporate sector may be reduced, which would encourage more production and distribution including exports. Increased exports will bring more foreign exchange there by making the BOP position favourable.

b) **Deflation**

During deflation the government would adopt restrictive fiscal policy.It may impose additional taxes on consumers or may introduce tax saving schemes. This may reduce the consumption of citizens, which in turn may enable more export surplus.

To restrict imports the government may also impose additional tariffs or customs duties which may improve the BOP position.

3) Exchange Rate Policy

Foreign exchange rate in the market may directly or indirectly be influenced by the Government.

a) **Devaluation**

When foreign exchange problem is faced by the country, the government tries to reduce imports and .increase exports. This is done through devaluation of domestic currency. Under devaluation, the- government makes a deliberate effort to reduce the value of home country. If devaluation is carried out, then the exports will become cheaper and imports costlier. This is turn will help to reduce imports and increase exports.

b) **Depreciation**

Depreciation like devaluation lowers the value of domestic currency or increases the value of foreign currency. Depreciation of a country's currency takes place in free or competitive foreign exchange market due to market forces. Depreciation and devaluation have the same effect on exchange rate. If there is high demand for foreign currency than its supply, it will appreciate and vice versa. However, in several countries the system of managed flexibility is followed. If there is more demand for foreign exchange, the central bank will release the foreign currency in the market from its reserves so as to reduce the appreciation of foreign currency. If there is less demand for foreign exchange, it will purchase the foreign currency from market so as to reduce the depreciation of foreign country and appreciation of domestic currency.

Due to devaluation and depreciation of domestic currency, the exports become cheaper and imports become expensive. This helps to increase exports.

I) <u>Non-Monetary / General Measures :</u>

A deficit country along with monetary measures may adopt the following non-monetary measures too, which will either restrict imports or promote exports.

1) Tariffs :-

Tariffs refer to duties on imports to restrict imports. Tariff is a fiscal device which may be used to correct an adverse balance of payments. The imposition of import duties will raise the prices of imports. This will lead to a reduction in demand for imports thereby improving the balance of payments position.

2) Quotas :-

Under Quota System, the government may fix and permit the maximum quantity or value of a commodity to be imported during a given period. By restricting imports through quota system, the deficit is reduced and the balance of payments position is improved.

3) Export Promotion :-

The government may introduce a number of export promotion measures to encourage exporters to export more so as to earn valuable foreign exchange, which in turn would improve BOP Situation. Some of the incentives are Subsidies, Tax Concessions, Grants, Octroi refund, Excise exemption, Duty Drawback, Marketing facilities etc.

4) Import Substitution

Governments, especially, that of the developing countries may encourage import substitution so as to restrict imports and save valuable foreign exchange. The government may encourage domestic producers to produce goods which were earlier imported. The domestic producers may be given several incentives such as Tax holiday, Cash Subsidy, Assistance in Research & Development, Providing technical assistance, Providing Scarce inputs etc.

EXCHANGE RATE

Exchange rates allow you to determine how much of one currency you can exchange for another. For example, the dollar's exchange rate tells you how much a dollar is worth in a foreign currency, and vice versa. You will definitely need to understand exchange rates when you travel to another country. For example, if you traveled to the United Kingdom on June 24, 2016, you'd find a dollar was worth $1.32 British pounds.

TYPES

Most exchange rates are determined by the foreign exchange market, known as forex

Flexible Exchange Rates : For this reason, exchange rates vary on a moment-by-moment basis, depending on what forex traders think the currency is worth. This depends on a lot of factors, including central bank interest rates, the country's debt levels, and the strength of its economy. Most countries allow their currencies to be determined by the forex market. This is known as a flexible exchange rate.

The United States allows the forex market to determine its value. The dollar strengthened against most currencies during the 2008 financial crisis. For example, the dollar was worth $2.06 British pounds. As stock markets around the world fell, traders flocked to the relative safety of the dollar.

Why was the dollar safe? After all, the crisis started in the United States. It continued to worsen until March 2009. Despite this, most investors trusted that the U.S. Treasury would guarantee the safety of the world's global currency. That's because the dollar replaced the gold standard, thanks to the 1944 Bretton Woods agreement.

For more on the dollar's role, see Value of the U.S. Dollar, the Power of the U.S. Dollar, and Why Is the Dollar So Strong Right Now?

Fixed Exchange Rates : One country that has traditionally had a fixed exchange rate is China. It pegs its currency, the yuan, to a fixed value against the dollar. As of June 7, 2016, one dollar was worth 6.57 Chinese yuan. The dollar has weakened against the yuan since February 7, 2003, when a dollar could be exchanged for 8.28 yuan.

China has to manually adjust the exchange rate of the yuan to the dollar. That's because the U.S. government pressured the Chinese government to let the yuan rise in value. This allows U.S. exports to be more competitively priced in China. It also makes Chinese exports to the U.S. more expensive. For more on how this affects you, see U.S. China Trade Deficit.

However, on August 11, 2015, China modified its policy to allow the yuan more flexibility. For more, see Yuan to Dollar Conversion

THEORIES:

The main economic theories found in the foreign exchange deal with parity conditions.
A parity condition is an economic explanation of the price at which two currencies should be exchanged, based on factors such as inflation and interest rates. The economic theories suggest that when the parity condition does not hold, an arbitrage opportunity exists for market participants. However, arbitrage opportunities, as in many other markets, are quickly discovered and eliminated before even giving the individual investor an opportunity to capitalize on them. Other theories are based on economic factors such as trade, capital flows and the way a country runs its operations. We review each of them briefly below.

Major Theories: Purchasing Power Parity
Purchasing Power Parity (PPP) is the economic theory that price levels between two countries should be equivalent to one another after exchange-rate adjustment. The basis of this theory is the law of one price, where the cost of an identical good should be the same around the world. Based on the theory, if there is a large difference in price between two countries for the same product after exchange rate adjustment, an arbitrage opportunity is created, because the product can be obtained from the country that sells it for the lowest price.

The relative version of PPP is as follows:

$$e = \frac{\pi_1 - \pi_2}{1 + \pi_2}$$

Where 'e' represents the rate of change in the exchange rate and 'π_1' and 'π_2'represent the rates of inflation for country 1 and country 2, respectively.

For example, if the inflation rate for country XYZ is 10% and the inflation for country ABC is 5%, then ABC's currency should appreciate 4.76% against that of XYZ.

$$\text{Expected Currency Appreciation} = \frac{XYZ - ABC}{1 + ABC} = \frac{0.10 - 0.05}{1 + 0.05} = \frac{0.05}{1.05} = 4.76\%$$

Interest Rate Parity
The concept of Interest Rate Parity (IRP) is similar to PPP, in that it suggests that for there to be no arbitrage opportunities, two assets in two different countries should have similar interest rates, as long as the risk for each is the same. The basis for this parity is also the law of one price, in that the purchase of one investment asset in one country should yield the same return as the exact same asset in another country; otherwise exchange rates would have to adjust to make up for the difference.

The formula for determining IRP can be found by:

$$(i_1 - i_2) = (\frac{F - S}{S})(1 - i_2)$$

Where 'F' represents the forward exchange rate; 'S' represents the spot exchange rate; 'i_1' represents the interest rate in country 1; and 'i_2' represents the interest rate in country 2.

International Fisher Effect
The International Fisher Effect (IFE) theory suggests that the exchange rate between two countries should change by an amount similar to the difference between their nominal interest rates. If the nominal rate in one country is lower than another, the currency of the country with the lower nominal rate should appreciate against the higher rate country by the same amount.

The formula for IFE is as follows:

$$e = \frac{i_1 - i_2}{1 + i_2}$$

Where 'e' represents the rate of change in the exchange rate and 'i_1' and 'i_2'represent the rates of inflation for country 1 and country 2, respectively.

Balance of Payments Theory
A country's balance of payments is comprised of two segments - the current account and the capital account - which measure the inflows and outflows of goods and capital for a country. The balance of payments theory looks at the current account, which is the account dealing with trade of tangible goods, to get an idea of exchange-rate directions.

If a country is running a large current account surplus or deficit, it is a sign that a country's exchange rate is out of equilibrium. To bring the current account back into equilibrium, the exchange rate will need to adjust over time. If a country is running a large deficit (more imports than exports), the domestic currency will depreciate. On the other hand, a surplus would lead to currency appreciation.

The balance of payments identity is found by:

$$BCA + BKA + BRA = 0$$

Where BCA represents the current account balance; BKA represents the capital account balance; and BRA represents the reserves account balance.

Real Interest Rate Differentiation Model
The Real Interest Rate Differential Model simply suggests that countries with higher real interest rates will see their currencies appreciate against countries with lower interest rates. The reason for this is that investors around the world will move their money to countries with higher real rates to earn higher returns, which bids up the price of the higher real rate currency.

Asset Market Model
The Asset Market Model looks at the inflow of money into a country by foreign investors for the purpose of purchasing assets such as stocks, bonds and other financial instruments. If a country is seeing large inflows by foreign investors, the price of its currency is expected to increase, as the domestic currency needs to be purchased by these foreign investors. This theory considers the capital account of the balance of trade compared to the current account in the prior theory. This model has gained more acceptance as the capital accounts of countries are starting to greatly outpace the current account as international money flow increases.

Monetary Model
The Monetary Model focuses on a country's monetary policy to help determine the exchange rate. A country's monetary policy deals with the money supply of that country, which is determined by both the interest rate set by central banks and the amount of money printed by the treasury. Countries that adopt a monetary policy that rapidly grows its monetary supply will see inflationary pressure due to the increased amount of money in circulation. This leads to a devaluation of the currency.

These economic theories, which are based on assumptions and perfect situations, help to illustrate the basic fundamentals of currencies and how they are impacted by economic factors. However, the fact that there are so many conflicting theories indicates the difficulty in any one of them being 100% accurate in predicting currency fluctuations. Their importance will likely vary by the different market environment, but it is still important to know the fundamental basis behind each of the theories.

Economic Data
Economic theories may move currencies in the long term, but on a shorter-term, day-to-day or week-to-week basis, economic data has a more significant impact. It is often said the biggest companies in the world are actually countries and that their currency is essentially shares in that country. Economic data, such as the latest gross domestic product (GDP) numbers, are often considered to be like a company's latest earnings data. In the same way that financial news and current events can affect a company's stock price, news and information about a country can have a major impact on the direction of that country's currency. Changes in interest rates, inflation, unemployment, consumer confidence, GDP, political stability etc. can all lead to extremely large gains/losses depending on the nature of the announcement and the current state of the country.

The number of economic announcements made each day from around the world can be

intimidating, but as one spends more time learning about the forex market it becomes clear which announcements have the greatest influence. Listed below are a number of economic indicators that are generally considered to have the greatest influence - regardless of which country the announcement comes from.

Employment Data
Most countries release data about the number of people that currently are employed within that economys. In most cases, strong increases in employment signal that a country enjoys a prosperous economy, while decreases are a sign of potential contraction. If a country has gone recently through economic troubles, strong employment data could send the currency higher because it is a sign of economic health and recovery. On the other hand, high employment can also lead to inflation, so this data could send the currency downward. In other words, economic data and the movement of currency will often depend on the circumstances that exist when the data is released.

Interest Rates
As was seen with some of the economic theories, interest rates are a major focus in the forex market. The most focus by market participants, in terms of interest rates, is placed on the country's central bank changes of its bank rate, which is used to adjust monetary supply and institute the country's monetary policy.
Inflation
Inflation data measures the increases and decreases of price levels over a period of time. Due to the sheer amount of goods and services within an economy, a basket of goods and services is used to measure changes in prices. Price increases are a sign of inflation, which suggests that the country will see its currency depreciate
Gross Domestic Product
The gross domestic product of a country is a measure of all of the finished goods and services that a country generated during a given period. The GDP calculation is split into four categories: private consumption, government spending, business spending and total net exports. GDP is considered the best overall measure of the health of a country's economy, with GDP increases signaling economic growth. The healthier a country's economy is, the more attractive it is to foreign investors, which in turn can often lead to increases in the value of its currency, as money moves into the country.
Retail Sales
Retail sales data measures the amount of sales that retailers make during the period, reflecting consumer spending. The measure itself doesn't look at all stores, but, similar to GDP, uses group of stores of varying types to get an idea of consumer spending. This measure also gives market participants an idea of the strength of the economy, where increased spending signals a strong economy..

Durable Goods
The data for durable goods (those with a lifespan of more than three years) measures the amount of manufactured goods that are ordered, shipped and unfilled for the time period. These goods include such things as cars and appliances, giving economists an idea of the amount of individual spending on these longer-term goods, along with an idea of the health of the factory sector.
Trade and Capital Flows

Interactions between countries create huge monetary flows that can have a substantial impact on the value of currencies. As was mentioned before, a country that imports far more than it exports could see its currency decline due to its need to sell its own currency to purchase the currency of the exporting nation. Furthermore, increased investments in a country can lead to substantial increases in the value of its currency.

Trade flow data looks at the difference between a country's imports and exports, with a trade deficit occurring when imports are greater than exports.. Capital flow data looks at the difference in the amount of currency being brought in through investment and/or exports to currency being sold for foreign investments and/or imports. A country that is seeing a lot of foreign investment, where outsiders are purchasing domestic assets such as stocks or real estate, will generally have a capital flow surplus.

Balance of payments data is the combined total of a country's trade and capital flow over a period of time. The balance of payments is split into three categories: the current account, the capital account and the financial account. The current account looks at the flow of goods and services between countries. The capital account looks at the exchange of money between countries for the purpose of purchasing capital assets. The financial account looks at the monetary flow between countries for investment purposes.

Macroeconomic and Geopolitical Events
The biggest changes in the forex often come from macroeconomic and geopolitical events such as wars, elections, monetary policy changes and financial crises. These events have the ability to change or reshape the country, including its fundamentals. For example, wars can put a huge economic strain on a country and greatly increase the volatility in a region, which could impact the value of its currency. It is important to keep up to date on these macroeconomic and geopolitical events.

MONETARY POLICY

Monetary policy refers to the credit control measures adopted by the central bank of a country.

Johnson defines monetary policy “as policy employing central bank’s control of the supply of

money as an instrument for achieving the objectives of general economic policy.” G.K. Shaw

defines it as “any conscious action undertaken by the monetary authorities to change the

quantity, availability or cost of money.”

Objectives or Goals of Monetary Policy:

The following are the principal objectives of monetary policy:

1. Full Employment:

Full employment has been ranked among the foremost objectives of monetary policy. It is an important goal not only because unemployment leads to wastage of potential output, but also because of the loss of social standing and self-respect.

2. Price Stability:

One of the policy objectives of monetary policy is to stabilise the price level. Both economists and laymen favour this policy because fluctuations in prices bring uncertainty and instability to the economy.

3. Economic Growth:

One of the most important objectives of monetary policy in recent years has been the rapid economic growth of an economy. Economic growth is defined as "the process whereby the real per capita income of a country increases over a long period of time."

4. Balance of Payments:

Another objective of monetary policy since the 1950s has been to maintain equilibrium in the balance of payments.

INSTRUMENTS OR TOOLS

Following are the two types of tools used :

1.QUANTITATIVE

REPO AND REVERSE REPO RATE

Repo is a transaction wherein securities are sold by the RBI and simultaneously repurchased at a fixed price. This fixed price is determined in context to an interest rate called the repo rate. The

transaction is relevant for banks; when they need funds from the RBI, the central bank repurchases the securities. The higher the repo rate, more costly are the funds for banks and hence, higher will be the rate that banks pass on to customers. A high rate signals that access to money is expensive for banks; lesser credit will flow into the system and that helps bring down liquidity in the economy. The reverse is the reverse repo rate, which banks use to park excess money with RBI. At present, repo rate is 6.75% and reverse repo is 6.25%.

CASH RESERVE RATIO (CRR)

This is the percentage of a bank's total deposit that need to be kept as cash with the RBI. The central bank can change the ratio to a limit. A high percentage means banks have less to lend, which curbs liquidity; a low CRR does the opposite. The RBI can reduce or raise CRR to tighten or ease liquidity as the situation demands. At present, CRR is at 4%.

OPEN MARKET OPERATIONS

This refers to buying and selling of government securities by RBI to regulate short-term money supply. If RBI wants to induce liquidity or more funds into the system, it will buy government securities and inject funds, and if it wants to curb the amount of money out there, it will sell these to banks, thereby reducing the amount of cash that banks have. RBI uses this tool actively even outside of its monetary policy review to manage liquidity on a regular basis.

STATUTORY LIQUIDITY RATIO

This is the percentage of banks' total deposits that they are needed to invest in government approved securities. The lesser the amount of SLR, the more banks have to lend outside. The SLR has been brought down from 22% to 21.5% in this policy and the endeavour will be to reduce it by 0.25% every quarter till 31 March 2017.

BANK RATE

This is the re-discounting rate that RBI extends to banks against securities such as bills of exchange, commercial papers and any other approved securities. In recent years, it has been the repo rather than the bank rate that has acted as a guideline for banks to set their interest rates. It is currently at 8.25%. Directionally, bank rate follows repo.

In addition to these measures, RBI also uses many qualitative tools to regulate credit flow and cost of credit to the economy and specific sectors within it.

2.QUALITATIVE

Qualitative tool is used by the RBI for selective purposes. Some of them are:

1. Margin requirements: This refers to difference between the securities offered and and amount borrowed by the banks.

2. Consumer Credit Regulation: This refers to issuing rules regarding down payments and maximum maturities of installment credit for purchase of goods.

3. Guidelines: RBI issues oral, written statements, appeals, guidelines, warnings etc. to the banks.

4. Rationing of credit: The RBI controls the Credit granted / allocated by commercial banks.

5. Moral Suasion: psychological means and informal means of selective credit control.

FISCAL POLICY

The word fiscal comes from a French word Fisc, which means treasure of Government. All the taxation and expenditure decisions of the government comprise the Fiscal Policy

. Fiscal Policy is different from monetary policy in the sense that monetary policy deals with the supply of money and rate of interest. The government and RBI use these two policies to steer the broad aspects of the Indian Economy. While government is conducts Fiscal Policy, RBI is responsible for monetary policy. RBI also helps the government in implementing its fiscal policy decisions. Conducting fiscal policy is one of the main duties of the government. Via fiscal policy, the government collects money from different resources and utilizes it for different expenditures. Since all welfare projects are carried out under public expenditures, fiscal policy is closely related to the development policy .

The objectives of the fiscal policy of the government are as follows: 1.Resource Mobilization Fiscal policy allows the government to mobilize resources for public expenditure and development. There are three ways of resource mobilization viz. taxation, public savings and private savings through issue of bonds and securities.

2. Resource Allocation The funds mobilized under fiscal policy are further allocated for development of social and physical infrastructure. For example, the government collected tax revenues are allocated to various ministries to carry out their schemes for development.

3. Redistribution of Income The taxes collected from rich people are spent on social upliftment of the poor and this fiscal policy in a welfare state tried to reduce inequalities of income using resource allocation. Price stability, control of Inflation, Employment generation Government uses fiscal measures such as taxation and public expenditure to stabilize the prices and control inflation. Government also generates employment by speeding infrastructure development.

4. Balanced Regional Development A large part of the government tax revenues are given out to less developed states as statutory and discretionary grant. This helps in the balanced regional development of the country.

5. Balance of Payments Using fiscal policy measures government tries to promote exports to earn foreign exchange. This helps in maintaining favourable balance of trade and balance of payments.

6. Capital Formation and National Income Fiscal policy measures help in increasing the capital formation and economic growth. Increased capital formation leads to increase in national income al Components of Fiscal Policy

There are four key components of Fiscal Policy are as follows:

1. Taxation Policy:. The government gets revenue from direct and indirect taxes. Via its fiscal policy, government aims to keep the taxes as much progressive as possible. Further, judicious taxation decisions are very important for economy because of two reasons: Higher than usual tax rate will reduce the purchasing power of people and will lead to an decrease in investment and production. Lower than usual tax rates would leave more money with people to spend and this would lead to inflation. Thus, the government has to make a balance and impose correct tax rate for the economy.

2. Expenditure Policy: Expenditure policy of the government deals with revenue and capital expenditures. These expenditures are done on areas of development like education, health, infrastructure etc. and to pay internal and external debt and interest on those debts. Government budget is the most important instrument embodying expenditure policy of the government. The budget is also used for deficit financing i.e. filling the gap between Government spending and income.

3. Investment and Disinvestment Policy: Optimum levels of domestic as well as foreign investment are needed to maintain the economic growth. In recent years, the importance of FDI has increased dramatically and has become an instrument of integrating the domestic economies with global economy.

4. Debt / Surplus Management If the government received more than it spends, it is called surplus. If government spends more than income, then it is called deficit. To fund the deficit, the government has to borrow from domestic or foreign sources. It can also print money for deficit financing.
TOOLS/INSTRUMENTS

Some of the major instruments of fiscal policy are as follows: A. Budget B. Taxation C. Public Expenditure D. Public Works E. Public Debt.

A. Budget:

The budget of a nation is a useful instrument to assess the fluctuations in an economy. The policy of managed budgets implies changing expenditures with constant tax rates or changing tax rates with constant expenditures or a combination of the two. Budget management may be used to tackle depression and inflationary situations. Deliberate attempts are made under this policy to adjust revenues, expenditures and public debt to eliminate unemployment during depression and to achieve price stability in inflation.

Contra cyclical policy implies unbalanced budgets. An unbalanced budget during depression implies deficit spending. To make it more effective, the government may finance its deficits by borrowing from the banks. During periods of inflation, the policy is to have a budget surplus by curtailing government outlays.

The government may partly utilize the budget surplus to retire the outstanding government debt. The belief is that a surplus budget has deflationary effect on national income while a deficit budget tends to be expansionary. During depression when we need an increase in the flow of income, deficit budgets are desired. Conversely, in inflation when we need to check the overflow of income, surplus budgets are favoured.

However, following a contra cyclical budgetary policy is not an easy task. Predicting a recession or an inflationary boom is a difficult job. Adjusting the budget to the fast changing economic conditions is still more difficult especially when budget is a political decision to be taken after a good deal of delay and discussion. Therefore, emphasis has also to be laid on adjustment of individual items of the budget in order to make it more effective as a contra cyclical fiscal policy weapon.

B. Taxation:

Taxation is a powerful instrument of fiscal policy in the hands of public authorities which greatly effect the changes in disposable income, consumption and investment. An anti- depression tax policy increases disposable income of the individual, promotes consumption and investment. Obviously, there will be more funds with the people for consumption and investment purposes at the time of tax reduction.

This will ultimately result in the increase in spending activities i.e. it will tend to increase effective demand and reduce the deflationary gap. In this regard, sometimes, it is suggested to reduce the rates of commodity taxes like excise duties, sales tax and import duty. As a result of

these tax concessions, consumption is promoted. Economists like Hansen and Musgrave, with their eye on raising private investment, have emphasized upon the reduction in corporate and personal income taxation to overcome contractionary tendencies in the economy.

Now, a vital question arises about the extent to which unemployment is reduced or mitigated if a tax reduction stimulates consumption and investment expenditure. In such a case, reduction of unemployment is very small. If such a policy of tax reduction is repeated, then consumers and investors both are likely to postpone their spending in anticipation of a further fall in taxes. Furthermore, it will create other complications in the government budget.

Anti-Inflationary Tax Policy:

An anti-inflationary tax policy, on the contrary, must be directed to plug the inflationary gap. During inflation, fiscal authorities should not retain the existing tax structure but also evolve such measures (new taxes) to wipe off the excessive purchasing power and consumer demand. To this end, expenditure tax and excise duty can be raised.

The burden of taxation may be raised to the extent which may not retard new investment. A steeply progressive personal income tax and tax on windfall gains is highly effective to curb the abnormal inflationary pressures. Export should be restricted and imports of essential commodities should be liberated.

The increased inflow of supplies from origin countries will have a moderate impact upon general prices. The tax structure should be such which may impose heavy burden on higher income group and vice versa. Therefore, proper care must be taken that the government policies should not bring violent fluctuations and impede economic growth. To sum up, despite certain short-comings of taxation, its significance as an effective anti-cyclical and growth inducing investment cannot be forfeited.

C. Public Expenditure:

The active participation of the government in economic activity has brought public spending to the front line among the fiscal tools. The appropriate variation in public expenditure can have more direct effect upon the level of economic activity than even taxes. The increased public spending will have a multiple effect upon income, output and employment exactly in the same way as increased investment has its effect on them. Similarly, a reduction in public spending, can reduce the level of economic activity through the reverse operation of the government expenditure multiplier.

(i) Public Expenditure in Inflation:

During the period of inflation, the basic reason of inflationary pressures is the excessive aggregate spending. Both private consumption and investment spending are abnormally high. In these circumstances, public spending policy must aim at reducing the government spending. In other words, some schemes should be abandoned and others be postponed. It should be carefully noted that government spending which is of productive nature, should not be shelved, since that may aggravate the inflationary dangers further.

However, reduction in unproductive channels may prove helpful to curb inflationary pressures in the economy. But such a decision is really difficult from economic and political point of view. It is true, yet the fiscal authority can vary its expenditure to overcome inflationary pressures to some extent.

(ii) Public Expenditure in Depression:

In depression, public spending emerges with greater significance. It is helpful to lift the economy out of the morass of stagnation. In this period, deficiency of demand is the result of sluggish private consumption and investment expenditure. Therefore, it can be met through the additional doses of public expenditure equivalent to the deflationary gap. The multiplier and acceleration effect of public spending will neutralize the depressing effect of lower private spending's and stimulate the path of recovery.

D. Public Works:

Keynes General Theory highlighted public works programme as the most significant anti-depression device. There are two forms of expenditure i.e., Public Works and 'Transfer Payments. Public Works according to Prof. J.M. Clark, are durable goods, primarily fixed structure, produced by the government.

They include expenditures on public works as roads, rail tracks, schools, parks, buildings, airports, post offices, hospitals, irrigation canals etc. Transfer payments are the payments such like interest on public debt, subsidy, pension, relief payment, unemployment, insurance and social security benefits etc. The expenditure on capital assets (public works) is called capital expenditure.

Keynes had strong faith in such a programme that he went to the extent of saying that even completely unproductive projects like the digging up of holes and filling them up are fully admissible.

Public works are supported as an anti-depression device on the following grounds:
(i) They absorb hitherto unemployed workers.

(ii) They increase the purchasing power of the community and thereby stimulate the demand for consumption goods.

(iii)They help to create economically and socially useful capital assets as roads, canals, power plants, buildings, irrigation, training centres and public parks etc.

(iv) They provide a strong incentive for the growth of industries which are generally hit by the state of depression.

(v) They help to maintain the moral and self respect of the work force and make use of the skill of unemployed people.

(vi) The public works do not have an off setting effect upon private investment because these are started at a time when private investment is not forthcoming.

The above stated points are, therefore, the evidence that public works programme fully satisfies, the main criteria as laid down for public expenditure. However, this form of public expenditure is subject to certain limitations and practical difficulties. Some of these are listed as under.

1. Difficult Forecasting:
The effectiveness of public works programmes always rests upon accurate forecasting of the depression or boom. But prediction of accurate forecasting is very difficult.

2. Timing of Public Works:
Another serious problem relates to the timing of public works with the moment of cycle. Due to lack of accurate forecasting, proper timing is neither feasible nor possible. Thus this factor along undermines the significance of public works as an instrument of stabilization.

3. Delay in starting:
Public works programmes are not something which can be started immediately. Actually, it is a long term programme which requires proper planning with regard to the finance and engineering. In this way, delay is the natural cause. Dernburg and McDougal have rightly noticed, “public works are, in short, clumsy and slow moving requiring time to get ready and time to turn off.”

4. Scarcity of Resources:

The undertaking of public works programme may pose a serious threat due to non-availability of resources. It is likely that scarcity of resources may further aggravate the crisis instead of giving the pace of smoothness.

5. Limited Scope of Employment:

The public works programme is not capable of assuring job to all cadres of unemployed workers. Such works are only started to absorb unskilled and semi-skilled workers and not the specialised.

6. Misallocation of Resources:

As the slump gets deepened, there is wide spread unemployment of manpower and equipment. Generally, public works are located in only few selected areas. Thus, they may prove to be inadequate to cope with the requirements. Again, immobility in factors of production may also prevent the economic utilization of available resources. As a result, they reduce the efficiency of public works programme.

7. Burden of Public Debt:

The public works programme, generally, are financed through borrowing during depression. This will saddle the country with a heavy burden of repayment of principle amount and interest therein.

8. Cost Price Maladjustments:

The public works programme may perpetuate cost price maladjustments in heavy industries where public expenditure is concentrated. During the period of boom, wages and prices in construction industries have a strong upward tendency while in recession or depression, prices move downward, wages and costs remain sticky relatively. In short, such distortion in cost price structure brings more instability in the economy.

9. Effect on Private Enterprise:

In certain areas, the construction programmes undertaken by the public agencies may complete with private investment. As a result, the later is driven out of business. In such a case, public works will prove to be self-off setting and the aggregate demand will possibly fail to increase.

10. Control over Public Works:

The success of public works mostly depends on the nature of control over them. If public works are controlled by the central authority, delay is likely to arise in selected projects.

11. Political Considerations:

Public works are often started in democratic countries in certain areas not on account of economic reasons, but the political pressures at national, state and local levels sway the government decisions. Consequently, the economic utility of such public works remains very limited.

E. Public Debt:

Public debt is a sound fiscal weapon to fight against inflation and deflation. It brings about economic stability and full employment in an economy.

The government borrowing may assume any of the following forms mentioned as under:

(a) Borrowing from Non-Bank Public:

When the government borrows from non-bank public through sale of bonds, money may flow either out of consumption or saving or private investment or hoarding. As a result, the effect of debt operations on national income will vary from situation to situation. If the bond selling schemes of the government are attractive, the people induce to curtail their consumption, the borrowings are likely to be non inflationary.

When the money for the purchase of bonds flows from already existing savings, the borrowing may again be non-inflationary. Has the government not been borrowing, these funds would have been used for private investment, with the result that the debt operations by the government will simply bring about a diversion of funds from one channel of spending to another with the similar quantitative effects on national income.

If the government bonds are purchased by non bank individuals and institutions by drawing upon their hoarded money, there will be net addition to the circular flow of spending. Consequently, the inflationary pressures are likely to be created. But funds from this source are not commonly available in larger quantity. Its main implication is that borrowings from non bank public is more advantageous in an inflationary period and undesirable in a depression phase. In short, the borrowing from non bank public are not of much significant magnitude whether it comes out of consumption, saving, private investment or hoarding.

(b) Borrowing from Banking System:

The government may also borrow from the banking institutions. During the period of depression, such borrowings are highly effective. In this period, banks have excessive cash reserves and the private business community is not willing to borrow from banks since they consider it unprofitable.

When unused cash lying with banks is lent out to government, it causes a net addition to the circular flow and tend to raise national income and employment. Therefore, borrowing from banking institution have desirable and favourable effect specially in the period of depression when the borrowed money is spend on public works programmes.

On the contrary, borrowing from this source dry up almost completely in times of brisk business activities i.e. boom. Actually, demand is very high during inflation period, since profit expectation is high in business. The banks, being already loaded up and having no excess cash reserves. Find it difficult to lend to the government. If it is done, it is only through reducing their loans somewhere else.

This leads to a fall in private investment. As the government spending is off-set by a reduction in private investment, there will be no net effect upon national income and employment. In nut shell, borrowing from banking institutions have desirable effect only in depression and is undesirable or with a neutral effect during inflation period.

(c) Drawing from Treasury:

The government may draw upon the cash balances held in the treasury for financing budgetary deficit. It demonstrates dishoarding resulting in a net addition in the supply of money. It is likely to be inflationary in nature. But, generally, there are small balances over and above what is required for normal day to day requirements. Thus, such borrowings from treasury do not have any significant result.

(d) Printing of Money:

Printing of money i.e. deficit financing is another method of public expenditure for mobilizing additional resources in the hands of government. As new money is printed, it results in a net addition to the circular flow. Thus, this form of public borrowing is said to be highly inflationary.

Deficit financing has a desirable effect during depression as it helps to raise the level of income and employment but objection is often raised against its use at the time of inflation or boom. Here, it must be added that through this device, the government not only gets additional resources at minimum cost but can also create appropriate monetary effects like low interest rates and easy money supply and consequently economic system is likely to register a quick revival.