Industrial Economics and International Trade (HUT 300)

Module – 1

(Basic Concepts and Demand and Supply Analysis)

Economics

Economics originated from the Greek word 'IOKONOMIA' which means Household Management. It is Adam Smith who is considered as Father of Economics > 1776 > 'Wealth of Nations'. Economics studies how the society and individuals use the limited resources to satisfy the unlimited wants.

Scarcity and Choice

Scarcity means that resources are not available in the required quantity to satisfy all the wants and needs. Since we face Scarcity, people have to make choice between goods and services. In 1932, Lionnel Robinson ('Nature and significance of Economics') defined economics as a "science which studies the human behaviour in relationship with given ends and scarce means"

Economic Problems of an economy

An economy is a system in which people earn their living by performing different economic activities like production, consumption and investment. Economic problems are reflected in the form of Central or Basic Problems of an economy. According to Samuelson, there are three fundamental and interdependent problems in an economic organisation—what, how and for whom—which are grouped under allocation of resources.

1. Allocation of Resources

(a) What Goods to Produce and How Much to Produce?

Due to limited resources, every economy has to decide what goods to produce and in what quantities. An economy has to make a choice of the wants which are important for the economy as a whole. For example, if the economy decides to produce more cloth, it is bound to reduce the production of food. The reason is that resources used to produce food and cloth are limited and given. An economy cannot produce more of both food and cloth. Thus, an economy has to decide what goods it would produce on the basis of availability of technology, cost of production, cost of supplying and demand for the commodity.

(b) How to Produce?

A technique of production which would maximise output or minimise cost should be used. We generally consider two types of techniques of production: labour-intensive and capital-intensive

techniques. In labour-intensive technique, more labour and less capital is used. In capital-intensive technique, more capital and less labour is used. Hence, producers must always produce efficiently by using the most efficient technology. Thus, every economy has to choose the most efficient technique of producing a commodity.

c) For Whom to Produce?

This is the question of how to distribute the product among the various sections of the society. Thus, guiding principle of this problem is output of the economy be distributed among different sections of the society in such a way that all of them get a minimum level of consumption.

2. Full Utilisation of Resources

It emphasis the fuller and optimal utilization of resources.

3. Economic Efficiency

The aim of an economy, which wants to be economically efficient.

4. Economic Growth

With discovery of new stock of resources or an advancement in technology, the productive capacity of an economy increases.

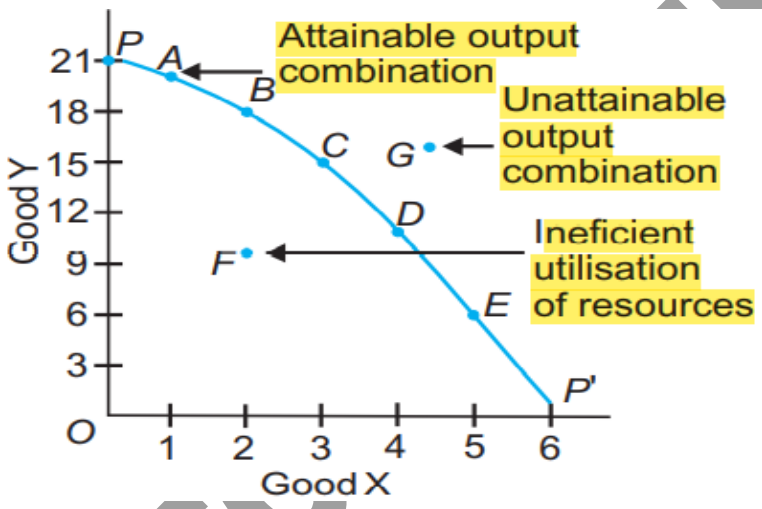
Production Possibility Curve

Production possibility curve or frontier (PPF) shows the various alternative combinations of goods and services that an economy can produce when the resources are all fully and efficiently employed. PPC shows the obtainable options. There is a maximum limit to the amount of goods and services which an economy can produce with the given resources and the state of technology. The resources can be used to produce various alternative goods which are called production possibilities and the curve showing the different production possibilities is called production possibility curve.

Production Possibility Schedule and Curve PP schedule refers to tabular presentation of different possible combinations of two goods that an economy can produce with given resources and available technology.

Table 1.3 **Production Possibility Schedule**

Production Possibility	Good *X*	Good *Y*
P	0	21
A	1	20
B	2	18
C	3	15
D	4	11
E	5	6
P'	6	0



The economy can either produce OP of good Y or OP' of good X or any other combination shown by points A, B, C, D or E. All points on the curve are attainable. The problem is that of choice, i.e., to choose among the attainable points on the curve. It depends upon tastes and preferences of an individual. This is the basic problem of an economy. Any point inside the curve, such as point F, indicates unemployment of resources or inefficient use of resources. Any point outside the curve, such as point G, is unattainable given the scarcity of resources. An economy always produces on a PPC.

Features of Production Possibility Curve

PPC slopes downward. A production possibility curve slopes downward from left to right because under the condition of full employment of resources, production of one good can be increased only after sacrificing production of some quantity of the other good. It is so because resources are scarce.

PPC is concave to the origin. A production possibility curve is concave to the point of origin because of increasing marginal rate of transformation (MRT) or increasing marginal opportunity

cost (MOC). Slope of PPC is defined as the quantity of good Y given up in exchange for additional unit of good X.

$$[\text{Slope of Production Possibility Curve}] = \frac{\Delta Y}{\Delta X} = \frac{\text{Amount of Good } Y \text{ lost}}{\text{Amount of Good } X \text{ gained}}$$

$$= MRT \text{ or } [\text{Marginal Opportunity Cost}]$$

Marginal opportunity cost is opportunity cost of good X gained in terms of good Y given up. It is also called Marginal Rate of Transformation (MRT). Concave shape of PPC means that slope of PPC increase which implies that MRT increases. It means that for producing an additional unit of a good, sacrifice of units of other good (i.e. opportunity cost) goes on increasing.

Shifts in Production Possibility Curve

With discovery of new stock of resources or an advancement in technology, the productive capacity of an economy increases. PPC will shift to the right when: (a) new stock of resources is discovered. (b) There is advancement in technology.

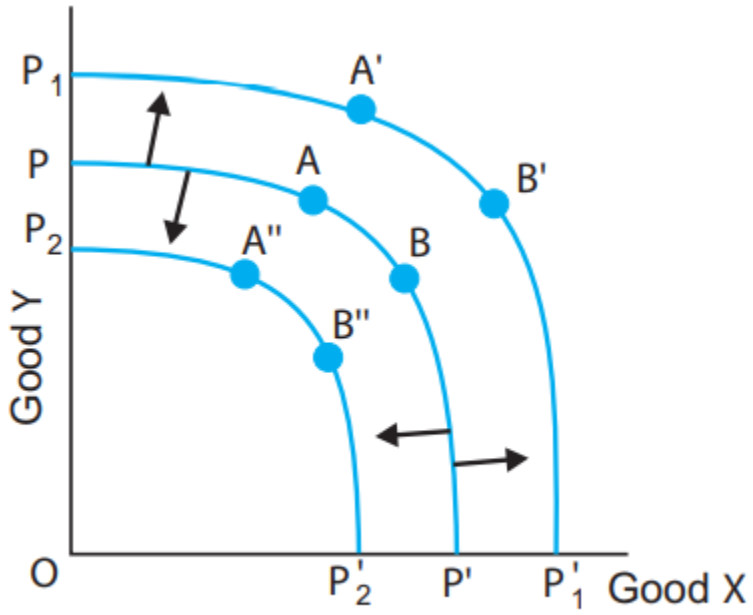


Fig. 1.6 P_1P_1' shows Economic Growth

PPC will shift to the left when a) Resources are destroyed because of national calamity like earthquake, fire, war, etc. (b) There is use of outdated technology.

The main objectives of firms are:

1. Profit maximisation
2. Sales maximisation
3. Increased market share/market dominance
4. Social/environmental concerns
5. Co-operatives

Profit maximisation

Usually, in economics, we assume firms are concerned with maximising profit. Higher profit means:

- ✓ Higher dividends for shareholders.
- ✓ More profit can be used to finance research and development.
- ✓ Higher profit makes the firm less vulnerable to takeover.
- ✓ Higher profit enables higher salaries for workers

Sales maximisation

- ✓ Firms often seek to increase their market share – even if it means less profit. This could occur for various reasons:
- ✓ Increased market share increases monopoly power and may enable the firm to put up prices and make more profit in the long run.
- ✓ Managers prefer to work for bigger companies as it leads to greater prestige and higher salaries.
- ✓ Increasing market share may force rivals out of business

Growth maximisation

This is similar to sales maximisation and may involve mergers and takeovers. With this objective, the firm may be willing to make lower levels of profit in order to increase in size and gain more market share. More market share increases its monopoly power and ability to be a price setter.

Long run profit maximisation

In some cases, firms may sacrifice profits in the short term to increase profits in the long run. For example, by investing heavily in new capacity, firms may make a loss in the short run but enable higher profits in the future.

Social/environmental concerns

A firm may incur extra expense to choose products which don't harm the environment or products not tested on animals. Alternatively, firms may be concerned about local community / charitable concerns. Some firms may adopt social/environmental concerns as part of their branding. This can ultimately help profitability as the brand becomes more attractive to consumers.

Co-operatives

A co-operative is run to maximise the welfare of all stakeholders – especially workers. Any profit the co-operative makes will be shared amongst all members.

Definition of firm and types

A firm is a for-profit business organization—such as a corporation, limited liability company (LLC), or partnership—that provides professional services. Most firms have just one location

There are 4 main types of business organization: sole proprietorship, partnership, corporation, and Limited Liability Company, or LLC.

Sole Proprietorship

The simplest and most common form of business ownership, sole proprietorship is a business owned and run by someone for their own benefit. The business' existence is entirely dependent on the owner's decisions, so when the owner dies, so does the business.

Advantages of sole proprietorship:

- All profits are subject to the owner
- There is very little regulation for proprietorships
- Owners have total flexibility when running the business
- Very few requirements for starting—often only a business license

Disadvantages:

- Owner is 100% liable for business debts
- Equity is limited to the owner's personal resources
- Ownership of proprietorship is difficult to transfer
- No distinction between personal and business income

Partnership

These come in two types: general and limited. In general partnerships, both owners invest their money, property, labor, etc. to the business and are both 100% liable for business debts. In other words, even if you invest a little into a general partnership, you are still potentially responsible

for all its debt. General partnerships do not require a formal agreement—partnerships can be verbal or even implied between the two business owners.

Advantages of partnerships:

- Shared resources provides more capital for the business
- Each partner shares the total profits of the company
- Similar flexibility and simple design of a proprietorship
- Inexpensive to establish a business partnership, formal or informal

Disadvantages:

- Each partner is 100% responsible for debts and losses
- Selling the business is difficult—requires finding new partner
- Partnership ends when any partner decides to end it

Corporation

Corporations are, for tax purposes, separate entities and are considered a legal person. This means, among other things, that the profits generated by a corporation are taxed as the "personal income" of the company. Then, any income distributed to the shareholders as dividends or profits are taxed again as the personal income of the owners.

Advantages of a corporation:

- Limits liability of the owner to debts or losses
- Profits and losses belong to the corporation
- Can be transferred to new owners fairly easily
- Personal assets cannot be seized to pay for business debts

Disadvantages:

- Corporate operations are costly
- Establishing a corporation is costly
- Start a corporate business requires complex paperwork
- With some exceptions, corporate income is taxed twice

Law of Diminishing Marginal Utility

Basic Concepts

Utility

The term utility refers to the want satisfying power of a commodity. Utility is essentially a subjective concept depending upon the intensity of consumer's desire or want for that commodity at that time. Thus, utility differs from person to person, place to place and time to time. Utility is a cardinal concept i.e., it can be measured. Benham formulated the unit of measurement of utility as utils.

Total Utility (TU)

It is the sum of all the utilities that a consumer derives from the consumption of a certain amount of a commodity.

TUn = MU1 + MU2 + ...+ MUn

Marginal Utility (MU)

It is addition made to the total utility as consumption is increased by one more unit of the commodity. Mathematically, it is calculated as:

$$MU_n = TU_n - TU_{n-1}$$

or $$MU = \frac{\Delta TU}{\Delta X}$$

Law of Diminishing Marginal Utility (DMU) / Theory of Consumer Behaviour

- Theory has been developed by Prof. Alfred Marshall

Assumptions of the Theory

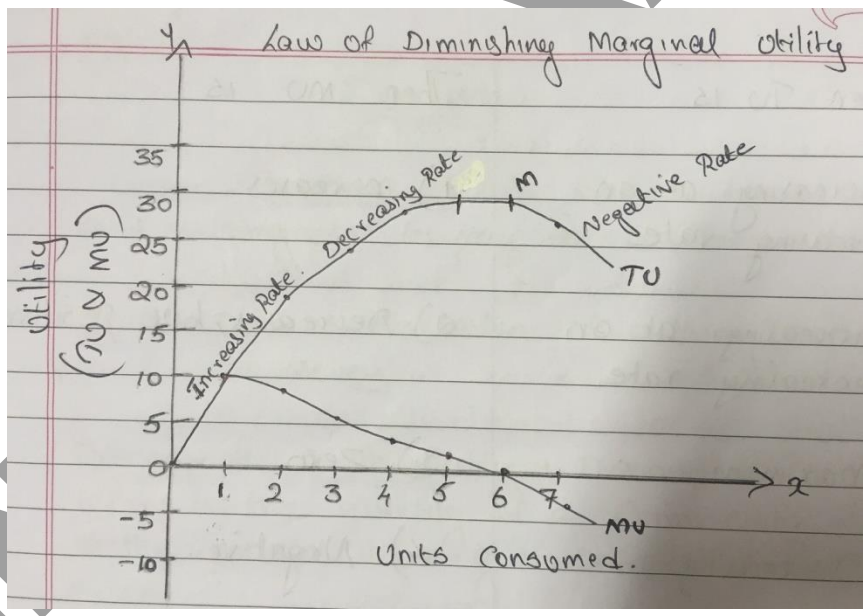
- Rationality
- Commodities should be homogenous and normal
- No time gap between the consumption of goods
- No change in taste and preferences
- No change in price of the commodity

Statement of Theory

- As the consumer consumes more and more units of a same good, the additional utility (MU) from each additional units goes on decreasing.

Relationship between TU and MU

Units Consumed	TU	MU
0	0	0
1	10	10
2	18	8
3	24	6
4	27	3
5	29	2
6	29	0
7	27	-2



Observations:

1. As the consumer has more of the good, the TU increases less than in proportion and the MU gradually declines but is positive.
2. When TU is maximum, called saturation point, MU is zero.
3. When TU falls, MU becomes negative.

A stage comes when marginal utility becomes zero. At this point total utility becomes maximum. If the consumer consumes beyond this stage, marginal utility becomes negative and total utility falls. It means that consumer starts getting disutility i.e., dissatisfaction instead of getting satisfaction. Since, economists believe that a consumer is a rational being, he wants to maximize his satisfaction. A consumer would not like to go beyond zero marginal utility.

STAGE 1

Increasing Returns

TU, MU increases at an increasing rate

Stage 2

Diminishing Returns

MU starts falling

TU increases at a diminishing rate.

At the end of second stage, MU reaches zero and TU reaches at its maximum (Point M)

Stage 3

Negative Returns

After point M, MU becomes negative.

TU starts falling.

Consumer's Equilibrium

A consumer is said to be in equilibrium when he maximizes his satisfaction, given income and prices of the commodities.

Case I

One Commodity Case

Let us suppose that a consumer has a given income with which he consumes only one commodity X.

Thus, a consumer is in equilibrium when he satisfies the following condition:

i.e., MU of the good = Price of the product or $MU_X = P_X$

Case 2

Two Commodities Case – Law of Equi-Marginal Utility

Consumer's equilibrium conditions in case of two goods X and Y can be written as:

$$\frac{MU_X}{P_X} = \frac{MU_Y}{P_Y}$$

Demand

- ✓ Demand is the desire backed by the ability and willingness to pay for a commodity.
- ✓ Quantity demanded refers to the particular quantity which buyers are willing and able to buy on a given price during a given period of time.
- ✓ Demand for a commodity is defined as the quantity of that commodity which a consumer is willing to buy at a particular price during a particular period of time.

Factors affecting individual demand for a good

1. Price of the Commodity

There is inverse relationship between price of a commodity and demand for a commodity. In general, demand for a commodity is more at lower price and less at a higher price and vice versa. But this relationship does not exist in giffen goods and Veblen goods.

Giffen Good: Demand for Giffen goods rises when the price rises and falls when the price falls. The term "Giffen goods" was coined by Robert Giffen. The concept of Giffen goods focuses on a low income, non-luxury products that have very few close substitutes. Examples of Giffen goods can include bread, rice, and wheat

Veblen Good: A Veblen good is a good for which demand increases as the price increases, because of its exclusive nature and appeal as a status symbol. Examples of Veblen goods include designer jewelry, yachts, and luxury cars.The demand curve for a Veblen good is upward sloping.

2. Income of the Consumer

a) If x is a **normal good** then with an increase in income, consumer buys more of the good. Goods whose demand rises when income rises are called normal goods. Example: clothes, books, etc.

b) If x is an **inferior good** then an increase in income causes its demand to decrease. This is because as income rises, purchasing power rises and consumers substitute more superior goods for inferior goods. Goods whose demand falls when income rises are called inferior goods. Example: Coarse cereals.

3. Prices of Other Goods

(a) When X and Z are Substitutes

Substitute goods are those which are an alternative to one another in consumption. Examples are: tea or coffee; wheat or rice. The demand for a good usually moves in the same direction to a change in price of its substitutes. Substitute goods are those goods in which rise in price of good lead to rise in demand of another good.

(b) When X and Z are Complements

Complementary goods are those which are jointly used or consumed together to satisfy a want. Examples are: tea and sugar; car and petrol. Thus, demand for a good move in the opposite direction to a change is price of its complementary good. Complementary goods are those goods in which rise in price of good lead to fall in demand of another good.

4. **Consumer's Tastes and Preferences**

Any change in consumer's tastes causes demand to change. If there is a change in tastes in favour of a good, then it will lead to increase in demand and any unfavourable change will lead to decrease in demand.

5. **Future Expectations of Buyers**

Future expectation is also one of the factors which cause change in demand. If it is expected by the consumer that the price of the commodity will rise in future, he will start buying more units of the commodity in the present, at the existing price.

6. **Size of Population**

As the population increases the demand for commodity goes up and vice versa

Demand function

It shows the functional relationship between demand for a commodity and its determinants. It can be expressed as:

$DX = f (P_X, P_Z, Y, T, E, N, Yd)$

D_X = Demand for commodity X
P_X = Price of commodity X
P_Z = Prices of related goods
Y = Income of consumer

T = Taste and preferences of consumer
E = Future expectation
N = No. of consumers
Y_d = Distribution of income

Law of Demand

The law of demand states that if remaining things are constant then as price of a commodity increases demand for the commodity decreases and as price of a commodity decreases demand for the commodity increases.

$D_X = f(P_X)$, ceteris paribus

D_X = Quantity demanded of good X, P_X = Price of the good X

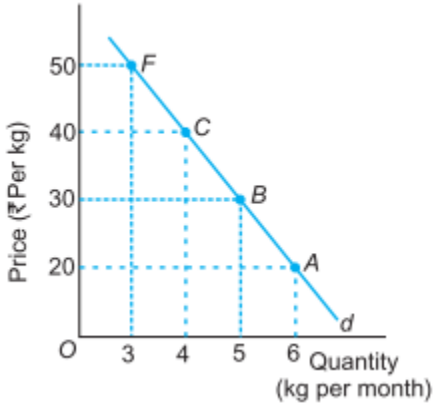
The Demand Schedule and the Demand Curve

Demand Schedule It is a tabular presentation showing the different quantities of a good that buyers of the good are willing to buy at different prices during a given period of time.

Demand Curve The graphical representation of the demand function is called a demand curve.

Table 3.1 **Demand Schedule for Wheat**

Price (₹ per kg)	Quantity Demanded (kg per month)	Reference Point (Fig. 3.6)
20	6	*A*
30	5	*B*
40	4	*C*
50	3	*F*



Changes in Demand

2 types of changes in demand

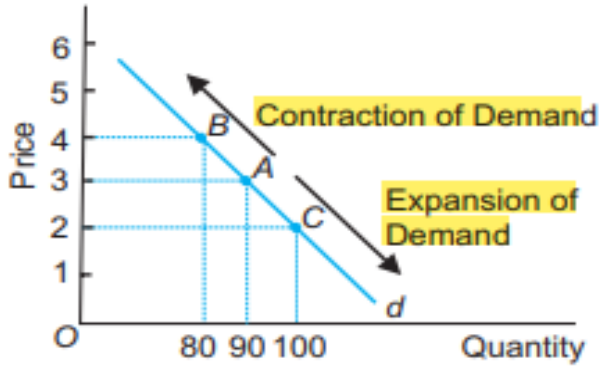
1. Change in demand due to change in price – Expansion and Contraction of Demand – Movement along demand curve
2. Change in demand due to factors other than price – Increase and Decrease in demand – Shift in demand curve

Movement: Change in Quantity Demanded

A movement along the demand curve is caused by a change in the price of the good, other things remaining constant. It is also called change in quantity demanded of the commodity. Movement is always along the same demand curve, i.e., no new demand curve is drawn. Movement along a demand curve can bring about:
(a) Expansion of demand, or (b) Contraction of demand

Extension of Demand or Contraction of Demand.

Expansion or Extension of demand refers to rise in demand due to fall in the price of the good. Contraction of demand refers to fall in demand due to rise in the price of the good.



Point A on the demand curve d is the original situation. An upward movement from point A to a point such as point B shows contraction or lesser quantity demanded at a higher price. Downward movement from point A to a point such as point C shows expansion or more quantity demanded at a lower price.

Shift: Change in Demand

A shift of the demand curve is caused by changes in factors other than price of the good. A change in factors causes shift of the demand curve. It is also called change in demand. In a shift, a new demand curve is drawn. A shift of the demand curve can bring about: (a) Increase in demand, or (b) Decrease in demand.

(a) Increase in Demand: It refers to more demand at a given price. The causes of increase in demand are: (i) Increase in the income of the consumers in case of normal goods. (ii) Decrease in the income of the consumers in case of inferior goods. (iii) Increase in the price of substitute goods. (iv) Fall in the price of complementary goods. (v) Consumers' taste becoming stronger in favour of the good.

(b) Decrease in Demand: It refers to less demand at the given price. It occurs due to unfavourable changes in factors other than the price of the good.

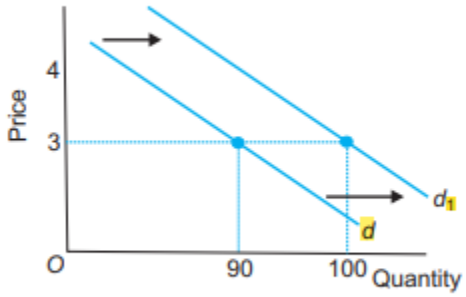


Fig. 3.9 Shift in Demand Curve: Increase in Demand

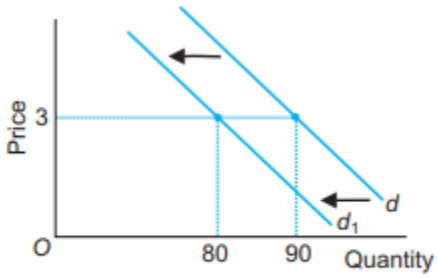


Fig. 3.10 Shift in Demand Curve: Decrease in Demand

Elasticity of Demand

- It refers to the degree of responsiveness change in qty demanded of a commodity due to change in price or any other factors.
- It was put forward by Alfred Marshall
- 3 Types of elasticity of demand

✓ Price Elasticity
✓ Income Elasticity
✓ Cross Elasticity

Price elasticity of demand

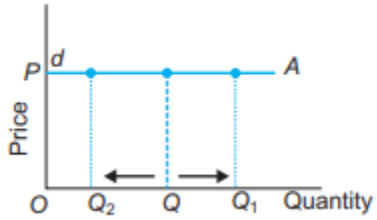
It measures the responsiveness of demand of a good to a change in its price. Types of price elasticities of Demand

1. Perfectly elastic demand
2. Perfectly inelastic demand
3. Unit elastic demand / Unitary elastic demand
4. Elastic demand / More elastic demand

5. Inelastic demand / Less elastic demand

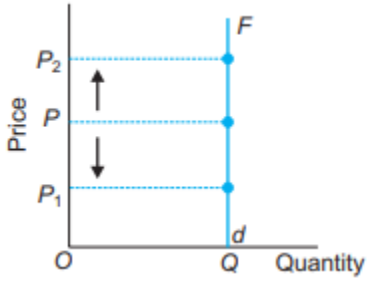
1. Perfectly Elastic Demand (eD= ∞)

When the demand for a commodity rises or falls to any extent without any change in price, the demand for the commodity is said to be perfectly elastic. It is an ideal and imaginary situation.



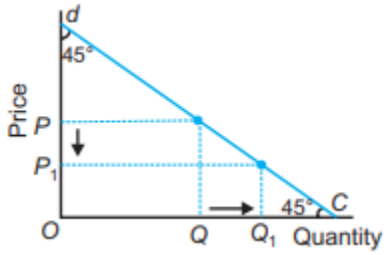
2. Perfectly Inelastic demand

Perfectly inelastic demand (eD = 0) When the demand of a commodity does not change as a result of change in its price, the demand is said to be perfectly inelastic. The perfectly inelastic demand curve is a vertical line parallel to y-axis. As it is clear from the diagram, price may be OP or OP1 or OP2 , but the demand will be constant at OQ. In other words, there is no effect of changes in the price on the quantity demanded. It exists in case of essentials like life saving drugs.



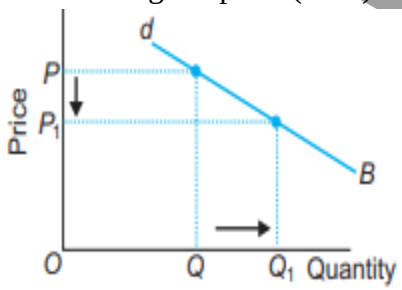
3. Unit Elastic Demand (eD = 1)

When percentage change in demand is equal to the percentage change in price, the demand for the commodity is said to be unitary elastic. The unitary elastic demand curve shows that when price falls from OP to OP1 , demand rises from OQ to OQ1 . The change in demand (QQ1) is equal to the change in price (PP1). It exists in case of normal goods.



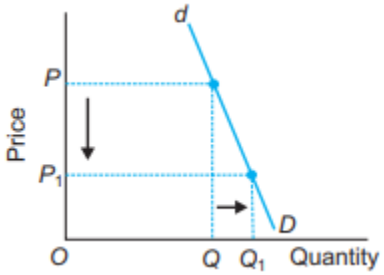
4. **Elastic (or more than unit elastic) Demand (1 < eD < ∞)**

When a change in price leads to a more than proportionate change in demand, the demand is said to be elastic or more than unit elastic. The elastic demand curve shows that when price falls from OP to OP1 , demand rises from OQ to OQ1 . The change in demand (QQ1) is more than the change in price (PP1). It exists in case of luxuries.



5. **Inelastic (or less than unit elastic) Demand (0 < eD < 1)**

When a change in price leads to a less than proportionate change in the demand, the demand is said to be less elastic or inelastic. The inelastic demand curve shows that change in quantity demanded (QQ1) is less than change in price (PP1). It exists in case of necessities like food, fuel, etc.



Measurement of Price Elasticity of Demand by Percentage Method

Percentage method is also called proportionate method. The absolute value of the coefficient of elasticity of demand ranges from zero to infinity. According to this method, eD is calculated by the following formula

$$e_D = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

$$\text{or} \quad e_D = \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

- A consumer spends 40 on a good at a price of 1 per unit and 60 at a price of 2 per unit. What is the price elasticity of demand? What kind of good it is? What shape its demand curve will take? Ans: 0.25 (The good has an inelastic demand. It is a necessity like food, fuel etc. The demand curve for this good is steep.)
- When the price of a commodity falls by 2 per unit, its quantity demanded increases by 10 units. Its price elasticity of demand is (–) 1. Calculate its quantity demanded at the price before change which was 10 per unit. Ans: 50 Units
- The quantity demanded of a commodity falls by 5 units when its price rises by 1 per unit. Its price elasticity of demand is (–) 1.5. Calculate the price before change if at this price quantity demanded was 60 units. Ans 18 Rs
- The market demand for a good at a price of 10 per unit is 100 units. When its price changes its market demand falls to 50 units. Find out the new price if the price elasticity of demand is (–)2. Ans: 12.50 rs
- If the elasticity of demand for salt is zero and a household demands 2 kg. of salt in a month at 5 per kg, how much will it demand at 7.50 per kg? Ans: 2 Kg

Supply

Supply refers to the quantities of a commodity which a seller offers for sale at a particular price in a given period of time. It refers to the desired qty of commodity that the seller offers for sale in the market. Supply of a commodity means quantity of the commodity which a firm is willing to sell at a given price during a particular time.

Factors affecting supply of a commodity

1. Price of the Commodity

At a higher price, producer offers more quantity of the commodity for sale and at a lower price, less quantity of the commodity is offered for sale. There is a direct relationship between price and quantity supplied as shown by law of supply.

2. Price of Related Good

Supply of a commodity depends upon the prices of its related goods, especially substitute goods. If the price of a commodity remains constant and the price of its substitute good Z increases, the producers would prefer to produce substitute good Z. As a result, the supply of commodity X will decrease and that of substitute good Z will increase. This will shift the supply curve of good X leftward. Thus, an increase in the price of substitute good will lead to decrease in supply curve of the other good and vice-versa.

3. State of Technology

If there is a change in the technique of production leading to a fall in the cost of production, supply of commodity will increase.

4. Prices of Inputs

An increase in input price or cost will shift the supply curve to the left (decrease in supply) and vice-versa.

5. Government Policy

Government's policy also affects the supply of a commodity. If heavy excise taxes are imposed on a commodity, it will discourage producers and as a result, its supply will decrease.

Supply function

Supply function is a functional relationship between quantity supplied of a commodity and factors affecting it.

$$S_X = f(P_X, P_Z, T, C, G_P)$$

where,

S_X = Supply of commodity X

f = function of

P_X = Price of commodity X

P = Price of related good, Z

T = Technological changes

C = Cost of production or price of inputs

G_P = Government policy or excise tax rate.

The law of supply

Law of supply derives the relationship between price and quantity supplied. According to the law of supply, other things remaining the same, quantity supplied of a commodity is directly related to the price of the commodity. In other words, other things remaining the same, when price of a commodity rises, its quantity supplied increases and when the price falls, quantity supplied also falls.

Symbolically, the law of supply is expressed as:

SX = f (PX), ceteris paribus

The Supply Schedule and the Supply Curve

Supply schedule is a tabular statement that gives the law of supply, i.e., it gives the different quantity supplied of a commodity at different prices per unit of time.

Price (₹ per kg)	Quantity Supplied (kg per Month)	Reference Point (Fig. 9.3)
1	5	*A*
2	8	*B*
3	12	*C*

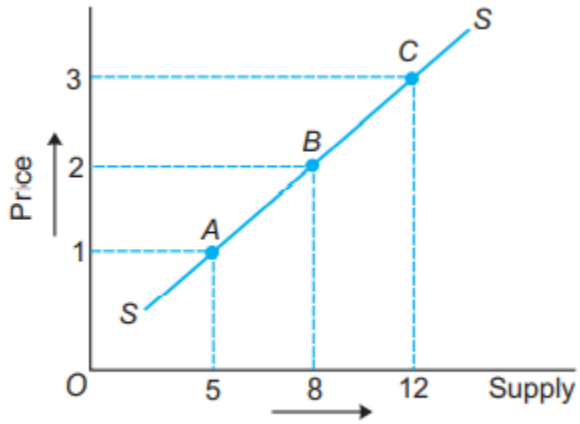


Fig. 9.3 The Supply Curve

Supply curve shows graphically the relationship between quantities supplied of a commodity to its price. The curve shows positive or direct relationship between the price and quantity supplied of the commodity. With rise in price, the curve rises upward from left to the right.

Changes in Supply

2 types of changes in Supply

- Change in supply due to change in price – Expansion and Contraction of supply – Movement along supply curve
- Change in supply due to factors other than price – Increase and Decrease in supply – Shift in supply curve

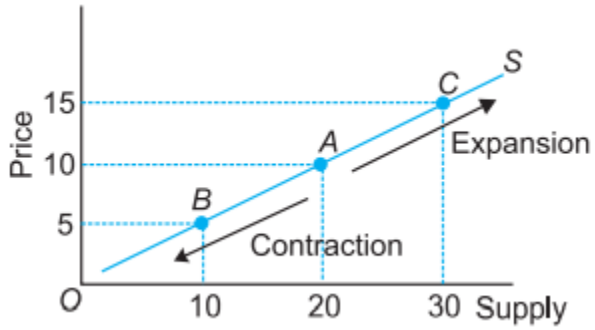
Change in Quantity Supplied (Movement along the supply curve)

A movement along the supply curve is caused by changes in the price of the good, other things remaining constant. It is also called change in quantity supplied of the commodity. In a movement, no new supply curve is drawn. Movement along a supply curve can bring about:

(a) Expansion or extension of supply, or

(b) Contraction of supply.

Expansion or extension of supply refers to rise in supply due to rise in price of the good. Contraction of supply refers to fall in supply due to fall in price of the good.



Expansion and contraction of Supply

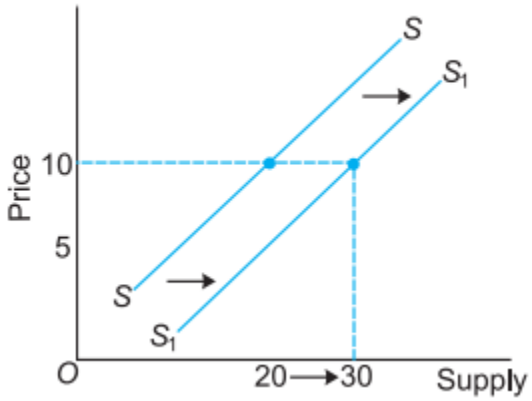
Point A on the supply curve is the original situation. An upward movement from point A to a point such as C shows expansion or more supply at a higher price. A downward movement from point A to a point such as point B shows contraction or less supply at a lesser price.

Change in Supply (Shift in supply curve)

A change (or shift) in supply curve is caused by changes in factors other than the price of the good. A change in many factors causes shift in the supply curve. It is also called change in supply. In a shift, a new supply curve is drawn.

A shift of the supply curve can bring about: (a) Increase in supply, or (b) Decrease in supply.

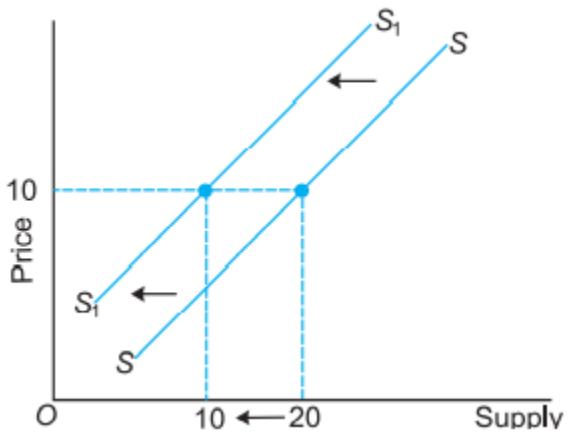
Increase in Supply (i.e., Rightward shift in supply curve) When supply of a commodity rises due to favourable changes in factors other than price of the commodity, it is called increase in supply. Increase in supply means more quantity supplied at the same price. It also means that same quantity supplied at a lower price.



SS is the original supply curve. An increase in supply is shown by rightward shift of the supply curve from SS to S1 S1 .

Decrease in Supply

(i.e., leftward shift in supply curve) When supply of a commodity falls due to unfavourable changes in factors other than its price, it is called decrease in supply. Decrease in supply means less quantity is supplied at the same price. It also means that same quantity is supplied at a higher price.



In the figure, SS is the original supply curve. A decrease in supply is shown by leftward shift of the supply curve from SS to S1 S1 .

Elasticity of supply

Alfred Marshall developed the concept of elasticity of supply. Price elasticity of supply is defined as the responsiveness of quantity supplied of a commodity to changes in its own price.

$$e_S \text{ or } E_S = \frac{\text{Percentage Change in Quantity Supplied}}{\text{Percentage Change in Price}}$$

$$e_s = + \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$$

e_S = Coefficient of price elasticity of supply. It is independent of units.
P = Initial price of the good.
Q = Initial quantity supplied.
ΔQ = Change in quantity supplied.
ΔP = Change in price.

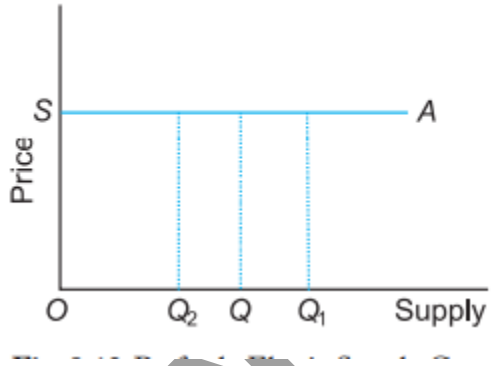
Different types of elasticity of supply

1. Perfectly elastic supply

2. Perfectly inelastic supply
3. Unit elastic supply / Unitary elastic supply
4. Elastic supply / More elastic supply
5. Inelastic supply / Less elastic supply

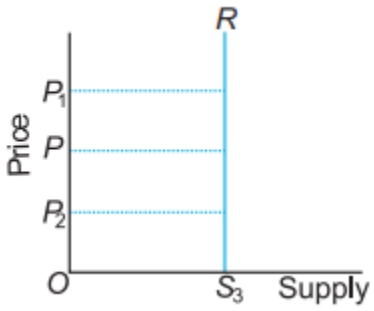
Perfectly Elastic Supply (eS = ∞).

Supply of a commodity is said to be perfectly elastic when its supply expands (rises) or contracts (falls) to any extent without any change in the price. The coefficient of eS = ∞ (infinity). The perfectly elastic supply curve is SA which is a horizontal line.



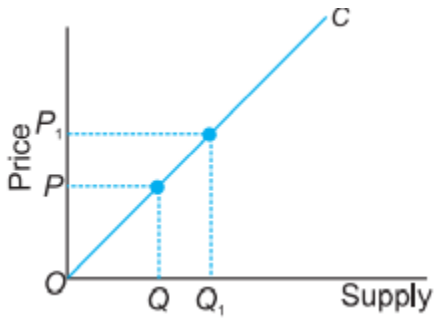
Perfectly Inelastic Supply (eS = 0).

When supply of a commodity does not change irrespective of any change in its price, it is called perfectly inelastic supply. In this case, eS = 0. The supply curve, S3R, is a vertical line showing that quantity supplied is fixed at OS3 units irrespective of the price.



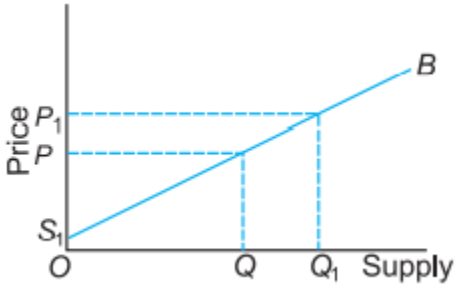
Unitary Elastic Supply (eS = 1)

Supply of a commodity is said to be unitary elastic if percentage change in supply equals the percentage change in price. In this case, the coefficient of eS is equal to one. The unitary elastic supply curve is OC which is a straight positively sloping line from the origin.



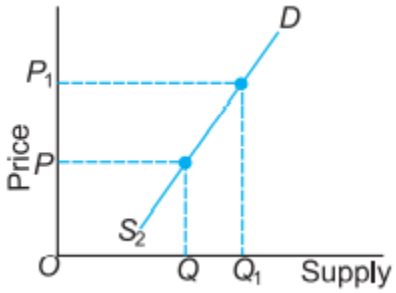
Elastic Supply (1 < eS < ∞)

When percentage change in supply is more than the percentage change in price, supply is said to be elastic or more than unitary elastic. In this case, the value of the eS is more than one.



Inelastic Supply (0 < eS < 1)

When percentage change in quantity supplied is less than percentage change in price, supply is said to be inelastic or less than unitary elastic.



Meaning of Equilibrium

The term equilibrium means the state in which there is no tendency on the part of consumers and producers to change. The two factors determining equilibrium price are demand and supply. Equilibrium Price Equilibrium price is the price at which the sellers of a good are willing to sell the same quantity which buyers of that good are willing to buy. Thus, equilibrium price is the price at which demand and supply are equal to each other.

Market Equilibrium

Equilibrium price is determined by the equality between demand and supply. At this price,

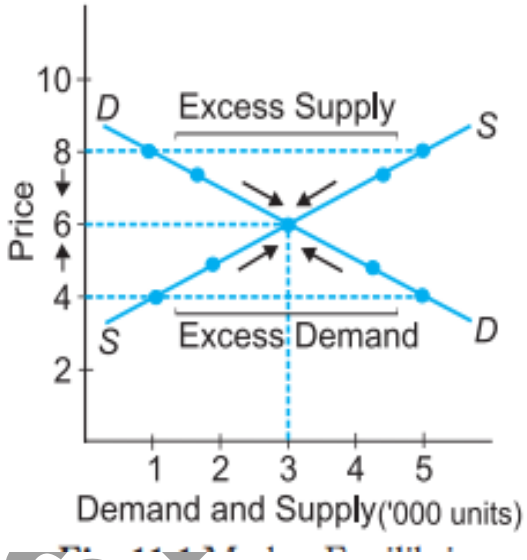
Quantity demanded = Quantity supplied

Equilibrium between Demand and Supply

The forces of demand and supply determine the price of a commodity. Equilibrium price will be determined where quantity demanded is equal to quantity supplied. This is called market price. This price has a tendency to persist. If at a price the market demand is not equal to market supply there will be either excess demand or excess supply and the price will have tendency to change until it settles once again at a point where market demand equals market supply. A demand and supply schedule and curve will show the determination of equilibrium price.

Table 11.1 **Market Demand-Supply Schedules**

Price ₹	Market Demand (Units)	Market Supply (units)	Equilibrium
8	1000	5000	Excess Supply
7	2000	4000	Excess Supply
6	3000	3000	Market Equilibrium
5	4000	2000	Excess Demand
4	5000	1000	Excess Demand



In Table 11.1, demand and supply of the commodity at different prices are shown. The equilibrium price is fixed at 6 where the quantity demanded and the quantity supplied are equal, i.e., equal to 3000 units.

From the figure, quantity demanded and supplied is measured on the x-axis and price on the y-axis. DD is the downward sloping demand curve and SS is the upward sloping supply curve. Both these curves intersect each other at point E which is the equilibrium point and it implies that at price of ₹6, demand is for 3000 units and supply is also of 3000 units. Thus, equilibrium price is 6. If price is 4, there will be an excess demand of 4000 units. There will be competition among buyers. It will push up the price. Rise in price will result in fall in market demand and rise in market supply. This reduces the excess demand. The changes continue till price settles at equilibrium level. If price is 7, there will be an excess supply of 2000 units. There will be competition among sellers. This will reduce the price. Fall in price will result in rise in demand and fall in supply. These changes continue till price settles at equilibrium price. Thus, market equilibrium is a situation of zero excess demand and zero excess supply.

Effects of changes in demand and supply on equilibrium price

Increase in Demand

When demand of a commodity increases, while supply remains constant, equilibrium price will increase. At the same time, quantity sold and purchased will also increase. This is shown in Fig. 11.2. In the original situations, the DD and SS curves intersect at point E to give equilibrium price as OP and output as OQ. Chain Effects of Excess Demand: Keeping supply constant, if the demand increases, the demand curve shifts from DD to D1 D1 . This creates an excess demand of EA units at the given price, OP.

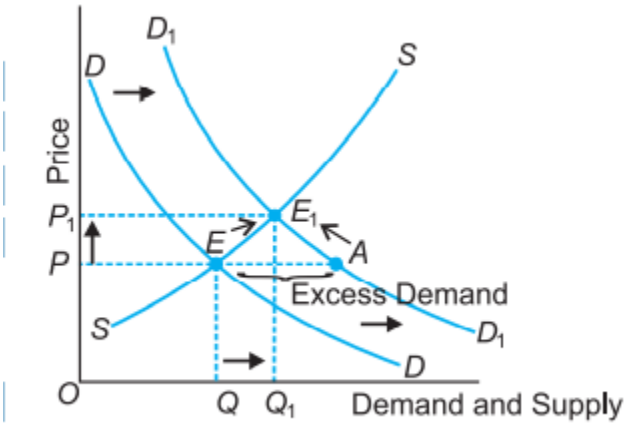


Fig. 11.2 Increase in Demand

Decrease in Demand

If the demand of a commodity decreases, while supply remains constant, the equilibrium price and output will fall. In Fig. 11.3, quantity demanded and supplied is shown on the x-axis and price of commodity on the y-axis. DD is the original demand curve. SS is the original supply curve. E is the equilibrium point. Decrease in demand is given by leftward shift of DD curve to D1 D1 . This creates excess supply of AE units at price OP.

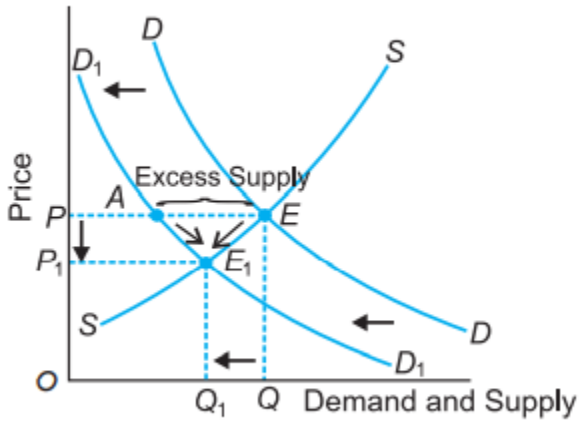


Fig. 11.3 Decrease in Demand

Increase in Supply

If the supply of a commodity increases, while demand remains constant, equilibrium price will fall. This is shown in Fig. 11.4. In the figure, quantity demanded and supplied is shown on the x-axis and price of commodity on the y-axis. DD is the original demand curve. SS is the original supply curve. E is the original equilibrium point. SS increases to S1 S1 . It creates excess supply of EB at the given price OP.

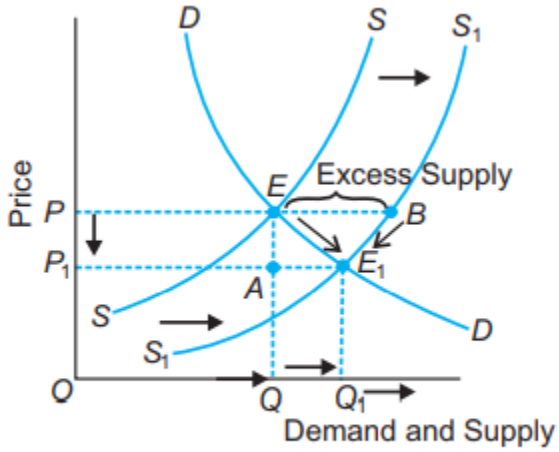


Fig. 11.4 Increase in Supply

Decrease in Supply

If the supply of a commodity decreases, while demand remains constant, equilibrium price will increase. There will be excess demand of EB units at price OP.

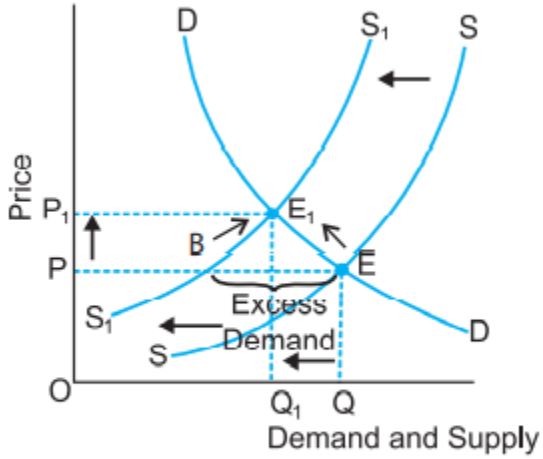


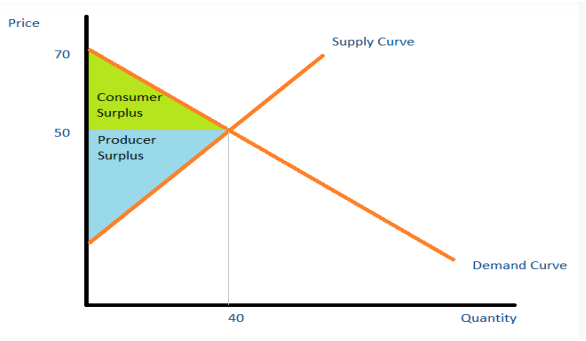
Fig. 11.5 Decrease in Supply

Consumer Surplus

- Consumer surplus is defined as the difference between the consumers' willingness to pay for a commodity and the actual price paid by them.
- A surplus occurs when the consumer's willingness to pay for a product is greater than its market price.
- Consumer surplus always increases as the price of a good falls and decreases as the price of a good rises.

Producer Surplus

- Producer surplus is the difference between how much a person would be willing to accept for given quantity of a good versus how much they can receive by selling the good at the market price.
- The difference or surplus amount is the benefit the producer receives for selling the good in the market



The point where the demand and supply meet is the equilibrium price. The area above the supply level and below the equilibrium price is called product surplus (PS), and the area below the demand level and above the equilibrium price is the consumer surplus (CS).

Taxation

- Taxation is the means by which a government or the taxing authority imposes or levies a tax on its citizens and business entities.
- *Taxation* refers to the practice of government collecting money from its citizens to pay for public services.
- A tax is a mandatory fee or financial charge levied by any government on an individual or an organization to collect revenue for public works providing the best facilities and infrastructure.

Deadweight Loss

A deadweight loss is a cost to society created by market inefficiency, which occurs when supply and demand are out of equilibrium. A deadweight loss is the irrecoverable reduction in economic efficiency that occurs when free-market equilibrium is disturbed by a market intervention or other shock to supply and/or demand.

Example of Deadweight Loss

A new sandwich shop opens in your neighborhood selling a sandwich for $10. You perceive the value of this sandwich to be $12 and, therefore, are happy to pay $10 for it. Now, assume the government imposes a new sales tax on food items which raises the cost of the sandwich to $15. At $15, you feel that the sandwich is overvalued and believe that the new cost is not a fair price and, therefore, are not willing to buy the sandwich at $15. Many consumers, but not all, feel this way about the sandwich and the sandwich shop sees a decrease in demand for its sandwich and a decline in revenues. The deadweight loss in this example is the unsold sandwiches as a result of the new $15 cost. If the decrease in demand is severe enough, the

sandwich shop could go out of business, further increasing the negative economic effects of the new tax.

Module – 2

Production and Cost

Production

Production is defined as the transformation of inputs into output. Production includes not only production of physical goods like cloth, rice, etc., but also production of services like those of a doctor, teacher, lawyer, etc.

Production Function

The term production function means physical relationship between inputs used and the resulting output. A production function is an expression of quantitative relation between change in inputs and the resulting change in output. It is expressed as:

$$Q = f(i_1, i_2 ..... i_n)$$

Where Q is output of a specified good i_1, i_2 .....i n are the inputs usable in producing this good. To simplify let us assume that there are only two inputs, labour (L) and capital (K), required to produce a good. The production function then takes the form:

$$Q = f(K, L)$$

Short-run and Long-run Production Function

There are two types of production function:

(a) Short-run Production Function.
It refers to production in the short-run where there is at least one factor in fixed supply and other factors are in variable supply. In short-run, production will increase when more units of variable factors are used with the fixed factor. Fixed factors refer to those factors whose supply cannot be changed during short-run. For example, land, plant, factory building, minimum electricity bill, etc.

(b) Long-run Production Function.
It refers to production in the long-run where all factors are in variable supply. In the long-run, production will increase when all factors are increased in the same proportion. Variable factors refer to those factors whose supply can be varied or changed. For example, raw materials, daily wages, etc.

Concepts of Product

Total Physical Product (TPP) or Total Product (TP)

Total Physical Product (TPP) or TP. It is defined as the total quantity of goods produced by a firm with the given inputs during a specified period of time.

Average Product (AP) or Average Physical Product (APP) Average Product (AP).

It is defined as the amount of output produced per unit of the variable factor (labour) employed.

$$AP = \frac{\text{Total Physical Product}}{\text{Labour Input}} = \frac{TP}{L}$$

Marginal Product (MP) or Marginal Physical Product (MPP)

It is defined as the change in TP resulting from the employment of an additional unit of a variable factor (labour).

$$MP = \frac{\text{Change in Total Product}}{\text{Change in Labour Input}}$$

or $$MP = \frac{\Delta TP}{\Delta L}$$

MP can also be calculated from the values of TP by the formula:

$$MP_n = TP_n - TP_{n-1}$$

where,

n = Number of labour units

Law of Variable Proportion

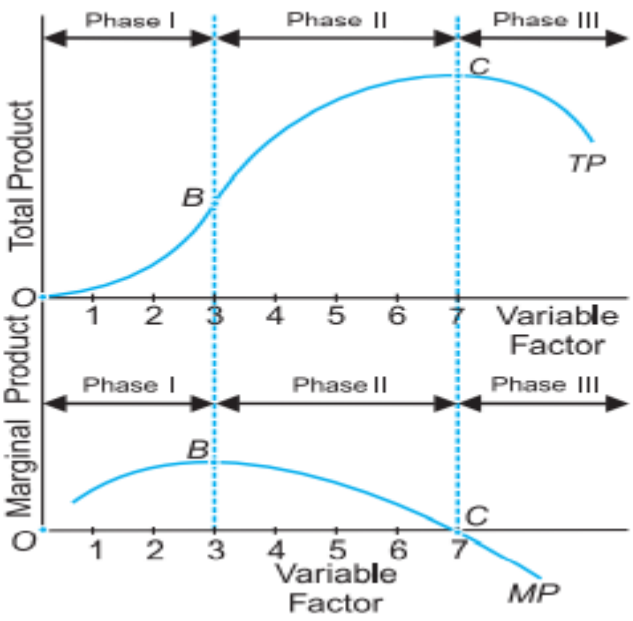
The law of variable proportion is a widely observed law of production which takes place in the short-run. In the short-run, production can be increased by using more of the variable factor. The law is applicable to all sectors of an economy.

The law of variable proportion states that as we employ more and more units of a variable input, keeping other inputs fixed, the total product increases at increasing rate in the beginning then increases at diminishing rate and finally starts falling.

Three Phases of Production

Units of Fixed input (Land) (Acre)	Units of Variable input (Labour)	Total Physical Product (units)	Marginal Physical Product (units)	Phases of Law of Variable Proportion
1	0	0	-	
1	1	4	4	Phase I
1	2	14	10	
1	3	34	20	
1	4	50	16	
1	5	62	12	Phase II
1	6	70	8	
1	7	74	4	
1	8	74	0	
1	9	70	− 4	Phase III
1	10	62	− 8	

The three phases can be identified by inspecting the behaviour of MP of variable input in the above table. MP of variable input rises up to 3 units. This is phase I in which TP increases at an increasing rate. From 4th unit to 8th unit of variable input, MP falls but remains positive. This is phase II in which TP increases at a decreasing rate. MP of variable input becomes negative from 10th unit. This is phase III in which TP starts falling. These three phases of the short-run law of production are graphically illustrated by the relationship between TP and MP curves.



Phase I. Phase of Increasing Returns

It goes from the origin to the point where the MP curve is maximum (i.e., from origin to point B). In this phase, TP curve is increasing at an increasing rate. MP curve rises and reaches a

maximum. A rational producer will not operate in this phase because the producer can always expand through phase I. It is a non-economic range.

Phase II. Phase of Diminishing Returns

It is the most important phase out of the three phases. Phase II of production ranges from the point where MP curve is maximum to the point where the MP curve is zero (i.e., from point B to C). MP curve is positive but declining. TP curve increases at a decreasing rate and reaches a maximum. A rational producer will always operate in this phase. The law of diminishing returns operates in phase II.

Phase III. Phase of Negative Returns

It covers the entire range over which MP curve is negative. In this phase, TP curve falls (after point C). A rational producer will not operate in this phase, even with free labour, because he could increase his output by employing less labour. It is a non-economic and an inefficient phase.

Economies of scale

Economies of scale refer to the cost advantage experienced by a firm when it increases its level of output. There are two main types of Economies of Scale – they are internal and external. Internal economies of scale refer to benefits that occur within the firm. For example, the firm may be able to obtain higher levels of credit due to its size.

By contrast, external economies occur outside of the firm, but inside the industry, that makes them more efficient.

Internal Economies

1. Labour Economies

In large scale operations workers can do more specific tasks. With little training they can become very proficient in their task, this enables greater efficiency. A good example is an assembly line with many different jobs.

2. Technical Economies

Some production processes require high fixed costs e.g. building a large factory. If a car factory was then only used on a small scale, it would be very inefficient to run. By using the factory to full capacity, average costs will be lower.

3. Managerial Economies

If you buy a large quantity, then the average costs will be lower. This is because of lower transport costs and less packaging. This is why supermarkets get lower prices from suppliers than local corner shops.

4. Financial Economies

Some investments are very expensive and perhaps risky. Therefore only a large firm will be able and willing to undertake the necessary investment. E.g. pharmaceutical industry needs to take risks in developing new drugs

5. Marketing economies of scale

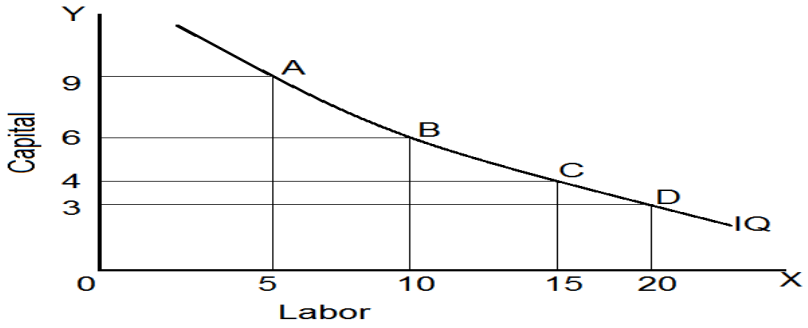
There is little point a small firm advertising on a national TV campaign because the return will not cover the high sunk costs

External Economies

This occurs when firms benefit from the whole industry getting bigger. E.g. firms will benefit from better infrastructure, access to specialized labour and good supply networks.

Isoquants

- It is a curve which shows various combinations of two factor inputs which give the same level of output.
- ISO means equal and QUANT means quantity.
- It is also called Isoproduct curves and Equal product curves.



Properties of Isoquants

1. Isoquants are negatively sloped

   An isoquant slopes downwards from left to right. The logic behind this is the principle of diminishing marginal rate of technical substitution. In order to maintain a given output, a reduction in the use of one input must be offset by an increase in the use of another input.

2. Isoquants are convex to the origin

   An isoquant must always be convex to the origin. This is because of the operation of the principle of diminishing marginal rate of technical substitution. MRTS is the rate at which marginal unit of an input can be substituted for another input making the level of output remain the same.

   The marginal rate of technical substitution (MRTS):

   The rate at which one input can be substituted for another along an isoquant is called the marginal rate of technical substitution (MRTS), defined as:

$$\Delta K/\Delta L = MP_L/MP_K = MRTS_{L \text{ for } K}$$

3. Two isoquants cannot cut each other

   If they intersect each other, there would be a contradiction and we will get inconsistent results.

4. An isoquant lying above and to the right of another isoquant represents a higher level of output.

   This is because of the fact that on the higher isoquant, we have either more units of one factor of production or more units of both the factors.

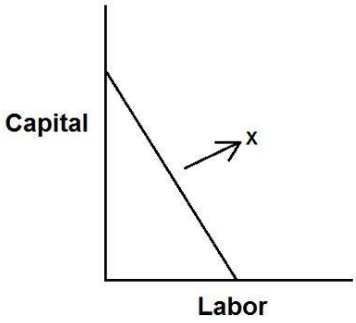
5. Isoquants need not be parallel

   The shape of an isoquant depends upon the marginal rate of technical substitution. Since the rate of substitution between two factors need not necessarily be the same in all the isoquant schedules, they need not be parallel.

Types of Iso-quant Curves

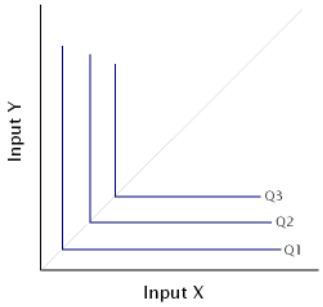
Linear Iso-quant Curve:

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



Right Angle Iso-quant Curve:

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



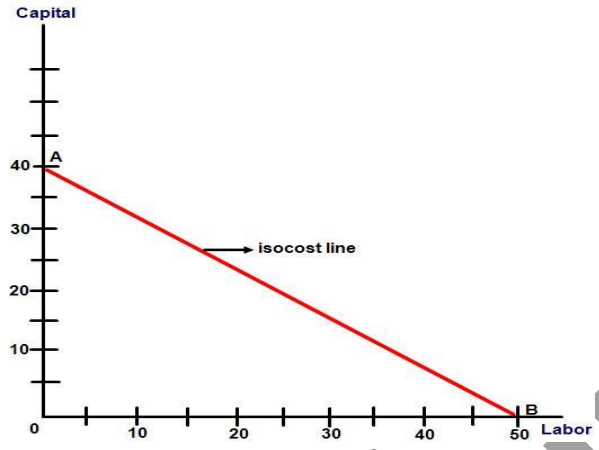
Isocost line

An isocost line is a graphical representation of various combinations of two factors (labor and capital) which the firm can afford or purchase with a given amount of money or total outlay. Mathematically, an isocost line can be expressed as

$C = w L + r K$

Where,

C = cost of production
w = price of labor or wages
L = units of labor
r = price of capital or interest rate
K =units of capital



In the given diagram, x-axis represents units of labor and y-axis represents units of capital. Therefore, OB in the figure represents 50 units of labor and OA represents 40 units of capital.

If we join points A and B, we get isocost line for Rs. 200. And, the straight line which joins points A and B will pass through all combinations of labor and capital which the firm can buy with the outlay of Rs 200, if it spends the entire sum on them at the given prices.

This way, an isocost line is also known as price line or outlay line.

$$\text{Slope of AB} = \frac{\text{price of labor}}{\text{price of capital}}$$

$$= \frac{w}{r}$$

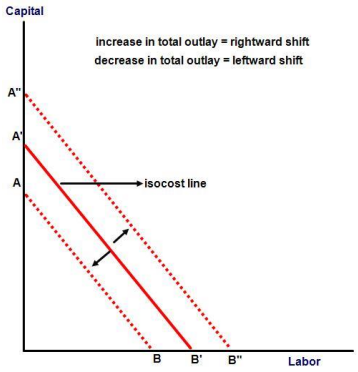
Shift in Isocost Line

An isocost line may shift due to two reasons. They are

1. Change in total outlay to be made by the firm
2. Change in price of a factor-input

Change in total outlay to be made by the firm

When the firm decides to increase the total money to be spent on purchase of inputs while prices of the inputs remain the same, the producer becomes able to afford such combinations of inputs which were initially unattainable to him. This causes isocost line to shift to a new position higher to the initial line.

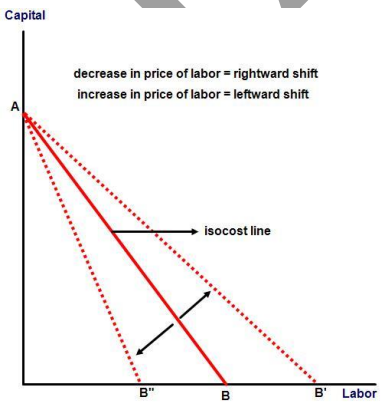


In the above figure, AB is the initial isocost line. When the firm increased its total outlay, the isocost line shifted rightwards to a higher position A'B' where the producer could purchase combinations of inputs with higher units of labor and capital. Likewise, if the firm reduces its total outlay, the isocost line will shift leftwards to A"B".

Change in price of a factor-input

Case I: Change in price of labor

Figure: shift in isocost line due to change in price of labor

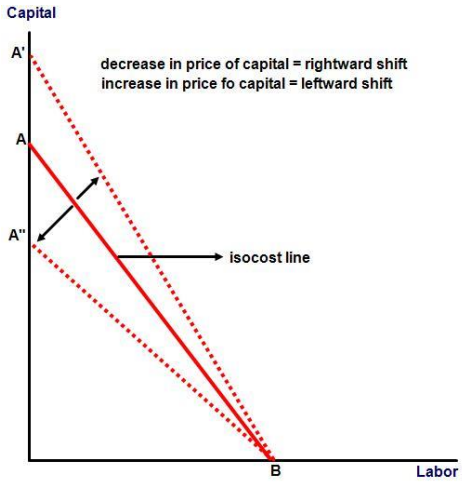


Let us suppose that a firm has total outlay of Rs. 200 and AB is initial isocost line. Let us also suppose that the price of labor was decreased by certain amount, as a result of which the producer became able to purchase more units of labor at the same outlay. However, the producer can't increase purchasing units of capital as price of capital is constant. Therefore, the position of price line is changed in the x-axis but unchanged in y-axis.

Simply, decrease in price of labor causes anti-clockwise rotation and increase in price of labor causes clockwise rotation.

Case II: Change in price of capital

Figure: shift in isocost line due to change in price of capital



Once again, let us assume that a firm has total outlay of Rs. 200 but this time let us suppose that the price of capital has changed and not of labor.

In this case, the producer will be able to buy more units of capital at same outlay but won't be able to increase the purchasing units of labor. As a result, the isocost line shifts its position in y-axis and not in x-axis. In the diagram, we can see that isocost line AB shifts to new position A'B as a result of decrease in price of capital. Likewise, the line shifts to A"B as a result of increase in price of capital.

In other words, decrease in price of capital causes clockwise shift in isocost line and increase in price of capital causes anti-clockwise shift.

Producer's Equilibrium / Least cost combination

The point of least-cost combination of factors for a given level of output is where the isoquant curve is tangent to an iso-cost line. The iso-cost line GH is tangent to the isoquant 200 at point M. The firm employs the combination of OC of capital and OL of labour to produce 200 units of output at point M with the given cost-outlay GH. At this point, the firm is minimising its cost for producing 200 units.

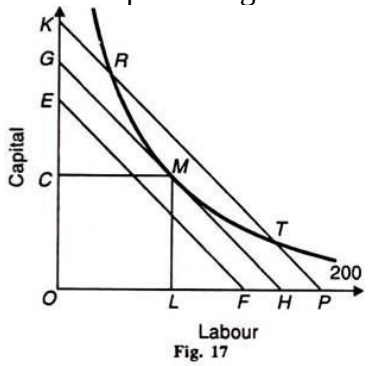


Fig. 17

Any other combination on the isoquant 200, such as R or T, is on the higher iso-cost line KP which shows higher cost of production. The iso-cost line EF shows lower cost but

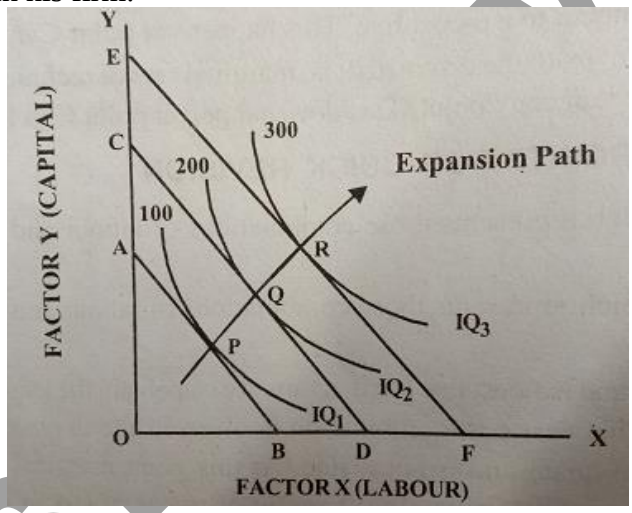
output 200 cannot be attained with it. Therefore, the firm will choose the minimum cost point M which is the least-cost factor combination for producing 200 units of output.

Thus the equilibrium condition

$$W/r = MP_L/MP_K = MRTS_{LK}$$

Expansion Path

Expansion path is a line or a curve on which every point is an equilibrium point. All these points indicate minimum cost combinations of two factors at various levels of output. Expansion path shows the path on which a rational producer would prefer to increase scale of production in his firm.



Technical Progress and its implications

When there is a change in technical progress, the production function will change. Thus production will increase. Technical progress may be embodied and disembodied.

Embodied technical progress:
Improved technology which is attributed to investments in new equipment. New technical changes that are made are embodied in the equipment.

Disembodied technical progress:
Improved technology which results in output increases without investing in new equipment.

Cobb–Douglas production function

The Cobb–Douglas form was developed and tested against statistical evidence by Charles Cobb and Paul Douglas between 1927–1947; according to Douglas, the functional form itself was developed earlier by Philip Wicksteed.
In its most standard form for production of a single good with two factors, the function is:

$$Y = AL^{\beta}K^{\alpha}$$

where:

- Y = total production
- L = labour input
- K = capital input (a measure of all machinery, equipment, and buildings; the value of capital input divided by the price of capital)[
- A = total factor productivity
- α and β are the output elasticities of capital and labor, respectively. These values are constants determined by available technology.

Output elasticity measures the responsiveness of output to a change in levels of either labor or capital used in production.

- $\alpha + \beta = 1$, Constant Returns to scale - meaning that doubling the usage of capital K and labor L will also double output Y. *Cobb – Douglas production function is a homogenous production function.*
- $\alpha + \beta < 1$, Returns to scale are decreasing, means that a percentage increase in capital K and labor L will produce a smaller percentage increase in output Y
- $\alpha + \beta > 1$, Returns to scale are increasing, means that a percentage increase in capital K and labor L will produce a larger percentage increase in output Y

Cost of Production (Concepts)

- Cost is the expenditure incurred y a firm in the production of a commodity.

Cost Concepts

1. Explicit Cost: It is the expenses actually met y the producer while producing a commodity. (Raw materials)
2. Implicit Cost**:** It is the opportunity cost of the factor services supplied by the firm itself. (Rent)

3. Accounting Costs: This is the monetary outlay for producing a certain good. Accounting costs will include your variable and fixed costs you have to pay.
4. Sunk Costs: These are costs that have been incurred and cannot be recouped. (Adv cost)
5. Social Costs: This is the total cost to society. It includes private costs plus any external costs.
6. Private cost: It is the cost incurred by the producer in the production of a good.
7. External Cost: When a commodity is produced it may cause damages to the environment in the form o fair pollution, water pollution etc.
8. Replacement cost: It is the amount of money required to replace an existing asset with an equally valued or similar asset at the current market price.

Types of Cost

- Short run cost: Cost refers to a certain period of time where at least one input is fixed while others are variable. It refers to a certain period of time where at least one input is fixed while others are variable.
- Long run cost: The long run is a period of time in which all factors of production and costs are variable.

Short Run Cost

The total cost/Short run total cost (SRTC) refers to the actual cost that is incurred by an organisation to produce a given level of output. The Short-Run Total Cost (SRTC) of an organisation consists of two main elements:

Total Fixed Cost (TFC): These costs do not change with the change in output. TFC remains constant even when the output is zero. TFC is represented by a straight line horizontal to the x-axis (output).

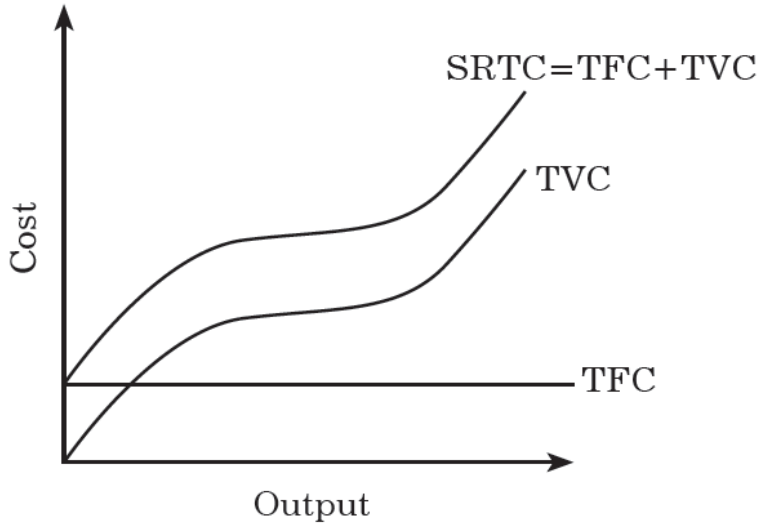
Total Variable Cost (TVC): These costs are directly proportional to the output of a firm. This implies that when the output increases, TVC also increases and when the output decreases, TVC decreases as well.

SRTC is obtained by adding the total fixed cost and the total variable cost.

SRTC = TFC + TVC

As the TFC remains constant, the changes in SRTC are entirely due to variations in TVC.

Figure depicts the **short run cost curve** of a firm:



Short Run Average Cost

The **average cost** is calculated by dividing total cost by the number of units a firm has produced. The short-run average cost (SRAC) of a firm refers to per unit cost of output at different levels of production. To calculate SRAC, short-run total cost is divided by the output.

SRAC = SRTC/Q = TFC + TVC/Q

Where, TFC/Q =Average Fixed Cost (AFC) and

TVC/Q =Average Variable Cost (AVC)

Therefore, SRAC = AFC + AVC

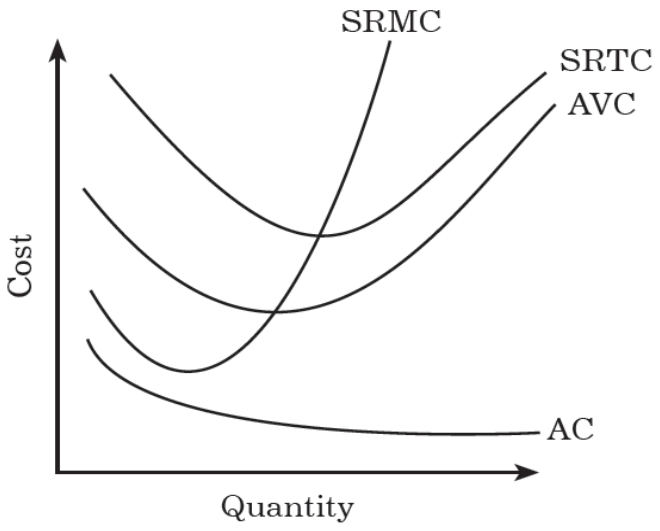
SRAC of a firm is U-shaped. It declines in the beginning, reaches to a minimum and starts to rise.

Short Run Marginal Cost

Marginal cost (MC) can be defined as the change in the total cost of a firm divided by the change in the total output. Short-run marginal cost refers to the change in short-run total cost due to a change in the firm's output.

Position of short run average and marginal cost curves

The short-run marginal cost (SRMC), short-run average cost (SRAC) and average variable cost (AVC) are U-shaped due to increasing returns in the beginning followed by diminishing returns. SRMC curve intersects SRAC curve and the AVC curve at their lowest points.



Long Run Cost

The long run is a period of time in which all factors of production and costs are variable. According to the long run, all inputs are variable. There is no fixed cost.

Long Run Total Costs

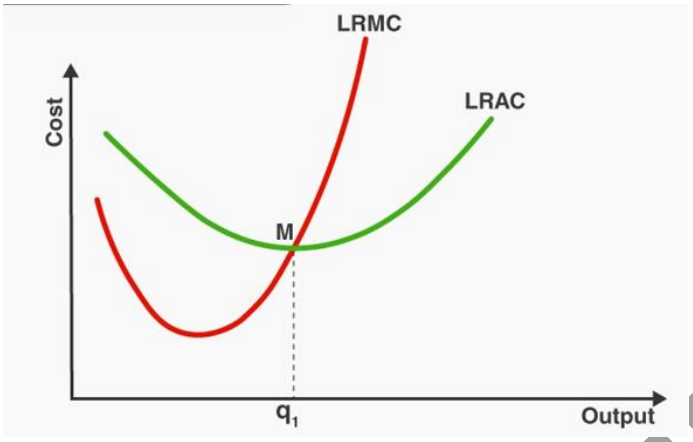
Long run total cost refers to the minimum cost of production. It is the least cost of producing a given level of output.

Long Run Average Cost Curve

Long run average cost (LAC) can be defined as the average of the LTC curve or the cost per unit of output in the long run. It is derived from the short run average cost curves.

Long Run Marginal Cost

Long run marginal cost is defined at the additional cost of producing an extra unit of the output in the long-run



Revenue

Revenue is the money payment received from the sale of a commodity.

Concepts

Total Revenue (TR)

TR is defined as the total or aggregate of proceeds to the firm from the sale of a commodity.

TR = P.Q where

P = Price

Q = Quantity sold

Average Revenue (AR)

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

AR = Total Revenue / Number of units sold

$$AR = \frac{TR}{Q}$$

or $$AR = \frac{P.Q}{Q}$$

or $$AR = P$$

Thus, AR is always identical with the price.

Marginal Revenue (MR)

MR is addition made to total revenue when one more unit of output is sold.

MR = TR n - TR n-1

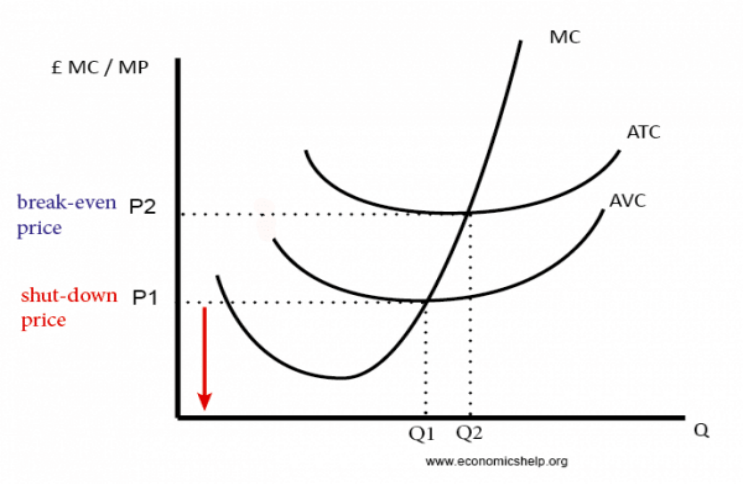
MR = d(TR) / d(Q)

Shutdown Point

A shutdown point is a level of operations at which a company experiences no benefit for continuing operations and therefore decides to shut down temporarily—or in some cases permanently. At the shutdown point, there is no economic benefit to continuing production.

A shutdown arises when price or average revenue (AR) falls below average variable cost (AVC) at the profit-maximizing output level. Continued production will incur additional variable costs but will not generate enough revenue to cover them. At the same time, the firm will still have fixed costs to pay, further increasing the losses.

Shutdown point is defined as that point where the market price of the product is equal to the AVC in the short run.



In summary, the shutdown point has the following characteristics:

1. It is the output and price point where a firm is able to just cover its total variable cost.
2. The average variable cost (AVC) is at its minimum point.
3. It is where the marginal cost (MC) curve intercepts the average variable cost (AVC) curve.
4. The firm is indifferent between shutting down and continuing production where losses equal to the total fixed costs are incurred regardless of either decision.

Break Even Point

- It is method used to study the relationship between TC and TR . The break-even point is the point at which total cost and total revenue are equal, meaning there is no loss or gain for your small business.
- **Breakeven point (BEP)** is used to understand this relationship
- BEP is the point where TC equals to TR. No profit , no loss (zero profit)

BEP: TC = TR

Profit / Loss = TR – TC

Profit / Loss = (P x Q) – (TFC + TVC)

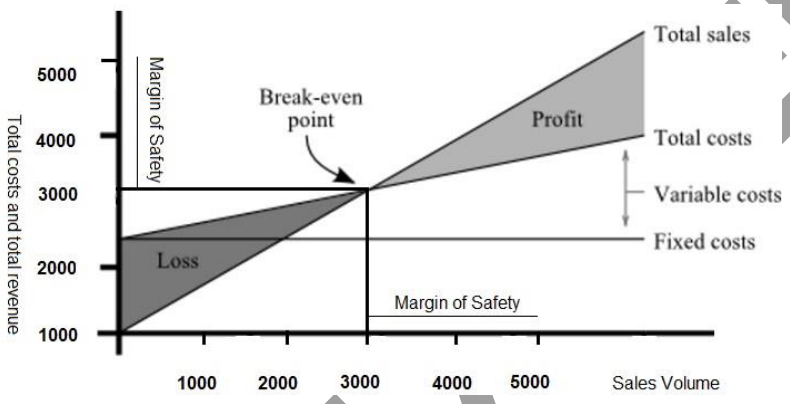
BEP = TFC / P – AVC

NOTE:

1.) At BEP, it is zero profit

2.) When no of units sold is lesser than BEP, it is loss

3.) When no of units sold is greater than BEP, it is profit



Observations:

TC > TR, it is Loss

TC < TR, it is Profit

TC = TR, No Profit , No Loss (BEP)

PV Ratio

PV Ratio (Profit Volume Ratio) is the ratio of contribution to sales.

P/V Ratio = Sales – Variable cost/Sales i.e. S – V/S

or, P/V Ratio = Fixed Cost + Profit/Sales i.e. F + P/S

Using PV Ratio, we can find BEP

BEP = TFC/ PV Ratio OR TFC * S / S – V

Margin of Safety (MOS)

- MOS is the sales beyond break – even point. Margin of safety is how much output or sales level can fall before a business reach it's BEP.

Margin of Safety = Excess of Sales – BEP

Advantages of BEP

- ✓ To know the cost revenue relationship
- ✓ To plan future business expansion
- ✓ To plan future production
- ✓ To target sale
- ✓ It helps in managerial decision making

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Module 3 (Market Structure)

Perfect and imperfect competition – monopoly, regulation of monopoly, monopolistic completion (features and equilibrium of a firm) – oligopoly – Kinked demand curve – Collusive oligopoly (meaning) – Non-price competition – Product pricing – Cost plus pricing – Target return pricing – Penetration pricing – Predatory pricing – Going rate pricing – Price skimming

Perfect and imperfect competition

A market refers to a system through which the sellers and purchasers of a commodity interact with each other and participate in sale and purchase. It refers to an institutional relationship between purchasers and sellers. It is an arrangement which links buyers and sellers. The four types of market structures are:

1. Perfect Competition
2. Monopoly
3. Monopolistic Competition
4. Oligopoly

3.1 Perfect Competition

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

Features

1. Large number of buyers and sellers. Neither a single buyer nor a single seller can influence the price. There will be uniform price in the market.
2. Existence of homogeneous Products. The products produced by all the firms in the perfectly competitive market must be homogeneous in all respects. The products of different firms are perfect substitutes.
3. Perfect knowledge about market conditions. Both buyers and sellers are fully aware of the current price in the market. Therefore the buyer will not offer high price and the sellers will not accept a price less than the one prevailing in the market.
4. The firm is a price taker.
5. Free entry and Free exit. There must be complete freedom for the entry of new firms or the exit of the existing firms from the industry. When the existing firms are earning super-normal profits, new firms enter into the market. When there is loss in the industry, some firms leave the industry
6. Perfect mobility of factors of production. The factors of productions should be free to move from one industry to another.
7. Absence of transport cost. If transport cost is incurred, the firms nearer to the market will charge a low price than the firms far away. Hence it is assumed that there is no transport cost.
8. Absence of Government regulations. The price in the perfectly competitive market is free to change in response to changes in demand and supply conditions.

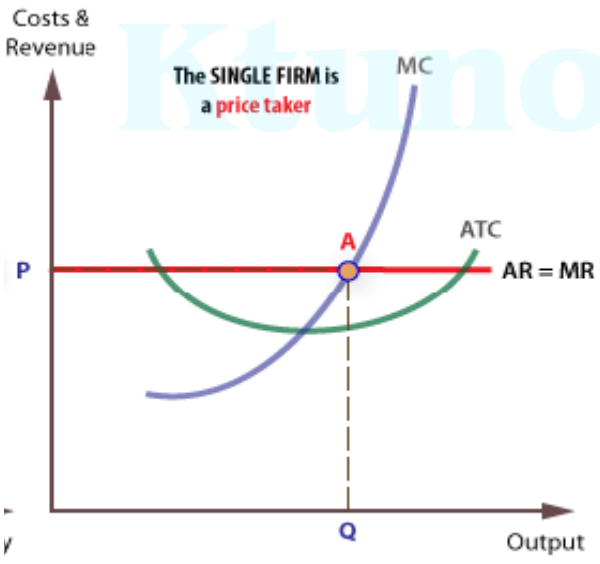
Determination of equilibrium price and output under perfect competition

The equilibrium price and output is studied under two time periods, the short run and the long run.

Short run

The short run is a period in which the number and of the firms are fixed. In this period, the firm can produce more only by increasing the variable inputs. As the entry of new firms or exit of the existing firms is not possible in the short-run, the firms can either earn super-normal profit or normal profit or incur loss in the short period.

The demand curve under perfect competition is perfectly elastic and is parallel to X-axis. It is also the average revenue curve of the firm. There is a uniform price in the market and all the units of the output are sold at the same price. Since the Average Revenue is constant, Marginal Revenue is also constant and coincides with Average Revenue. The perfect competitive firm is a price-taker, and has to adjust its level of output to maximise its profit.



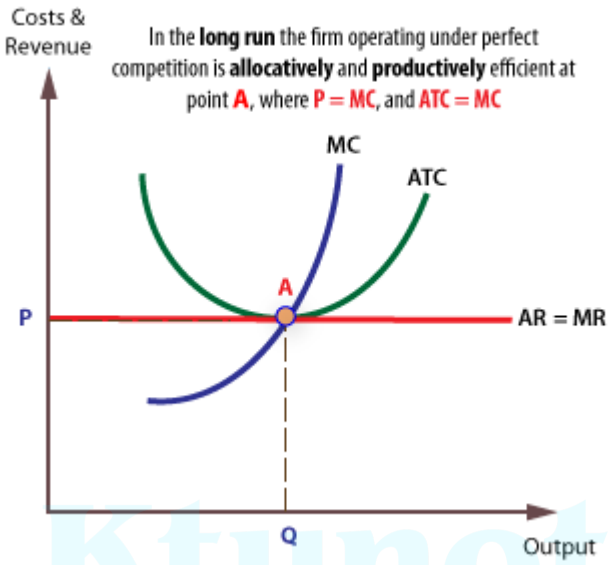
The firm is in equilibrium at point A where

1. MR = MC and
2. MC curve cuts MR curve from below.

The firm will be producing OQ level of output at price OP. The firm earns supernormal profits at this level of output, since average total cost (ATC) is lesser than average revenue.

Long run

In the long run, all factors are variable. The firms can increase their output by increasing its plant size. Moreover, new firms can enter the industry and existing firms can leave the industry. As a result, all the existing firms will earn only normal profit in the long run. If the existing firms earn supernormal profit, the new firms will enter the industry to compete with the existing firms. The supply of the product increases and firms will lower their prices to sell more. Hence the average revenue will come down. This will continue till AR = AC. Thus, all the perfectly competitive firms will earn only normal profits in the long run.



In the figure, the firm is in equilibrium at point A where LMC = MR = AR = LAC. The long run equilibrium output is OQ. The equilibrium price is OP. The firm is earning just normal profits. If the price rises above OP, the firm will earn abnormal profit, which will attract new firms into the industry. If the price is less than OP, there will be loss and the tendency will be to exit. Competitive firms are in equilibrium at the minimum point of average total cost curve.

Advantages of perfect competition

1. There is consumer sovereignty in a perfect competitive market. The consumer is rational and he has perfect knowledge about the market conditions. Therefore, he will not purchase the products at a higher price.
2. In the perfectly competitive market, the price is equal to the minimum average cost. It is beneficial to the consumer.
3. The perfectly competitive firms are price-takers and the products are homogeneous. Therefore it is not necessary for the producers to incur expenditure on advertisement to promote sales. This reduces the wastage of resources.
4. In the long run, the perfectly competitive firm is functioning at the optimum level. This means that maximum economic efficiency in production is achieved.

3.2 Monopoly

Monopoly is a market structure characterised by the existence of a single seller, there are no close substitutes for the commodity produced and there are barriers to entry.

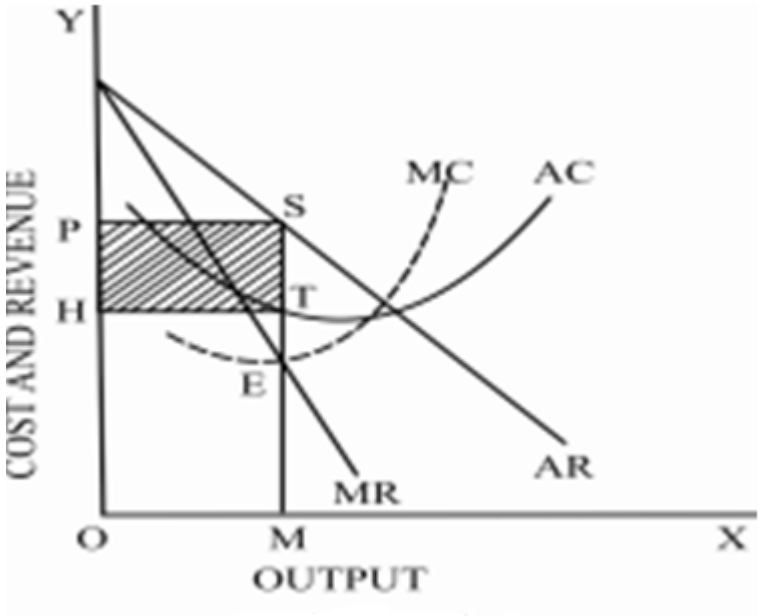
Features

1. A single Seller. Since the market is dominated by one seller, he can control either price or quantity of his product. But he cannot control demand for the product, as there are many buyers.
2. No close Substitutes. There are no close substitutes for the product. The buyers have no alternatives. Either they have to buy the product or go without it.
3. The firm is a price maker. The monopolist can fix any price that he wants since he is the sole producer of the product.
4. Price discrimination. The monopolist has control over the supply so as to increase the price. Sometimes he may adopt price discrimination. He may fix different prices for different sets of consumers. A monopolist can either fix the price or quantity of output; but he cannot do both, at the same time.
5. No free entry into the industry. There are strong barriers to the entry of new firms. There are legal, technological, economic or natural barriers which may block the entry of new producers.
6. No difference between firm and industry. Under monopoly, there is no difference between a firm and an industry. As there is only one firm, that single firm constitutes the whole industry.

Determination of equilibrium price and output under monopoly

A monopoly firm faces a downward sloping demand curve, that is, its average revenue curve. The downward sloping demand curve implies that larger output can be sold only by reducing the price. Its marginal revenue curve will be below the average revenue curve. The monopolist will be in equilibrium when

1. MR = MC and
2. MC curve cuts MR curve from below.



In the figure, AR is the average revenue Curve and MR is the marginal revenue curve. AR curve is falling and MR curve lies below the AR. The monopolist is in equilibrium at E where MR = MC. He produces OM units of output and fixes price at OP. Total profit is equal to HTSP. The monopolist is in equilibrium at point E and produces OM output at which he is earning maximum profit. The monopoly price is higher than the marginal revenue and marginal cost.

Advantages of monopoly

1. Monopoly firms have large-scale production possibilities and also can enjoy both internal and external economies. This will result in the reduction of costs of production. Output can be sold at low prices. This is beneficial to the consumers.
2. Monopoly firms have vast financial resources which could be used for research and development. This will enable the firms to innovate quickly.
3. There are a number of weak firms in an industry. These firms can combine together in the form of monopoly to meet competition. In such a case, market can be expanded.

Disadvantages

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

Reasons for the existence of monopoly

1. Natural: A monopoly may arise on account of some natural causes. Some minerals are available only in certain regions. For example, South Africa has the monopoly of diamonds, Canada in nickel, Middle East in oil etc.
2. Technical: Monopoly power may be enjoyed due to technical reasons. A firm may have control over raw materials, technical knowledge, special know-how, scientific secrets and formula that enable a monopolist to produce a commodity.
3. Legal: Monopoly power is achieved through patent rights, copyright and trade marks by the producers. This is called legal monopoly.
4. Large amount of capital: The manufacture of some goods requires a large amount of capital or lumpiness of capital. All firms cannot enter the field because they cannot

afford to invest such a large amount of capital. Examples are the iron and steel industry, railways, etc.

5. State Monopoly: Government will have the sole right of producing and selling some goods. They are State monopolies. For example, in India public utilities like electricity and railways enjoy monopoly power.

Regulation of Monopoly

Methods of Controlling Monopoly

1. Legislative Method. Government can control monopolies by legal actions. Anti-monopoly legislation has been enacted to check the growth of monopoly. In India, the Monopolies and Restrictive Trade Practices Act was passed in 1969. The objective of this
Act is to prevent the unwanted growth of private monopolies and concentration of economic power in the hands of a small number of individuals and families.
2. Controlling Price and Output. This method can be applied in the case of natural monopolies. Government would fix either price or output or both.
3. Taxation. Taxation is another method by which the monopolistic power can be prevented or restricted. Government can impose a lump-sum tax on a monopoly firm, irrespective of its level of output. Consequently, its total profit will fall.
4. Nationalisation. Nationalising big companies is another solution. Government may take over monopoly companies which are exploiting consumers.
5. Consumer's Association. The growth of monopoly power can also be controlled by encouraging the formation of consumers associations to improve the bargaining power of consumers.

Price Discrimination under monopoly

Price discrimination means the practice of selling the same commodity at different prices to different buyers. If the monopolist charges different prices from different consumers for the same commodity, then he is adopting price discrimination.

Conditions

Price discrimination is possible only if the following two conditions are fulfilled.

1. There should be no possibility of a resale from the low priced market to the high priced market. The monopolist should be able to keep the two markets or different markets separate so that the commodity will not be moving from one market to the other market. If it is possible to buy the product in the cheaper market of the monopolist and sell it in the dearer market, there can never be two prices for the commodity.
2. The demand must not be transferable from the high priced market to the low priced market. It should not be possible for buyers in the dearer market to sneak into the cheaper market to take advantage of the low price.

Types of price discrimination

According to Prof. A.C.Pigou there are three degrees of price discrimination.

1. First degree price discrimination

First degree price discrimination occurs when a monopolist charges a different price for each unit of the commodity sold. He charges the maximum that each buyer is willing to pay leaving no consumer surplus. This involves maximum exploitation of the workers.

2. Second degree price discrimination

Here the monopolist divides buyers into groups and from each a different price is charged.

3. Third degree price discrimination

Here the monopolist divides the entire market into two sub markets and charges a different price in each sub market.

3.3 Monopolistic Competition

Monopolistic competition refers to the market situation in which a large number of sellers produce goods which are close substitutes of one another. It combines the features of both monopoly and competition. The products are similar but not identical. The particular brand of product will have a group of loyal consumers. In this respect, each firm will have some monopoly and at the same time the firm has to compete in the market with the other firms as they produce a fair substitute. The essential features of monopolistic competition are product differentiation and the existence of many sellers.

Features

1. Existence of Large Number of firms. Under monopolistic competition, the number of firms producing a commodity will be very large. Due to their large number the contribution of each firm towards the total demand of the product is small. Each firm will act independently on the basis of product differentiation and each firm determines its price-output policies. Any action of the individual firm in increasing or decreasing the output will have little or no effect on other firms.
2. Product differentiation. Product differentiation is the essence of monopolistic competition. Product differentiation is the process of altering goods that serve the same purpose so that they differ in minor ways. Product differentiation is attempted through (a) physical appearance (b) difference in quality; (c) packaging and (d) purchase benefits (e) advertisement (f) home delivery (g) free services etc.
3. Selling Costs. As a result of product differentiation, it can be inferred that the producer under monopolistic competition has to incur expenses like advertisement to popularise his brand. This expenditure involved in selling the product is called selling cost. According to Prof. Chamberlin, selling cost is "the cost incurred in order to alter the position or shape of the demand curve for a product".
4. Freedom of entry and exit of firms. There are no barriers as in the case of monopoly.
5. Monopolistic competition presupposes that customers have definite preferences for particular varieties of products. Hence pricing is not the problem but product differentiation is and competition is not on prices but on products.

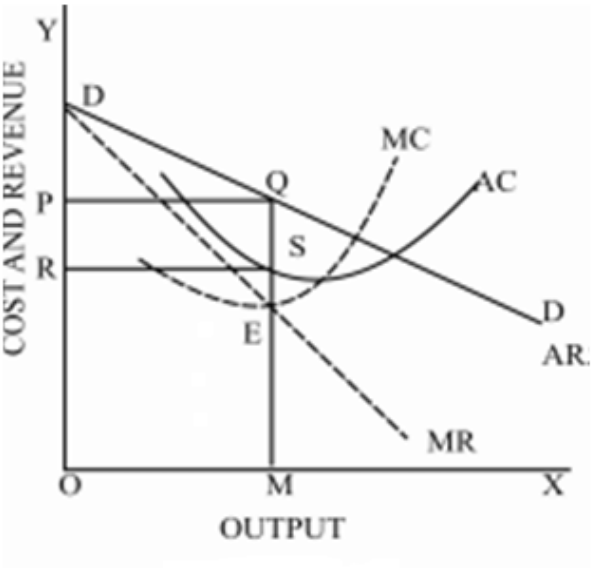
Determination of Equilibrium price and output under monopolistic competition

The monopolistic competitive firm will also come to equilibrium when

1. MC = MR and

2. MC curve cuts MR curve from below.

Each firm will choose that price and output where it will be maximising its profit.



In the figure, the equilibrium point is E where MR = MC. The equilibrium output is OM and the price of the product is fixed at OP. The difference between average cost and average revenue is SQ. The output is OM. So, the supernormal profit for the firm is shown by the rectangle PQSR. The firm by producing OM units of its commodity and selling it at a price of OP per unit realizes the maximum profit in the short run. The different firms in monopolistic competition may be making either abnormal profits or losses in the short period.

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

Demerits of Monopolistic competition

1. Unemployment of resources. Under monopolistic competition, the firms produce less than optimum output. As a result, the productive capacity is not used to the fullest extent. This will lead to unemployment of resources.
2. Excess capacity: Excess capacity is the difference between the optimum output that can be produced and the actual output produced by the firm. In the long run, a monopolistic firm produces an output which is less than the optimum output that is the output corresponding to the minimum average cost. This leads to excess capacity which is regarded as waste in monopolistic competition.

3. High selling costs. There is a lot of waste in competitive advertisements under monopolistic competition. The wasteful and competitive advertisements lead to high cost to consumers.
4. Existence of a many brands. Introducing too many varieties of a good is another waste of monopolistic competition. The goods differ in size, shape, style and colour. A reasonable number of varieties would be desirable. Cost per unit can be reduced if only a few are produced.
5. Inefficient Firms. Under monopolistic competition, inefficient firms charge prices higher than their marginal cost. Such type of inefficient firms should be kept out of the industry. But, the buyers' preference for certain brands enables the inefficient firms to continue to exist. Efficient firms cannot drive out the inefficient firms because the former may not be able to attract the customers of the latter.

3.4 Oligopoly

Oligopoly is a market situation in which there are few large firms producing closely differentiated products. Each firm in the industry is supplying a significant share of the total industry output. It is also referred to as 'competition among the few'. The number of firms is so small that every seller is affected by the activities of the others.

Features

1. Interdependence. The most important feature of oligopoly is interdependence in decision - making. Since there are a few firms, each firm closely watches the activities of the other firm. Any change in price, output, product, etc., by a firm will have a direct effect on the fortune of its rivals. So an oligopolistic firm must consider not only the market demand for its product, but also the possible moves of other firms in the industry.
2. Group Behaviour. Firms may realise the importance of mutual co-operation. Then they will have a tendency of collusion. At the same time, the desire of each firm to earn maximum profit may encourage competitive spirit. Thus, co-operative and collusive trend as well as competitive trend would prevail in an oligopolistic market.
3. Price Rigidity. Another important feature of oligopoly is price rigidity. Price is sticky or rigid at the prevailing level due to the fear of reaction from the rival firms. If an oligopolistic firm lowers its price, the price reduction will be followed by the rival firms. As a result, the firm loses its profit. Expecting the same kind of reaction, if the oligopolistic firm raises the price, the rival firms will not follow. This would result in losing customers. In both ways the firm would face difficulties. Hence the firm has no tendency to change its price.
4. Barriers to Entry. The existence of oligopoly in the long run requires the existence of barriers to the entry of the new firms. Several factors such as unlimited size of the market, requirement of huge initial investment etc. creates barriers to the entry of new firms.

Determination of equilibrium price and output under oligopoly

Indeterminate demand curve under oligopoly

The demand curve of a firm under oligopoly is indeterminate on account of (a) interdependence and (b) group behaviour. Hence it is difficult to know the exact position of the demand curve. The effect of a change in price by a firm depends on the reaction of its rivals. Sometimes a price cut by a firm may not cause others to change their own price. At other times it may invite immediate retaliation.

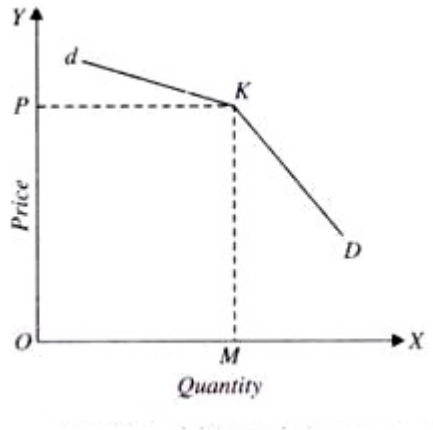
It is not possible to have a single generalised solution to pricing under oligopoly. The existence of a few large firms makes price determination under oligopoly difficult on account of their unpredictable nature. The actions and reactions of rival firms make firms aim at maximisation of sales to ensure survival rather than aim at maximisation of profit.

There are three different approaches to pricing under oligopoly.

1. Kinked Demand Curve (Price Rigidity under Oligopoly)

The price under oligopoly market is fixed for a long period of time and does not vary as in the case of other market situations.

If a firm increases its price, others will not come forward with a price increase of their own and the firm may lose some customers to its rivals. If the firm cuts its price, others will immediately follow suit to protect their own sales and the original firm will not gain more sales. The kink is formed at the prevailing price because the segment of the demand curve above this price is highly elastic and below it, less elastic. Hence the price under oligopoly tends to be rigid or sticky.



2. Price Leadership

Under price leadership, one firm assumes the role of a price leader and fixes the price of the product for the entire industry. The other firms follow this leader and accept the price fixed by it and adjusts their output accordingly. The different types of price leadership are:

a. Price leadership by a dominant firm

A dominant firm is the largest firm in the market and produces the bulk of the product of the industry. Due to this position, it is able to dominate the entire market. It sets the price and the other firm simply accept it. Naturally the dominant firm looks after its own interests and fixes a price so as to maximise its profits. The other firms are not in a position to influence the market and have to adjust their output to the price fixed by the dominant firm.

b. Barometric price leadership

Under this type an experienced and large firm assumes the role of the leader, but also protects the interests of all firms. It fixes a price that is suitable to all the firms in the industry. The price is fixed taking into consideration the market and cost conditions prevailing in the industry.

c. Aggressive price leadership

In this case the big firm establishes its supremacy in the market by following aggressive price policies. This firm forces others to follow the price fixed by it. In case the others do not obey, the leader uses aggressive strategies to make them obey it.

3. Collusive Oligopoly

Collusive oligopoly refers to the market situation where oligopolistic firms come to an agreement and decide to collude. In order to avoid price wars and cut throat competition, firms have some form of agreement among them in the matter of fixing price and output. The agreement may be formal or tacit. In the case of a formal agreement, they may even make a written agreement which may also provide for penalties to those who violate it.

Since formal or open agreements are illegal in most countries, they are generally of a secretive nature. A cartel is a type of collusive oligopoly.

Cartels

Cartels refer to any type of formal or tacit agreement reached among the oligopolistic firms of an industry. Here firms form a group under an agreement and decide the price of the product. They also agree upon the output that is to be produced. Cartels restrain competition among the member firms and hence their formation has been made illegal in most countries by passing Anti-Trust Laws against them. In spite of this cartels are still common and carry out their operations secretly.

e.g. Organisation of Petroleum Exporting Countries (OPEC).

3.5 Non-price competition

Firms in oligopolistic industries rarely compete on the basis of price since they view price-cutting as a dangerous tactic because it can initiate a price war that may have disastrous consequences in the long run. Instead they concentrate on non-price strategies such as advertising and product differentiation. These are looked at as less risky ways of attracting customers from competitors.

1. Advertising. Firms spent huge amount of money on advertising in order to increase its market share. Through repeated advertisements firms get the customers to trust their brand. Brand recall also increases.
2. Building brand loyalty. Customers loyal to a brand do not look for products made by other manufactures.

3. Brand recognition. Through repeated advertisements and by developing a unique logo, companies are able to make customers recognise their firm.
4. Product bundling. Companies bundle various products together to make customers stay with the brand even while purchasing dissimilar products.
5. Customisation. Some firms give the option to customise their products to enable customers purchase a unique product which is not available to the mass market.
6. Direct mailing. Customers are emailed or direct messaged about new products or special deals.
7. Free delivery. Most of the online shopping sites promise free or next day delivery of their products.
8. Sponsoring of various sporting events.
9. Ethical Marketing. Some firms offer to give a certain percentage of their profits to charity to attract customers who wish to buy goods with a social conscience.
10. After sales service. Some companies have a strong service network and have made it their unique selling point. This is particularly true of the car and the consumer durable goods industry.

Disadvantages of non-price competition

1. High retail prices.
2. It does not offer long lasting benefits.
3. The strategy is expensive, hence it is beyond the budget of small firms.
4. Brand building takes time.
5. Trade mark battles among firms.

3.6 Product pricing

Firms adopt different pricing strategies for their products. The price of a product depends upon:

1. Demand and supply.
2. Production cost.
3. Degree of competition.
4. Pricing strategy of competing firms.
5. Consumers purchasing power
6. Objective of the firm
7. Market Structure

The various pricing strategies adopted by firms are:

1. Cost plus pricing (Markup pricing)

In this strategy, the basis for the determination of price of the product is the cost of production with some margin. Price is the sum of cost plus a profit margin. It involves adding a mark up to the cost of goods to arrive at a selling price.

Price = Average Cost + markup

Advantages

1. This method is simple since the price of a product can be easily derived using this strategy.

2. Any contractor will willingly accept this method for a contractual agreement with a customer since this method assures a certain profit.
3. In the case of price increase, manufactures can point out the increase in production costs as the reason.

Disadvantages

1. It ignores the price charged by competitors.
2. Under this method the engineering department has no incentive to reduce costs.
3. It ignores replacement costs.

2. Target return pricing

In this method, the firm determines the price on the basis of a target rate of return on the investment. It takes into consideration what an investor would want to make from the capital invested in the project. The company works backwards from the targeted return to reach the current price.

Advantages

1. This method ensures higher profits.
2. The expected volume of sales play a part in this strategy.
3. It considers time value of money.

Disadvantages

1. The company must pick a return and a time period that is reasonable.
2. More possibility of miscalculations.
3. Sometimes companies pick an unrealistic return.

3. Penetration pricing

It is a pricing strategy that is used to quickly gain market share in a market already dominated by existing firms by setting an initial low price. This is generally used by new entrants in a market. Charging a lower price is one of the easiest ways to differentiate new entrants from existing market players. It works for products whose demand is elastic.

Advantages

1. This strategy enables a company to get its product quickly accepted by customers.
2. Competitors are caught off guard and get little time to react. It enables the company to utilize this opportunity to switch over as many customers as possible.
3. Customers that are able to find a bargain in a product are likely to return to the firm in future.

Disadvantages

1. Customers often expect permanently low prices.
2. If customers link the low prices to poor quality it will affect the brand image of the firm.
3. It may trigger a price war and the new entrant may get wiped out.

4. Predatory pricing

Predatory pricing is a strategy in which a dominant firm fixes a temporary price below the cost of production to drive out its competitors from the market. This is done on the expectation that the present losses can be recouped through higher profits in the long run. It is illegal as it violates competition laws and makes markets more vulnerable to a monopoly.

Advantages

1. Customers may benefit from low prices in the short period.
2. The price war triggered by predatory pricing may create a buyer's market.
3. Competition may provide a wider choice and new technologies to the customers.

Disadvantages

1. It is hard to succeed since driving out all rival firms is difficult.
2. It will result in huge loss of revenue at least in the short period.
3. It is illegal and can lead to court cases.

5. Going rate pricing

In this method, price id determined on the basis of the prevailing market price. The company sets the price of its product in line with the competitor's price. This type of pricing is followed in oligopolistic industries where they deal in slightly differentiated products with high cross elasticity. Companies selling steel, aluminium, paper, fertilizer, mineral water are examples.

Advantages

1. Uniform price in the market.
2. Firms follow the price leader.
3. No risk of price war

Disadvantages

1. Cost of production is ignored
2. It is difficult to match the production cost with the price that others are following.
3. Price is fixed by the dominant firm.

6. Price Skimming

It is a product pricing strategy by which a firm charges a high price at the time of introduction of a product and then lowers it over time. As the demand of the first customers are satisfied and competition enters the market, the firm lowers the price to attract the price sensitive customers. It is usually used for a new type of product to gather as much revenue as possible before competition enters the market. The skimming strategy gets its name from 'skimming' successive layers of customer segments as prices are lowered over time.

Advantages

1. It provides a higher return on investment.
2. It helps create and maintain brand image.
3. It helps firms to recover the cost of R&D.

4. Early adopters help test new products and provide word-of-mouth marketing campaigns.

Disadvantages

1. It will work only if there are a large number of customers willing to get hold of the product even at a high price.
2. The high price will quickly attract competing firms to launch similar products.
3. It works only in the short period.
4. It is suitable mainly for tech products and services.

7. Administered Pricing

Administered price is the price of a product fixed statutorily by the government. Governments fix the prices of certain essential commodities to promote social welfare and prevent exploitation. Here the forces of demand and supply do not play a role in attaining market equilibrium.

Advantages

1. It helps in controlling price of food to make it more affordable.
2. Farmers are assured of a minimum return on agricultural products.
3. It can be used to control rent and prevent exploitation of consumers.

Disadvantages

1. If a low administered price is fixed it may result in shortages.
2. It may result in a financial burden on the government since it will have to buy the surplus.
3. Sometimes it may lead to the emergence of black markets.

Module 4
Macroeconomic Concepts

The Circular Flow of Income

The circular flow of income and expenditure refers to the process whereby the national income and expenditure of an economy flow in a circular manner continuously through time. The various components of national income and expenditure such as saving, investment, taxation, government expenditure, exports, imports, etc. The following are the 3 models:

1. Circular Flow in a Two Sector Economy
2. Circular Flow in a Three- Sector Economy
3. Circular Flow in a Four- Sector Economy

Circular Flow in a Two Sector Economy

We begin with a simple hypothetical economy where there are only two sectors, the household and business. The household sector owns all the factors of production, that is, land, labour and capital. This sector receives income by selling the services of these factors to the business sector.

The business sector consists of producers who produce products and sell them to the household sector or consumers. Thus the household sector buys the output of products of the business sector. The circular flow of income and expenditure in such an economy is shown in Figure 1 where the product market is shown in the upper portion and the factor market in the lower portion.

$$Y = C + I$$

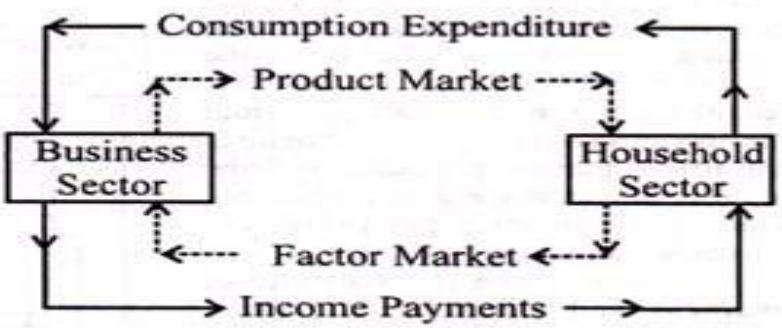


Fig. 1.

In the product market, the household sector purchases goods and services from the business sector while in the factor market the household sector receives income from the former for

providing services. Thus the household sector purchases all goods and services provided by the business sector and makes payments to the latter in lieu of these.

Circular Flow with Saving and Investment (Banking Sector) Added

Figure 2 shows how the circular flow of income and expenditure is altered by the inclusion of saving and investment.

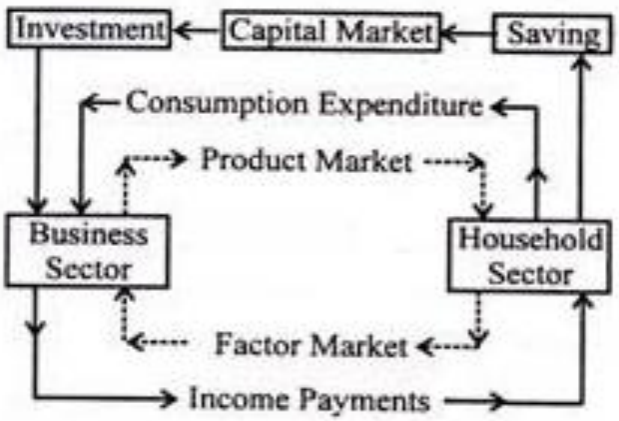


Fig. 2.

Three- Sector Model

We add the government sector so as to make it a three-sector closed model of circular flow of income and expenditure. For this, we add taxation and government purchases (or expenditure) in our presentation.

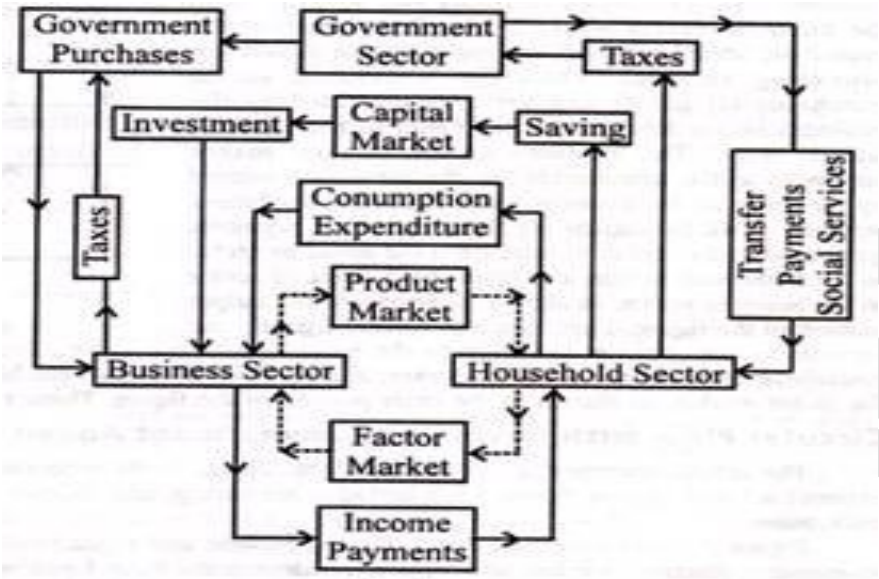


Fig. 3.

$$Y = C + I + G$$

Four Sector Model

The actual economy is an open one where foreign trade plays an important role. Exports are an injection or inflows into the economy.

$$Y = C + I + G + (X - M)$$

Y = Total Income

C = Consumption

I = Investment

G = Government Expenses

X = Exports

M = Imports

(X – M) = Net Exports

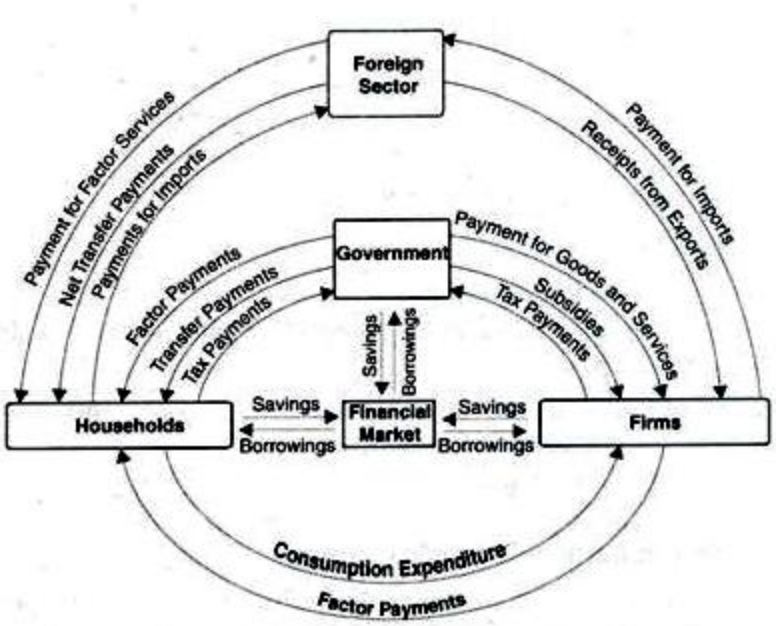


Fig. 1.7

Stock and Flow

- Stock is a quantity measurable at a particular point of time. E.g. total wealth of a person.
- Flow is a quantity measured over a period of time E.g. annual salary of an individual.

Stock	Flow
Point of time	Over a period of time
No time dimension	Involves time dimension
Static Concept	Dynamic Concept

Final Goods and Intermediate Goods

Intermediate goods are referred to as those goods that are used by businesses in producing goods or services. These goods are also known as producer goods.

Final goods are referred to as those goods which do not require further processing. These goods are also known as consumer goods and are produced for the purpose of direct consumption by the end consumer.

Intermediate goods are used for producing final goods or consumer goods or it can be said that they act as inputs in other goods and constitute the final goods as an ingredient.

National Income (NI)

- NI is defined as the money value of the total goods and services produced in a country during a financial year. It is the total income of nation
- In India, it is central statistical organization (CSO) who is responsible for national income accounting

Gross Domestic Product (GDP)

- It is the market value of all final goods and services produced in an economy during a financial year

Gross National Product (GNP)

- It is the market value of all final goods and services produced in an economy during a financial year plus net factor income from abroad (NFIA)

GDP = GNP – NFIA

GNP = GDP + NFIA

National domestic product (NDP)

- It is the market value of all final goods and services produced in an economy during a financial year after deducting depreciation (consumption of fixed capital)
- Deprecation refers to the fall in value of capital due to wear and tear

NDP = GNP – Deprecation

Market price & Factor cost

- Market price is the price paid by the buyer of a commodity in the market
- Factor cost is the cost paid by the producer to the factor of production for their contribution in the production of commodity

- **MP = Cost of production + Indirect taxes – Subsidies**
- **FC = Cost of production - Indirect taxes + Subsidies**

Personal Income (PI)

- It is the sum of all income actually received by an individual from different sources in a country during financial year

Disposable income (DPI)

DPI = Personal income – Direct taxes

Percapita Income (PCI)

It is the per person average national income

PCI = NI / Population

METHODS FOR ESTIMATING NATIONAL INCOME

3 METHODS

1. Output method / Production method
2. Income method
3. Expenditure method

Output method / Production method

- It is also known as value added method.

Steps

1. Production units divides into different sectors like agriculture , industry , services sectors
2. Estimating the net value added by each sector
3. Summing it up to get the value of the domestic product (GDP)
4. Add NFIA with the domestic product > NI

Income Method

- Using this method , NI is obtained by adding up all the income of all individuals and business enterprises in the economy
- Income earned in the form of Rent (Land) , Wage (Labour) , Interest (Capital) , Profit (Organization)

NI = Rent + Wage + Interest + Profit

Steps

- Production units divides into different sectors like agriculture , industry , services sectors

- Estimating factor income (Rent , Wage , Interest , Profit)
- Calculate NFIA

Domestic Factor Income + NFIA = NI

Expenditure Method

- It is also known as consumption – saving method
- This method considers the computation of NI by adding up all the expenditure made on goods and services during a given year

Types of Expenditures

1. Consumption expenditure (C) by households
2. Investment expenditure (I) by firms
3. Government expenditure (G)
4. Net Exports (X – M)

NI = C + I + G +(X – M)

Difficulties in the estimation of NI

- Income generated from the process of production for self- consumption
- All transfer payments
- Illegal income like smuggling , Black money etc.,
- Value of second hand goods
- Service of house-wives
- Lack of statistical data
- Problem of double counting
- Illiteracy
- Non- availability of data

- Lack of accountability

3 sectors of the economy

- **Primary Sector**: This sector deals with the extraction and harvesting of natural resources such as agriculture and mining.
- **Secondary Sector**: This sector comprises construction, manufacturing, and processing.
- **Tertiary Sector**: Retailers, entertainment, and financial companies make up this sector

INFLATION

- It is the persistent increase in general price level or persistent decline in the real income of the people
- It means as the price rises, the value of money declines

Definition

Coulborn "Too much money chasing too few goods"

Inflation occurs due to an imbalance in demand and supply of money

Types of Inflation

1. Demand pull inflation: It happens when an increase in aggregate demand in the absence of an increase in aggregate supply or a relatively less increase in aggregate supply.
2. Cost push inflation: It is the result of increase in cost of production. As the cost of production increases, the supply decreases and the prices go up.
3. Creeping inflation > 0 – 3 %
4. Walking inflation > 3 – 10 %
5. Galloping inflation > More than 10%
6. Hyper inflation > More than 50%

Causes of Inflation

- Causes of inflation has been classified into two: Demand side factors and Supply side factors

Demand side Factors

- Increase in money supply
- Increase in disposable income
- Increase in consumer spending
- Black money
- Increase in exports
- Cheap monetary policy
- **Supply side factors**
- Shortage in factors of production
- Industrial dispute
- Natural calamities
- Artificial scarcity (Hoarding)
- International factors

Methods to control Inflation

Monetary measures

- Bank Rate: The bank rate policy is used as an important instrument to control inflation. The Bank rate, also called as the Central Bank rediscount rate is the rate at which the central bank buys or redsicounts the eligible bills of exchange and other commercial papers presented by commercial banks to build their reserves.
- Open market operations: The open market operations are characterized by the sale and purchase of government securities and bonds by the central bank. The central bank buys and sells the government securities and bonds to the public through commercial banks. The government securities are sold via commercial banks such that a certain amount of bank deposits is transferred to the central bank. As a result, the credit creation capacity of the commercial banks reduces. Thus, the flow of money from the banks to the public also gets reduced.

- Variable reserve ratio: The variable reserve ratio, also called as the Cash Reserve Ratio (CRR) is a certain proportion of total demand and time deposits that the commercial banks are required to maintain in the form of cash reserves with the central bank.
- The cash reserve ratio is often determined and imposed by the central bank with a view to controlling the money supply. When the central bank raises the CRR, the lending capacity of the commercial banks reduces due to which the flow of money from the banks to the public also decreases. Thus, it helps in controlling the rise in the price to the extent it is caused by the bank credit to the public.

Fiscal Measures

- Reduction of unnecessary expenditure: A cut in the public expenditure reduces not only the government's demand for goods and services but also private consumption expenditure. Therefore, the excess demand decreases more than a given cut in the public expenditure.
- Increase taxes: Taxation of income reduces the disposable income. As consumer demand is a function of disposable income, consumer demand decreases due to taxation. Thus, a well-designed taxation policy reduces aggregate demand and thereby brings the inflation under control.
- Increase savings: Promote savings so as to decrease the money supply in the public.

Other measures

- Increase output: Increase production in the economy
- Price control: Government has to intervene in the market to control process.
- More imports: Increased imports will reduce the money supply in the economy.
- Control black money: government has to take polices to control lack money in the economy.

Business financing

Business finance refers to funds availed by business owners to meet their needs that may include commencing a business, obtaining top-up funds to finance business operations, obtaining finance to purchase capital assets for the business, or to deal with a sudden cash crunch faced by the business.

Sources of Capital

- Internal self – finance: An important source is the saving of the unit itself.
- Public Deposits: I t is mostly short – term finance. People keep their money as deposit with these companies for a period of 6 months a year, two years or so. Depositors receive a fixed interest. This money is used by companies to meet their expenses.
- Loans from Bank: Commercial banks also provide funds for meeting short- term needs for working capital.
- Indigenous Bankers: These banks charge heavy rate of interest.
- Development finance institutions: It caters the financial needs of large and small industries.

Bonds and Shares

A bond is a fixed-income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental). Bonds are used by companies, municipalities, states, and sovereign governments to finance projects and operations. Owners of bonds are debtholders, or creditors, of the issuer. Bond details include the end date when the principal of the loan is due to be paid to the bond owner and usually include the terms for variable or fixed interest payments made by the borrower. A bond is referred to as a fixed-income instrument since bonds traditionally paid a fixed interest rate (coupon) to debtholders.

How Bonds Work

When companies or other entities need to raise money to finance new projects, maintain ongoing operations, or refinance existing debts, they may issue bonds directly to investors. The borrower (issuer) issues a bond that includes the terms of the loan, interest payments that will be made, and the time at which the loaned funds (bond principal) must be paid back (maturity date). The interest payment (the coupon) is part of the return that bondholders earn for loaning their funds to the issuer. The interest rate that determines the payment is called the coupon rate.

Shares

A share represents a unit of equity ownership in a company. Shareholders are entitled to any profits that the company may earn in the form of dividends. They are also the bearers of any losses that the company may face. In simple words, if you are a shareholder of a company, you hold a percentage of ownership of the issuing company in proportion to

the shares you have bought. Shares are perpetual investment and they do not have specific maturity period.

Bonds	Shares
The investor lends money to the company	The investor owns part of the company
Risk is low	High risk
Issued by Govt. Institutions, Financial institutions etc.,	Issued by Corporate enterprises
Bond holders get interest, as a fixed payment	Shareholders get dividend
Return is certain	Return is uncertain
Maturity period is fixed	No maturity period

Money Market and Capital Market

A financial market is a place where buyers and seller come together to trade in financial assets such as bonds, stocks, derivatives, currencies and commodities. The main objective of a financial market is to fix prices for global trade, increase capital and transfer risk and liquidity.

Thought the financial market has various components; the two most important components are the money market and capital market. In the money market, only short-term liquid financial instruments are exchanged. Whereas, in the capital market, only long term securities are dealt with.

Capital Market plays a significant role in the growth of a country's economy as it provides a platform for mobilising the funds. Similarly, the money market holds a range of operational characteristics.

The Money Market

The money market is a good place for individuals, banks, other companies, and governments to park cash for a short period of time, usually one year or less. It exists so that businesses and governments that need cash to operate can get it quickly at a reasonable cost, and so that businesses that have more cash than they need can put it to use. The money market is less risky than the capital market while the capital market is potentially more rewarding.

Capital Market

A kind of financial market where the company or government securities are generated and patronised with the intention of establishing long-term finance to coincide the capital necessary is called Capital Market. The capital market is a type of financial market where

financial products like stocks, bonds, debentures are traded for a long duration of time. They serve the purpose of long-term financing and long-term capital requirement.

In this market, the buyers use funds for longer-term investment. The nature of the capital market is risky markets. Therefore, it is not used for short-term funds investment. Most of the investors obtain the capital markets to preserve for education or retirement.

Features of Money Market

1. It is fund-term market funds.
2. It's maturity period up to one year.
3. It trades with assets that can be transformed into cash easily.
4. All the transactions take place through phone, email, text, etc.
5. Broker not required for the transaction
6. The components of a money market are the Commercial Banks, Non-banking financial companies and Central Bank, etc.

Features of Capital Market

1. Unites entrepreneurial borrowers and savers
2. Deals with long-term investments.
3. Agents are required.
4. It is controlled by government rules and regulations.
5. Deals in both commercial and non-commercial securities.
6. Foreign Investors.

Capital Market	Money Market
Long-term securities are traded in capital markets	Short-term securities are traded in money markets
Capital markets are well organized	Money markets are not that organized
Instruments in money markets are a low risk	Capital markets are the comparatively high risk
Capital markets generally give higher returns	Money markets give a low return on investments

Stock Market

Stock markets are venues where buyers and sellers meet to exchange equity shares of public corporations. The stock market refers to public markets that exist for issuing, buying, and selling stocks that trade on a stock exchange or over-the-counter.

Stock markets are vital components of a free-market economy because they enable democratized access to trading and exchange of capital for investors of all kinds.

Functions of Stock Market

- Fair Dealing in Securities Transactions: the stock exchange needs to ensure that all interested market participants have instant access to data for all buy and sell orders, thereby helping in the fair and transparent pricing of securities.
- Pricing of securities: Stock markets need to support an efficient mechanism for price discovery, which refers to the act of deciding the proper price of a security and is usually performed by assessing market supply and demand and other factors associated with the transactions.
- Investor Protection: Along with wealthy and institutional investors, a very large number of small investors are also served by the stock market for their small amount of investments.
- Safety of transaction: the membership of a stock market is well-regulated and its dealings are well defined according to the existing legal framework.
- Contributes to economic growth: A well functioning stock market helps in the economic growth of the nation.

Demat Account

A Demat Account or Dematerialised Account provides the facility of holding shares and securities in an electronic format. During online trading, shares are bought and held in a Demat Account, thus, facilitating easy trade for the users. A Demat Account holds all the investments an individual makes in shares, government securities, exchange-traded funds, bonds and mutual funds in one place.

Demat is the abbreviation for "Dematerialization", which means to convert physical shares and securities into electronic form. Demat Accounts are required to hold shares in electronic form instead of paper form. Demat Accounts keep the shares safe, thereby preventing loss of shares or risks related to forgery. It is an easy method to trade securities quickly. A Demat account and a trading account are necessary to carry out the trading of shares in the stock market.

Trading Account

A trading account is an investment account for transacting in securities. We can buy or sell assets frequently through your trading account. Trading account acts as an investment account to holds your securities and other holdings. A trading account is used to buy or sell equity shares in a stock market.

Sensex

The Sensex was launched on Jan. 1, 1986. It is an investable index used to track the performance of India's 30 largest and most financially sound companies. These companies are listed on the BSE (previously known as the Bombay Stock Exchange) and represent some of the biggest and most important sectors of the Indian economy. The term ‘Sensex’ is a blend of words ‘Sensitive’ and ‘Index’ and was coined by stock market expert Deepak Mohini. The Sensex reflects the movements in the Indian stock market. It is considered the benchmark index of the Indian stock market. It is the oldest index in India and provides time series data from 1979, BSE, which was previously known as Bombay Stock Exchange.

NIFTY

The Nifty meaning is a derivation from the mix of two words, i.e. “National Stock Exchange” and “fifty”. It is an abbreviation of the National Stock Exchange Fifty. It is a collection of top performing 50 equity stocks that are actively trading in the index. However, 51 stocks are currently trading on Nifty. Hence, Nifty is also known as Nifty50 or CNX Nifty. Nifty is a popular stock index. The National Stock Exchange of India introduced it. This index was founded in 1992 and started trading in 1994. It is owned and managed by India Index Service & Products Limited (IISL).

Module – 5

International Trade

International Trade

International trade is the exchange of goods and services between countries.

Trading globally gives consumers and countries the opportunity to be exposed to goods and services not available in their own countries or more expensive domestically. International trade is an exchange involving a good or service conducted between at least two different countries. The exchanges can be imports or exports. An import refers to a good or service brought into the domestic country. An export refers to a good or service sold to a foreign country.

Advantages and Disadvantages of International Trade

Advantages of International Trade:

(i) Optimal use of natural resources:

International trade helps each country to make optimum use of its natural resources. Each country can concentrate on production of those goods for which its resources are best suited.

(ii) Availability of all types of goods:

It enables a country to obtain goods which it cannot produce or which it is not producing due to higher costs, by importing from other countries at lower costs.

(iii) Specialisation:

Foreign trade leads to specialisation and encourages production of different goods in different countries. Goods can be produced at a comparatively low cost due to advantages of division of labour.

(iv) Advantages of large-scale production:

Due to international trade, goods are produced not only for home consumption but for export to other countries also. Nations of the world can dispose of goods which they have in surplus in the international markets. This leads to production at large scale and the advantages of large scale production can be obtained by all the countries of the world.

(v) Stability in prices:

International trade irons out wild fluctuations in prices. It equalizes the prices of goods throughout the world (ignoring cost of transportation, etc.)

(vi) Exchange of technical know-how and establishment of new industries:

Underdeveloped countries can establish and develop new industries with the machinery, equipment and technical know-how imported from developed countries. This helps in the development of these countries and the economy of the world at large.

(vii) Increase in efficiency:

Due to international competition, the producers in a country attempt to produce better quality goods and at the minimum possible cost. This increases the efficiency and benefits to the consumers all over the world.

(viii) Development of the means of transport and communication:

International trade requires the best means of transport and communication. For the advantages of international trade, development in the means of transport and communication is also made possible.

(ix) International co-operation and understanding:

The people of different countries come in contact with each other. Commercial intercourse amongst nations of the world encourages exchange of ideas and culture. It creates cooperation, understanding, and cordial relations amongst various nations.

(x) Ability to face natural calamities:

Natural calamities such as drought, floods, famine, earthquake etc., affect the production of a country adversely. Deficiency in the supply of goods at the time of such natural calamities can be met by imports from other countries.

Disadvantages of International Trade:

(i) Impediment in the Development of Home Industries:

International trade has an adverse effect on the development of home industries. It poses a threat to the survival of infant industries at home. Due to foreign competition and unrestricted imports, the upcoming industries in the country may collapse.

(ii) Economic Dependence:

The underdeveloped countries have to depend upon the developed ones for their economic development. Such reliance often leads to economic exploitation. For instance, most of the underdeveloped countries in Africa and Asia have been exploited by European countries.

(iii) Political Dependence:

International trade often encourages subjugation and slavery. It impairs economic independence which endangers political dependence. For example, the Britishers came to India as traders and ultimately ruled over India for a very long time.

(iv) Mis-utilisation of Natural Resources:

Excessive exports may exhaust the natural resources of a country in a shorter span of time than it would have been otherwise. This will cause economic downfall of the country in the long run.

(v) Import of Harmful Goods:

Import of spurious drugs, luxury articles, etc. adversely affects the economy and well-being of the people.

(vi) Storage of Goods:

Sometimes the essential commodities required in a country and in short supply are also exported to earn foreign exchange. This results in shortage of these goods at home and causes inflation. For example, India has been exporting sugar to earn foreign trade exchange; hence the exalting prices of sugar in the country.

(vii) Danger to International Peace:

International trade gives an opportunity to foreign agents to settle down in the country which ultimately endangers its internal peace.

(viii) World Wars:

International trade breeds rivalries amongst nations due to competition in the foreign markets. This may eventually lead to wars and disturb world peace.

(ix) Hardships in times of War:

International trade promotes lopsided development of a country as only those goods which have comparative cost advantage are produced in a country. During wars or when good relations do not prevail between nations, many hardships may follow.

Theories of International Trade

Absolute Advantage Theory

The concept of absolute advantage was developed by Adam Smith in The Wealth of Nations to show how countries can gain by specializing in producing and exporting the goods that they produce more efficiently than other countries, and importing goods other countries produce more efficiently.

Adam Smith's Theory of Absolute Advantage

The trade theory that first indicated importance of specialization in production and division of labor is based on the idea of theory of absolute advantage which is developed first by Adam Smith in his famous book The Wealth of Nations published in 1776. Later on David Ricardo in his book titled On the Principles of Political Economy published in 1819 extended it to incorporate theory of comparative advantage and showed that it is the basis why nations need to trade and why trade is mutually beneficial to countries.

Statement of Theory

Countries should specialize in producing the goods and services in which they have absolute advantage and engage in free trade with other countries to sell their goods. A country's resources would therefore be utilized in the best possible way—in the production of goods and services in which the country has a productivity advantage compared with other countries—and national wealth would be maximized.

To illustrate the idea of absolute advantage (AA) consider the following table which gives the labor hours required to produce one unit of C and W in our hypothetical countries A and B.

	A	B
Cheese	2	10
Wine	8	4

Country A has AA in production of C as it takes fewer hours to produce a unit of C in A than in Country B. Since it takes less hours in Country B to produce W, Country B has an AA in production of W. Adam Smith's theory: Countries should specialize in the production of goods in which they have an AA. So Country A will be better of it specializes in the production of C and Country B will be better off if it specializes in W. So they don't need to produce both goods at home.

Comparative advantage Theory: David Ricardo

The law of comparative advantage is popularly attributed to English political economist David Ricardo and his book "On the Principles of Political Economy and Taxation" written in 1817.

The principle of comparative costs is based on the differences in production costs of similar commodities in different countries. Production costs differ in countries because of geographical division of labour and specialisation in production. Each country specialises in the production of that commodity in which its comparative cost of production is the least. Therefore, when a country enters into trade with some other country, it will export those commodities in which its comparative production costs are less, and will import those commodities in which its comparative production costs are high. This is basis of international trade, according to Ricardo.

Ricardo's Theorem:

Ricardo stated a theorem that, other things being equal, a country tends to specialize in and export those commodities in the production of which it has maximum comparative cost advantage or minimum comparative disadvantage. Similarly, the country's imports will be of goods having relatively less comparative cost advantage or greater disadvantage.

According to Ricardo even in the case of a country for which there is no absolute advantage for both the commodities, it can still gain from the international trade. In this situation, the country should specialize in the production and export of the commodity in which its absolute disadvantage is smaller and import the commodity in which the its absolute disadvantage is greater.

The Heckscher – Ohlin Theorem (H-O) or Factor Endowment Theory

The theory was originally developed y Eli Heckscher in 1919. Later in 1935 it was refined by Bertil Ohlin. Hence it is known as Heckscher – Ohlin Theorem.

Heckscher – Ohlin Theorem states that a country will produce and export that commodity whose production requires the intensive use of nation's relatively abundant and cheap factor and import the commodity whose production requires the intense use of relatively scare and expensive factor. In other words, relatively labor abundant country will export the relatively labor-intensive commodity and import the relatively capital – intensive commodity.

Balance of Payments (BoP)

The balance of payments (BOP), also known as the balance of international payments, is a statement of all transactions made between entities in one country and the rest of the world over a defined period, such as a quarter or a year. It summarizes all transactions that a country's individuals, companies, and government bodies complete with individuals, companies, and government bodies outside the country.

The balance of payments summarises the economic transactions of an economy with the rest of the world. These transactions include exports and imports of goods, services and financial assets, along with transfer payments (like foreign aid).

The Components of the Balance of Payments

There are three components of balance of payment viz current account, capital account, and financial account (The official reserve account). The total of the current account must balance with the total of capital and financial accounts in ideal situations.

Current Account

The current account is used to monitor the inflow and outflow of goods and services between countries. This account covers all the receipts and payments made with respect to raw materials and manufactured goods.

It also includes receipts from engineering, tourism, transportation, business services, stocks, and royalties from patents and copyrights. When all the goods and services are combined, together they make up to a country's Balance Of Trade (BOT).

Capital Account

All capital transactions between the countries are monitored through the capital account. Capital transactions include the purchase and sale of assets (non-financial) like land and properties.

The capital account also includes the flow of taxes, purchase and sale of fixed assets etc by migrants moving out/into a different country.

The deficit or surplus in the current account is managed through the finance from the capital account and vice versa. There are 3 major elements of a capital account:

- Loans and borrowings – It includes all types of loans from both the private and public sectors located in foreign countries.
- Investments – These are funds invested in the corporate stocks by non-residents.
- Foreign exchange reserves – Foreign exchange reserves held by the central bank of a country to monitor and control the exchange rate does impact the capital account.

The Official Reserve Account

The flow of funds from and to foreign countries through various investments in real estates, business ventures, foreign direct investments etc is monitored through the financial account.

Balance of Payments Deficit

Disequilibrium in the balance of payment means its condition of Surplus or deficit.

A Surplus in the BOP occurs when Total Receipts exceeds Total Payments. Thus,

BOP = CREDIT > DEBIT

A Deficit in the BOP occurs when Total Payments exceeds Total Receipts. Thus,

BOP = CREDIT < DEBIT

Causes of Disequilibrium/ Deficit in The Bop

- Cyclical fluctuations
- Short fall in the exports
- Economic Development
- Rapid increase in population
- Structural Changes
- Natural Calamites
- International Capital Movements

Measures To Correct Disequilibrium in the BOP

a**) 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.

b) 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.

c) **Exchange Rate Depreciation**

By reducing the value of the domestic currency, government can correct the disequilibrium in the BoP in the economy. Exchange rate depreciation reduces the value of home currency in relation to foreign currency. As a result, import becomes costlier and export become cheaper. It also leads to inflationary trends in the country

d) **Devaluation**

devaluation is lowering the exchange value of the official currency. When a country devalues its currency, exports becomes cheaper and imports become expensive which causes a reduction in the BOP deficit.

e) Export Promotion

To control export promotions the country may adopt measures to stimulate exports like:

- Export duties may be reduced to boost exports.
- Cash assistance, subsidies can be given to exporters to increase exports.
- Goods meant for exports can be exempted from all types of taxes.

f) Import Substitutes

Steps may be taken to encourage the production of import substitutes. This will save foreign exchange in the short run by replacing the use of imports by these import substitutes.

Devaluation

The reduction of a currency´s value in relation to other currencies. Devaluation is a downward adjustment to a country's value of money relative to a foreign currency or standard. Devaluation occurs when a country intentionally reduces the value of its currency relative to one or more foreign countries. Devaluation occurs when a government wishes to increase its balance of trade (exports minus imports) by decreasing the relative value of its currency.

Trade policy

Trade policy can be defined as goals, rules, standards, and regulations that are involved in the trade between countries. The major 2 policies that the countries follow with respect to international trade are

1. Free Trade
2. Protectionism

Free Trade

Free trade means free and unfettered trade between countries, unhindered by steep tariffs, and where goods can pass over borders unmolested by any restrictions. Free trade agreements are contracts between countries to allow access to their markets.

Advantages of Free Trade

1. **Increased economic growth**: Free trade will increase the production scale and division of labour which lead to economic growth.
2. **More dynamic business climate**: Without free trade agreements, countries often protected their domestic industries and businesses. This protection often made them stagnant and non-competitive on the global market. With the protection removed, they became motivated to become true global competitors.
3. **Foreign direct investment**: Investors will flock to the country. This adds capital to expand local industries and boost domestic businesses.
4. **Technology transfer**: Local companies also receive access to the latest technologies from their multinational partners.
5. **Expertise**: Global companies have more expertise than domestic companies to develop local resources.
6. **More choice of goods**: Free trade is good for consumers. It reduces prices by eliminating tariffs and increasing competition.
7. **Improves Quality**: Greater competition is also likely to improve quality and choice.

Disadvantages of Free Trade

1. **Threat to domestic industries**: Many emerging markets are traditional economies that rely on farming for most employment. These small family farms can't compete with subsidized agri-businesses in developed countries. As a result, they lose their farms and must look for work in the cities. This aggravates unemployment, crime, and poverty.
2. **Poor working conditions**: Multinational companies may outsource jobs to emerging market countries without adequate labor protections.

3. **Degradation of natural resources**: Emerging market countries often don't have many environmental protections.
4. **Destruction of native cultures**: As development moves into isolated areas, indigenous cultures can be destroyed.

Protectionism

Trade protectionism is a policy stance that some countries adopt to protect their domestic industries from foreign competition. The policy may work in the short run to bolster domestic production and business, but in the long run, trade protectionism can make a country and its industries less competitive in international trade.

Trade protectionism is a measured and purposeful policy by a nation to control imports while promoting exports. It is done in an effort to promote the economy of the nation above all other economies.

Advantages of Protectionism

1. **Infant Industry Argument**: If a country is trying to grow strong in a new industry, tariffs will protect it from foreign competitors. That gives the new industry's companies time to develop their competitive advantages.
2. **Protect the Consumer**: One of the more recent phenomenon surrounding protectionism has been the development of protecting the consumer.
3. **National Security**: It is argued that should a nation become reliant on international imports, it also becomes defensively weak.
4. **More growth opportunities**: Protectionism provides local industries with growth opportunities until they can compete against more experienced firms in the international market
5. **Lower imports**: Protectionist policies help reduce import levels and allow the country to increase its trade balance.
6. **More jobs**: Higher employment rates result when domestic firms boost their workforce
7. **Higher GDP**: Protectionist policies tend to boost the economy's GDP due to a rise in domestic production

Disadvantages of Protectionism

1. **Limited choices for consumers**: Consumers have access to fewer goods in the market as a result of limitations on foreign goods.
2. **Increase in prices (due to lack of competition):** Consumers will need to pay more without seeing any significant improvement in the product.
3. **Economic isolation**: It often leads to political and cultural isolation, which, in turn, leads to even more economic isolation.
4. **Stagnation of technological advancements**: As domestic producers don't need to worry about foreign competition, they have no incentive to innovate or spend resources on research and development (R&D) of new products.
5. **Less Choice:** By restricting international competition, there are fewer goods coming into the country. This means less choice for the average consumer.
6. **Economic Loss:** Protectionist policies impose an additional cost and loss on all parties. First of all, domestic consumers must pay a higher price for goods. At the same time, importers face a decline in demand, so international jobs are lost.

Tariff and Non-Tariff Barriers.

Tariff barriers are the tax or duty imposed on the goods which are traded to/from abroad. On the contrary, non-tariff barriers are the obstacles to international trade, other than tariffs. These are administrative measures implemented by the country's government to discourage goods brought in from foreign countries and promote domestically produced items.

Tariff Barriers

When two countries trade in the goods, a certain amount is charged as a fee by the country, in which goods are entered, so as to provide revenue to the government as well as raise the price of foreign goods, so that the domestic companies can easily compete with the foreign items. This fee is in the form of tax or duty, which is called a tariff barrier.

The amount of tax or duty charged as tariff is added to the cost of the import, which makes the foreign goods more expensive, whose price is ultimately borne by the consumer of the products. The tariff is paid to the customs authority of the country in which goods are sent. It includes:

- Export Duties
- Import Duties
- Transit Duties

- Specific Duties
- Ad-valorem Duties etc.,

Non-Tariff Barriers

Non-tariff barriers refer to non-tax measures used by the country's government to restrict imports from foreign countries. It covers those restrictions which lead to prohibition, formalities or conditions, making the import of goods difficult and decrease market opportunities for foreign items.

It can be in the form of laws, policies, practices, conditions, requirements, etc., which are specified by the government to restrict import. Hence it encompasses popular trade-distorting practices such as:

- Import quotas
- VERs, i.e. Voluntary Export Restraints
- Import licensing
- Technical and administrative regulations
- Price control
- Foreign exchange regulations etc.

Differences between Tariff and Non-Tariff Barriers

1. Tariff Barriers implies the tax or duty levied by the country's government on the import of goods from a foreign country so as to restrict imports, to a certain extent. On the contrary, non-tariff trade barriers are the policies and regulations, which are implemented by the country, with the aim of protecting and supporting domestic industries.

2. World Trade Organization (WTO) permitted the levy of tariff barriers to its member nations but at a reasonable rate only. Conversely, World Trade Organization (WTO) has put an end to the imposition of Import Quotas and Voluntary Export Restraints, i.e. non-tariff barriers.

3. Tariff barriers are simple to understand and levy, whereas non-tariff barriers are difficult to understand and involve more official.

4. Tariff barriers can take the form of taxes and duties, while non-tariff barriers are in the form of regulations, conditions, requirements, formalities, etc.

5. The imposition of tariff barriers results in the increase in government revenue. On the other hand, enactment of non-tariff barriers does not adds to government revenue.

6. Tariff barriers levied by the government increases the cost of the imported item. As against, non-tariff barriers include quantity restrictions, which affects the volume, as well as it also sometimes affects the price of the imported goods.

7. In the case of tariff barriers, as the government levies import duty, monopolistic groups can be controlled. In contrast, when non-tariff barriers are imposed monopolistic organization charges high prices through low output.

8. When tariff barriers are levied, the importers cannot make more profits, as the tax imposed will already make the product expensive, and to compete in the country's market, they need to keep the prices competitive. On the contrary, when non-tariff barriers are imposed, importers can make good profits, as it is a non-tax measure, which does not increase the price.