Module 1

Unit - 1

TEN PRINCIPLES OF ECONOMICS - I

Unit Structure:

1.0 OBJECTIVES

1. To study basic principles of economics
2. To study marginal profit principle
3. To study how people respond to incentives

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1.1 INTRODUCTION

The word 'Economics' is originated from the Greek Work 'Oikonomikos' which can be divided into two parts.

a) 'Oikos' which means 'Home' or 'House' and
b) Nomos means 'Management'.

Thus in simple terms, economics means 'Home Management' or 'Management' of a Household.

This management becomes essential because our wants are unlimited and the resources at our disposal are limited. Thus scarcity of resources is the root cause of economic problem. Thus economics explains the optimum allocation of scarce resources to satisfy as many wants as possible.

Economics deals with people and is a reflection of how they interact with each other when they go about making decisions regarding their lives. It explains how people make decisions say how, when, where, what, whom, how much to sell, what to buy, where to work, whom to sell etc.

Basically the 10 principles are divided into there broad categories

(I)	(II)	(III)
Principles of Decision Making	How people Interact	How the Economy as a whole works.

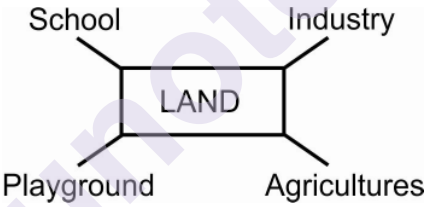
1.2 PRINCIPLES OF DECISION MAKING

Out of 10 principles the first four economic principles are in principles of Individual Decision Making.

1.3 PRINCIPLE 1 : INDIVIDUAL FACE TRADE OFF (PEOPLE FACE TRADE OFF)

Trade off means a situation where we have to give up one thing in order to have another. Thus it is said that 'There is no such thing as free lunch'. Thus to get something we like we usually have to give up something we don't like. Thus in simple terms to get one thing we have to sacrifice or give up another thing.

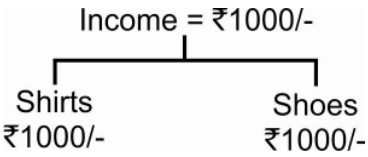
This situation arises because our wants are unlimited and the resources which are used to satisfy these wants are limited.



Now in this case we have only one plot of land. If we use it for the school building then we have to give up or sacrifice other alternatives ie industry agriculture, playground etc.

Society comes across several tradeoffs like to have guns (military goods) or Butter (civilian goods). If we spend more on national defence to protect the country from external aggression then we will have to spend less on personal goods which will increase the std. of living of people.

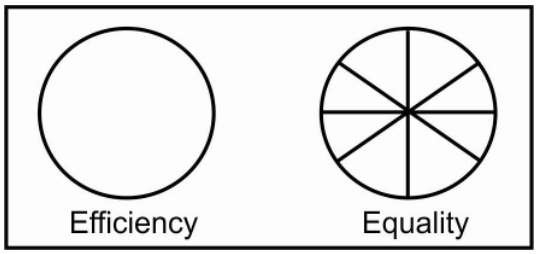
Similarly for a student, if he decides to go out to watch a film with friend then he is losing out the time for studies



In this case though you with to have both (shirt and shoes), you cannot have it due to limited income. Thus if you decide to buy a shirt then you will lose shoes and vice versa.

Another trade-off faced by the society is between efficiency and equality.

Efficiency means that society is getting the maximum benefits from its scarce resources. Equality means that those benefits are distributed uniformly among society's members. Thus efficiency refers to the size of economic pie and equality refers to how the pie is distributed into individual slices.



When the government tries to cut the economic pie into more equal slices, the pie gets smaller. Government policies get this conflict between efficiency and equality. For eg. Govt. policies of unemployment insurance or welfare system will help the mostneedy people in the society. This will bring equality. But other policies say like personal income tax, then only those who earn more will pay more tax. More on rich, no or less on poor. This will bring equality. But it might reduce efficiency. It is so because when wealth gets distributed from rich to poor then people will feel that why to work hard and earn more. They will work less and produce less goods and services.

Of course it does not mean what decisions they will or should make. Society should not stop protecting the environment just because environmental regulations reduce our material std. of living or the poor should not be ignored just because helping them disturbs the work incentives.

Nonetheless, people are likely to make good decisions only if they understand the options which are available to them. Thus study of economics starts by acknowledging life's trade-offs.

1.4 PRINCIPLE 2 : SIGNIFICANCE OF OPPORTUNITY COST IN DECISION MAKING

Scarcity of resources forces the people to make tradeoffs. This people must always consider how to spend their limited income or time to satisfy their unlimited wants or needs. This decision making requires comparing the costs and benefits of alternative uses or course of action.

Here we use the term 'opportunity cost'. It means the next best alternative given up by the factor. For e.g. The opportunity cost of playing football today evening is perhaps the foregoing or

giving up the chance to play cricket. When we eat ice-cream then we forego or sacrifice or give up the chance of using that money for some other purpose.

Let us take another example let us assume that a person say Mr. A is having Rs. 1000/- with him. Now he has two options. One option is that he can keep this money in the banks fixed deposit and earn 5% rate of interest per annum (year). It means he will get interest of Rs. 50/-. The other option is that Mr A can invest this money in some business activities which gives him 10/- returns (income) per year. i. e. Mr. A will earn Rs. 100/-

Now Mr. A will choose the best. ie he will use that money in business activity. It gives him Rs. 100/- on Rs. 1000/-. But to remain in business activity, Mr. A has to sacrifice or forego or give up the option of keeping in fixed deposit and earn Rs. 50/-. Thus the opportunity cost of remaining in business is to give up Rs. 50/-.

Another example is that a person has Rs. 50/- with him. He is going to spend the income on samosa and Idli whose price is Rs. 10/- per unit.

Samosa	Idli
A 5	0
4	1
3	2
2	3
1	4
0	5

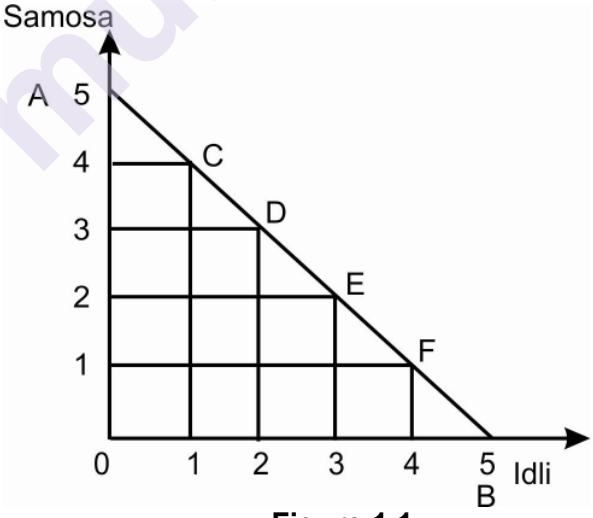


Figure 1.1

First take point D. It shows that he will have 2 idlis (Rs. 20) + 3 samosa (Rs. 30) = Rs. 50. Now if the consumer wishes to have 4 idlis (4 x Rs. 10 = 40/-) then he will have to give up or sacrifice the samosas. Now at point F, the consumer will have 4 idlis (Rs. 40/-) and only one samosa (Rs. 10) = Rs. 50/-. Thus

the opportunity cost of getting more idli is to sacrifice few samosas.

Economics normally assumes that people are rational. Rational people systematically and purposefully do the best to achieve their objectives. For e.g. A rational consumer tries to maximise his satisfaction (TU i.e. Total Utility) and the producer tries to maximize profit rational people make the best use of available opportunities.

1.5 PRINCIPLE 3 : RATIONAL PEOPLE THINK ON THE MARGIN

Marginal changes are small, incremental changes to an existing plan of action.

For e.g. a student who is pondering whether she should add one more study course next semester. As a rational decision maker, she will add the extra course as long as her marginal benefits of carrying extra course is greater than the marginal cost of doing that course.

Let us take another example. We know that marginal means additional or extra or one more or incremental etc. let us assume that a person is producing cricket ball. Now after producing one more cricket ball there is some additional cost and benefit. Let us say that the additional cricket bats is sold at r 50/- and I'ts cost is only Rs. 20/- Now here the person will produce the additional cricket ball because the profit is of Rs. 30/-. But on the other hand, if the price of cricket bat falls to Rs. 15, but the cost remain Rs. 20/- only. Now it is not correct to produce additional cricket ball because the cost of making additional ball (Rs. 20/-) is greater than the revenue which can be earned from it (Rs. 15/-).

The cost of additional ball is called as marginal cost (MC) and revenue obtained by selling extra ball is called marginal Revenue (MR) Now if MR > MC then there is a sense in producing additional ball.

Let us take an example of airline Company. It is about how much the airline should charge the passengers who fly standby, for e.g. Let us assume that the airline is flying a plane with 100 seats. It costs Rs. 50,000/- to the airline. Now the average cost of each seat is Rs. 500/- (Rs. 50,000/- 100/-). Now we might conclude that the airline should never sell a ticket for less than Rs. 500/-.

But a rational firm will always try to find out different ways to increase its profit. For that it will have to think at margin. Suppose, if the plane is about to take off with 10 empty seats and if the standby passenger will pay less for a seat. Here the

airline should sell the ticket at little low price. If the plane has empty seats then the cost of adding one more passenger is very less. Although the Ac is r 500/-. Yet the MC is very less. Here selling the ticket is profitable as long as the standby passenger pays more than MC.

1.6 PRINCIPLE 4 : PEOPLE RESPOND TO INCENTIVES

Incentive is something that induces a person to act. Incentives are the motivating forces. Incentives may be positive or negative.

Prices act QS incentives and signals changes in price act as incentives. For e.g., if price rises then it acts as an incentive to the seller to sell more. The firm may now divert the resources from the production of low price product to the production of high price product. It is done to get more profit. It is done to get more profit.

Another e.g. is of public policy towards seat belts and auto safety. In 1960s, Palph Nader's book. 'Unsafe at Any speed' influenced the congress to pass a law which required that the car makers must make the seat belts as standard equipment on all cars. The direct effect of this law is to save lives.

Wages also act_as incentives. Increment in wage may improve the efficiency of the labourer.

Societies where the disincentives to tax evasion are very high will produce honest tax payers. But if the incentives to tax evasion (i.e. non-payment of tax) were outweigh the incentives to being honest, then the same tax payer will become dishonest. If the returns on coming to the meeting on time are high then the people will be more punctual. But if people get high returns on coming late then those who come on time than the rational individual will decide not to be punctua (will come late).

Incentives to keep small size of family will lower birth

1.7 QUESTIONS

1. What is opportunity cost? Explain the significance of opportunity cost in decision making.
2. Explain 'People respond to incentives'.
3. Explain four principles of economics in individual decision making.
4. Explain how individuals face trade off in decision making.

Unit - 2

TEN PRINCIPLES OF ECONOMICS - II

Unit Structure:-

2.0 OBJECTIVES

1) To study how do people communicate with each other
2) To understand how does whole economy work
3) To study the relationship between increase in quantity of money and inflation
4) To study the relationship between inflation and unemployment

2.1 HOW PEOPLE INTERACT

It includes following principles.

PRINCIPLE 5 :- INDIVIDUALS AND NATIONS BENEFIT FROM EXCHANGE

This principle states that trade can make every one better off. As an individual consumer we consume a variety or products. But as a individual producer we cannot produce all the things which we consume. So we concentrate on the production of few and for remaining products we depend on others. Then we fulfill all our wants by entering into exchange.

Adam Smith's pointed out the basic propensity to truck, barter and exchange. Exchange gives you benefit let us take a 2 x 2 x 1 model i.e. 2 countries, 2 Commodities and 1 labour model.

	Commodity x	**Commodity y**
Country A	10	25
Country B	25	10

Suppose in country 'A' a laboures produces 10 units of com. x and 25 units of com. y and in country B, the labourer produces 25 units of com. x and 10 units of com y. Now instead of producing both the goods, country A should specialize in the production of commodity y and country B must specialse in the production of com. x and then they should exchange. In that case both the countries will get more of x and y.

Division of labour also results in specialization and increases the efficiency of labour. This will result in more production. This higher output will be exchanged to get some other thing which is less in supply.

2.2 PRINCIPLE 6 :- ORGANISATION OF ECONOMIC ACTIVITIES THROUGH MARKET

Most of the time it is more efficient to organize economic activity through market. Market provides exchange. A variety of goods and service are exchanged in the market. We come across different types of markets. For e.g.

Markets can be local or global :- Market for groceries, market for Marathi films in Maharashtra etc is local. Whereas market for crude oil is international.

Market can be Physical or Virtual : Physical market is where actual sell and purchase takes place for e.g. vegetable or fish market in a your local area. Similarly we get virtual market where buyers and sellers don't know each other directly (one to one) for e.g. selling on internet, teleshopping etc.

The organisation of economic activities depend on the economic system which prevails in a economy. An economic system is composed of people, institutions and their relationship to resources. It deals with the problem of scarcity and allocation of resources. We come across 3 economic systems.

a) Command Economy : Here the economy is controlled by the government or bureaucracy. The government, through the central planning makes all decisions about how, when, where, what, how much etc. to produce.

b) Market economy : Here the decision making activity is done by firm and individuals. The forms decide on how, when, where, what etc to produce and individuals decide on how, when, where, at what price to buy. The demand and supply decisions of individuals and firms are transmitted through the price system. in this system, self interest is the main motive.

c) Mixed Economy : It is a mixture of command and market economy.

Now In a market economy price mechanism plays an important role. Equilibrium is attained through price mechanism. Allocative Function is the most important role of the market. It brings efficient allocation of scare resources by the firm and the household. It is done through invisible hand and market forces. Market price acts as a signal to producers, whether to produce more or less.

Market also performs the creative function. It provides an environment for change that helps the expansion of production and consumption.

Thus, following are the important functions of market.

a) Market economy functions automatically
b) It is highly competitive
c) It gives incentives to producers to produce goods needed by consumers.
d) It provides an incentive to acquire useful skill.
e) It encourages o conserve resources.
f) There is a high degree of economic freedom. ie freedom to take economic decisions.

2.3 ROLE OF GOVERNMENT IN IMPROVING MARKET OUTCOMES

Problems of Market Economy: The markets do not achieve maximum efficiency in the allocation of scarce resources and governments feel it necessary to intervene to rectify this and other problems of the market. The conditions required for markets to perform their allocative and creative functions in an optimal manner are not likely to be satisfied in any economy. The important problems of a market economy are:

1) **Domination by few :** Competition between firms is often limited. A few large firms may dominate the industry. In these cases they may charge high prices and make large profits. Rather than responding to consumer wishes, they may attempt to persuade consumers by advertising. Consumers are susceptible to advertisements for products that are unfamiliar to them.

2) **Removes incentive to be efficient :** Lack of competition and high profits may remove the incentive for firms to be efficient.

3) **Unequal distribution :** There is nothing in the market that guarantees an equitable distribution of income in the society. Power and property may be unequally distributed. Those who have power and property will gain at the expense of those without power and property.

4) **Externality :** Presence of externality leads to market failure. Externalities arise whenever an individual or firm can take an action that directly affects others without paying for a harmful one. When externalities are present, firms and individuals do not bear all the consequences of their action. A very good example of an externality is the pollution emitted by a firm. When the firm do not pay for the pollution their cost would be low and hey would produce more. Presence of externalities leads to inefficient allocation of resources.

5) **Imperfect information :** The role of invisible hand in a market is based on the assumption that the market participants such as consumers, firms, government, workers, etc. have perfect information. They have full information about their opportunities, availability of goods, characteristics of goods and so on.

In reality the market participants are not perfectly informed. Imperfect information inhibits the ability of markets to perform the tasks that they carry out well when the information is complete.

The imperfect information posses the problem of asymmetric information Asymmetric information is a market situation in which one party in a transaction has more information than the other party. This can affect the firm's strategy. It can lead to market failures. For instance, asymmetric information can lead to poorly-functioning markets, that is, too much or too little of a good may be produced. Contracting can be difficult. Fraud is possible. Consumers may fear purchasing goods when they know that the seller knows more about the quality of a good than they do. The problem of buyer ignorance allows rogue traders to operate. The greater the information asymmetry between sellers and consumers, the greater the scope for deception and fraud. Under these circumstances rogue traders are more likely to thrive. For instance, take the case of builders; by cutting corners and using inferior materials lower quality builders can undercut higher quality builders. However, consumers, due to information asymmetry, may simply believe 'hat all builders are much the same and may go with the cheapest cost. As a result, reputed builders may be forced to cut their costs, by reducing the quality of their work, simply to stay in business. Thus, imperfect information leads to the market inefficiencies and market failures. Thus, governments have to make measures to help improve the information for consumers, investors and other market participants.

6) **Fail to provide public goods :** The public goods are those goods that the marginal cost of providing a pure public good to an additional person is zero and it is impossible to exclude people from receiving the good. In other words, public goods are characterized by two important features, that is, **non-rival in**

consumption and non-excludability. Non-rival in consumption means that the consumption of one individual does not reduce the benefits derived by other individuals. Thus, it would not be appropriate to exclude others from enjoying such benefits. The provision of such goods cannot be undertaken through market forces because market failure occurs.

Since the benefits of such goods are available to all, consumers will not voluntarily pay for those goods. This is the **free-rider problem** that accompanies public goods. Since it is difficult to exclude anyone from using them, those who benefit from the public goods have an incentive to avoid paying for them. Hence, the market failure occurs in the provision of public goods.

The examples of public goods are defence, law and order and so on.

2.4 PRINCIPLE 8:- MACROECONOMIC INSTABILITY

A market economy may lead to macroeconomic instability. There may be periods of recession with high unemployment and falling output, and other periods of rising prices.

Role of Government:-

Since there are many problems and failures of market economy we need government to correct market failures or at least to lessen them. The government has an important role to play in the economic development of a country, but not so much as a direct provider of goods and services, rather as an agency to correct market failures.

The government can play an important role to correct market failures and improve economic efficiency. The government intervention is needed in the economy.

i) To improve economic efficiency by correcting market failures.
ii) To pursue social values of equity by altering market outcomes.
iii) To pursue other social objectives by the provision of public and merit goods and at the same time prohibiting the consumption of merit goods.

According to R. A. Musgrave and P. B. Musgrave, government policy is needed to guide, correct, and supplement the market mechanism in certain respects. The operation of government includes not only financing but has broad bearing on the level and allocation of resource use, the distribution of

income, and the level of economic activity. These functions are carried out through government budget.

1) The government has an important role to play in development process. It is essential to correct market imperfections : Government regulation and measures will be needed to secure the conditions necessary for the functioning of market mechanism. Government has an important role at correcting market failures arising from imperfect information, imperfect competition, externalities and public goods. In the case of imperfect competitions, firms use their market power to raise prices and reduce output. The MRTP Act or Competition Policy Act of the government can help to maintain competitive force and restrain firms from abusing their monopoly power. Similarly, imperfect information can lead to inefficient functioning of product and labour markets. Government can set up regulatory authorities such as SEBI (Securities Exchange Board of India) to compel the firms to provide information about their financial conditions.

2) To correct problems of imperfect information : Asymmetric information refers to the imbalance of knowledge in a market between buyers and sellers. For example, in the market for bank loans the borrowers know more about their own circumstances than the lenders. As consequences, banks could make bad loans. (i.e. adverse selection) which makes them cautious and leads to credit rationing. It would be very costly for banks of obtain all the information about high-risk customers. In this case the government has to make provisions to make the banks o lend to high risk customers at concessional rates. Similarly, in the insurance market, the individuals know more about their health than the suppliers of insurance. Those who know they are prone to illness are more likely to take out insurance, and also more likely to be turned down. **Moral hazard** is present when the possession of insurance encourages the activity that is insured leading to resource waste and higher insurance premium to all. In this case where prob. and the government may have to regulate private insurance companies or to provide the service itself at a lower cost.

3) To provide legal structure : The contractual arrangements and exchanges needed for market operation cannot exist without the protection and enforcement of a governmentally provided legal structure. In this respect, government can provide necessary legal structure and ensure their implementation by the firms and other parties in the market.

4) To provide public goods and merit goods : Even if the legal structure is provided and barriers to competition are removed, the production or consumption characteristics of certain goods like public goods and merit goods are such that they cannot be provided through the market. In the case of public goods there is the free-rider problem due to its

characteristics. The important characteristics of a public good are : i) It is **non-rival in consumption**, that is, the consumption by one user does not reduce the supply available to others, ii) It is **non-excludable** i.e. users cannot be prevented from consuming the public good. As a consequence the market fails in the provision of public goods. Thus, government has to ensure their provision. The important public goods that are very important for economic development are defence, law and order, and the provision of basic infrastructure such as roads, sewers, clean water and so on.

On the other hand merit goods are the goods that the government consider to be good for the people, for example education, health, etc. if they are provided by the market people may under consume such good. Thus they having to be subsidised or provided free by the government. Merit goods have to be provided by the private sector as well as by the state.

5) To correct the problems arising from externalities : There will arise problems of "externalities" which lead to "market failure". This requires correction by the government either by way of budgetary provisions, subsidy or taxation. In the case of goods with positive externalities (like research) the firms produce too little of goods and in the case of goods with negative externalities (such as that generate pollution) the firms production of goods with positive externalities. Most infrastructure projects, such as transport facilities, power generation, irrigation schemes and so on, and social, capital, such as education and health facilities come under this category. They have greater social returns than the private returns and therefore they will be underprovided from a social point of view unless the private providers in the market are compensated or subsidised.

The activities with negative externalities (those that pollute the environment) impose costs on the society that are not paid for by the provider and hence the market oversupplies those goods from a social point of view. Government can curb negative externalities through regulation or taxation.

6) To correct unequal distribution of income and wealth : The distribution of income and wealth which result from the market system and form the transfer of property rights through inheritance is likely to be unequal. In the market system, individual's incomes are related to their ownership of assets and their productivity. In most of the countries, wealth is concentrated in the hands of the few. In many countries inequalities are linked to inheritance. The government has to take variety of programs aimed at the poor. These programs aimed at redistribution of income from the rich to the poor through welfare programs and taxation policies.

7) To provide an institutional environment : The state has to provide the appropriate institutional environment for markets to flourish and operate efficiently including the maintenance of macroeconomic stability. In this sense the markets and governmental intervention are complementary. Economic, social and sustainable development is not possible without an effective state. State should act as partner and facilitator than director. State should work to complement markets, not replace them. Good economic policies including the promotion of macroeconomic stability is needed for sustainable growth and the reduction of poverty.

8) To secure important social objectives : The market system does not necessarily bring high employment, price level stability, socially desired rate of growth, poverty eradication and economic development. Measures should be taken to improve health and nutrition in developing countries. The living standards of the poor has to be improved by providing clean water, adequate sanitation and ensuring basic amount of food to the poor. Government policies are needed to secure these objectives.

9) To provide social security : The market system cannot provide the social security to its citizens, suffering from unemployment, sickness, old age disability and so on. The government has to step in to provide social security to the citizens.

10) To guide the use of natural resources : The market mechanism cannot bring about appropriate allocation of natural resources for the present and future generations similarly, the market mechanism may not be able to control the pollution of environment. Therefore, consumption of natural resources, pollution control, etc. should be guided by government policies.

It should be noted, while the government policies can improve on market outcomes, government measures always may not succeed. This is because government policy is not made by angels but by a political process that is far from perfect.

2.5 PRINCIPLE 9 :- GROWTH IN THE QUANTITY OF MONEY AND INFLATION

Inflation is a situation of a continuous, uninterrupted, long term increase in price level.

It is a situation of too much of money supply chasing too few goods. This can be explained with an example we wish to overcome the problem of poverty. We think that the people are poor because they do not have enough money. Then people might think that let's ask the central bank (RBI in India) of the country to print new notes and distribute them amount people. But the problem is that when they have enough money to buy

goods, and if the Quantity of goods remains constant then the prices will start rising. It shows that people have enough money to buy goods but goods are not available. This is a case of too much money, chasing too few goods. This leads to inflation i.e. price rise.

But of course if this higher money supply is used to bring full utilisation of unused resources then the production will increase.

But generally mere increase in money supply leads to price rise.

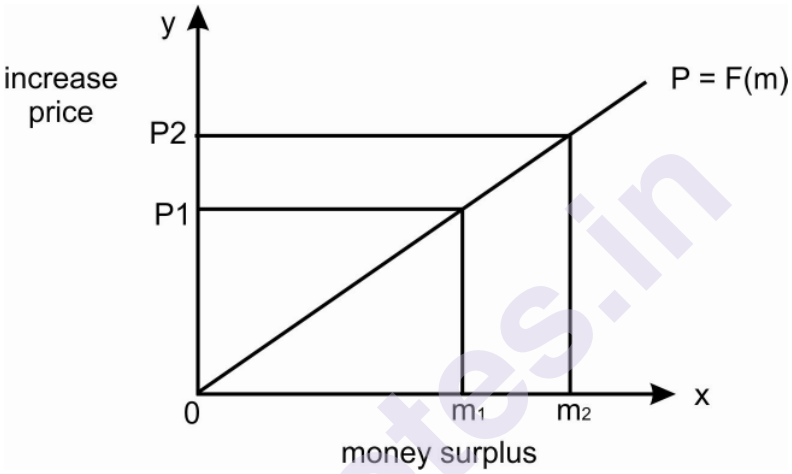


Figure 2.1

2.6 PRINCIPLE 10 :- INFLATION AND UNEMPLOYMENT TRADE OFF

Inflation – Unemployment Tradeoff is a situation where increased employment is accompanied by increased inflation and lower inflation is accompanied by lower growth.

People wish to have less inflationand less unemployment is less then inflation is high and when unemployment is high, inflation is less. This is explained in the Phillips curve.

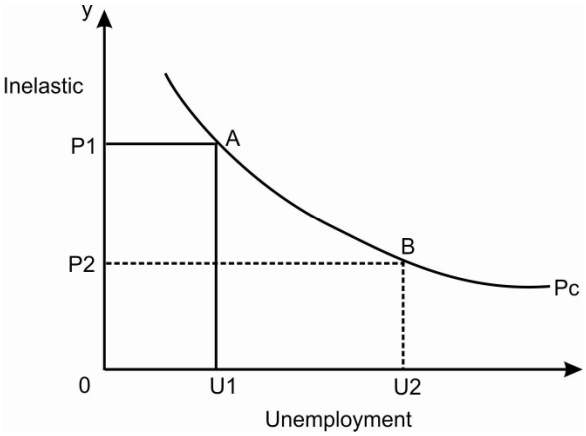


Figure 2.2

At point 'A' unemployment is less. It is only OU1. It means more people are employed. They get income. They get income. Their purchasing power and so demand for goods increases. As this is not matched by the supply of goods, we get high price situation (OP1) i.e. inflation.

If unemployment is high i.e. OU2 then a large number of people do not have sufficient income – thus they have less purchasing power – so demand for goods is less – prices fall (OP2) – so less inflation.

Similarly if prices are high (P1) i.e. if there is inflation then the profit of producer is high – so high investment – so more employment and less unemployment (OU1).

But if prices are low (OP2) i.e. if inflation is low – low profit – low investment – less demand for labour and other resources – so low employment – i.e. high unemployment.

2.7 QUESTIONS

1) Explain 'trade is good for all' by giving example.
2) Explain the role of government in improving market structure.
3) Write notes on
   a) Private market and role of government
   b) Inflation and unemployment
   c) Market failure

Module 2

Unit - 3

ECONOMICS AND ITS METHODS

Unit Structure:

3.0 OBJECTIVES

- To study the methods of economics
- To understand the importance of assumptions
- To study the circular flow of income and production possibility curve.
- To study the difference between micro and macro economics
- To study difference between positive economics and normative economics.

3.1 SCIENTIFIC METHOD

The economy is generally a very complex organisation. Systematic thinking about the economy requires a great deal of mental discipline. Economists use a set of specialised tools and techniques to analyse the economy.

Economics is a science. The essence of science is to use scientific method. The process of the scientific method involves making hypothesis, deriving predictions from them as logical consequences, and then carrying out experiments or empirical

observations based on those predictions. A hypothesis is a conjecture, based on knowledge obtained while seeking answers to the questions.

The scientific method involves identifying a problem, gathering data, forming a hypothesis, testing the hypothesis and analysing the results. In economics, extensive testing and observations is required because the outcome must be obtained more than once in order to be valid.

Following are the important steps in scientific method.

1) Identify the problem : This is the first step in economics. We have to identify the problem first. It focuses on the area of work. It tries to identify what the economist is studying. For eg. An economist may find that his country is experiencing rapid rise in prices. Then from this he can develop a theory of inflation. The theory may assert that the inflation arises due to rapid increase in money supply.

2) Collecting or Gathering Data : Scientific method needs o collect data to get the solution for the problem collected data will be used in the study. For e.g. The economist can collect data on prices and money supply in that country.

3) Framing the Hypothesis : Hypothesis is simply a prediction i.e. what the economist think about the outcome of his study. As per our example the hypothesis can be that increase in the quantity of money supply leads to rise in prices.

4) Test the Hypothesis (Conducting Experiments) : It is not easy to undertake experiments in economics. It is difficult to carry out experiments in economics. Here economist can make use of data. He can also take note of historical data from different countries in the world. Later on it can be analysed statistically.

5) Analyse the result : By analysing the results of the statistical study the economists can come to the conclusion whether his hypothesis is right or wrong. A negative result does not mean the study is over. It just states that more work is required.

3.2 ROLE OF ASSUMPTIONS

Assumptions play an important role in economic models. Assumptions are important to economic analysis. Some assumptions are used to simplify a complex analysis into more easily manageable parts. Other assumptions are used as control conditions that are subsequently changed to evaluate the consequences.

Assumptions from the foundation upon which the theories, models and analysis are constructed. They simplify and highlight the problem or topic under study. They make it possible to analyse the complex set of events. The art of good economic modelling requires the economist to have the skills to choose he correct set of assumptions. While assumptions are not required to be realistic, they definitely need to be carefully chosen.

Every economic theory is based on a set of assumptions. Assumptions are necessary for constructing economic laws or principles because they help to reduce the complexities of real world and give simplified models to explain economic laws. Therefore, economic laws are statement of certain human tendencies which mean that human tendencies which mean that human beings tend to act in a certain way under certain circumstances or assumptions. In the absence of assumptions, formulation of reliable economic laws would be difficult.

- Assumptions are initial conditions made before a micro or macro economic analysis is built.
- Sometimes assumptions are used for simplification.
- Assumptions can be used to isolate the effects of a change in one variable on another.
- Many assumptions are criticised for being unrealistic.

Economic assumptions are based on certain assumptions. These assumptions are classified into following four categories.

1) Psychological or Behavioural Assumptions :- These assumptions are about the individual human behaviour. They refer to the rational behaviour of individuals like consumers and producers for e.g. Rational consumer tries to maximise his level of satisfaction and a rational producer tries to maximise his level of profit.

2) Institutional Assumptions :- These assumptions in economic theory relate to social, political and economic institutions. All economic theories have been developed on the assumption of a capitalist economy in which the means of production and distribution are privately owned and used for personal gain. It assumes stable government and certain socio-economic institutions which include private property, economic liberalisation, competition and the price theory. The government's role is to enforce the "rule of the game" in the market. These assumptions are the basis of microeconomic theories.

3) Structural Assumptions :- These assumptions relate to the nature, Physical structure or topography of the state of. In the short run, economic theories are based on the assumption of given resources and technology.

These assumptions relate to a static economy where there is movement but no change. But in the long run, labour, capital and other resources and technology are assumed to change in certain theories. They relate to a dynamic theory. The structural assumptions are used in production functions of various types and in growth theories. Most economic theories are based on the assumption of static economy.

4) Ceteris paribus Assumption :-This is another important assumption in economics. Ceteris Paribus means other things being equal. This is used to simplify reality. In order to consider the impact of one factor at a time, the other factors are held constant. In reality or real world, there may be a number of factors operating simultaneously. If all of them are included in the analysis, then it would become complex. Thus we assume certain things to remain constant. for e.g. In low of Demand we state that. When price rises, demand falls and when price falls, demand rises. But we assume that the income, taste, preference, habit etc. remains constant. If we allow these factors to change then the analysis will become complicated.

$$D_x = f\left(P_x, P_{sub}, Y, T, P.H, ...\right)$$
$$D_x = f\left(P_x\right)$$
$$P_x \uparrow D_x \downarrow P_x \downarrow D_x \uparrow$$

3.3 ECONOMIC MODELS

An economic model is a simplified version of reality that allows us to observe, understand, and make predictions about economic behaviour. The purpose of a model is to take a complex, real-world situation and pare it down to the essentials. If designed well, a model can give the analyst a better understanding of the situation and any related problems.

Economists use models as the primary tool for explaining or making predictions about economic issues and problems. Economic models can be represented using words, mathematics, graphs, flowcharts, diagrams etc.

Let us study two basic models.
1) Circular Flow of Income.
2) Production Possibilities Curve.

3.3.1 Circular flow of income:-

The circular flow of Income economy consists of two groups Viz Household and Firm,

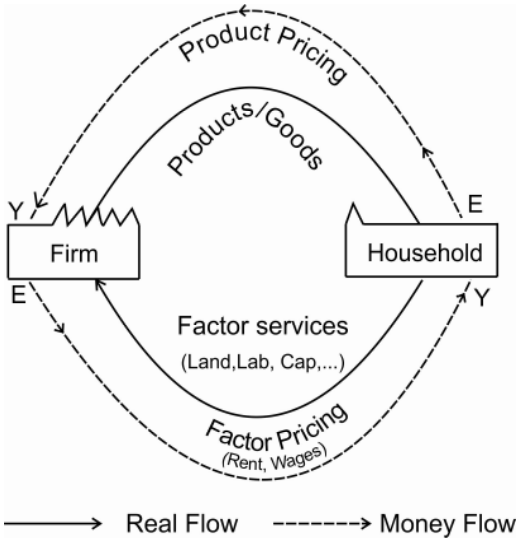


Figure 3.1

To begin with let us assume that the household sector gives services to the firm sector (factor services). These are the services given by land, labour etc. now, firm makes use of these services and products (goods) are produced. These products are given to the household sector. This is a real flow where services are exchanged for goods and goods for services.

Now when the factor services are given by the household sector to the firm sector then the firm sector gives them their rewards. For e.g. land gets rent, labour gets wages and so on (Factor pricing). Similarly when the firm sector then the household sectors pays the prices of products (product pricing). This is called as Money flow. In this was expenditure of household is income to the firm and expenditure of household is income to the firm (one man's expenditure is another man's income).

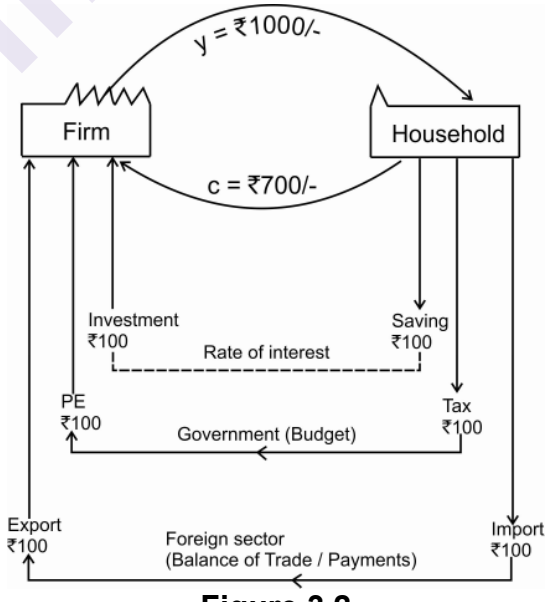


Figure 3.2
Circular flow with saving, Investment and Government

We come across say three types of leakages viz. saving, tax and imports (Payment). But these leakages can be corrected in the economic system itself such as the saving leakage can be corrected as investment through financial sector and rate of interest. When savings take place, the money goes out of circulation. We can inject it back in the form of investment.

Tax leakage is corrected in the form of public expenditure through Budget (government) when we pay the tax, once again the money goes out of circulation. Money leaves individuals pockets and goes to the government (tax revenue). Later, the government spends that money on society itself in the form of public expenditure.

Similarly when we import goods from abroad, the money goes out of the country (outflow). But we can bring it back through export earnings (inflow). It is done through foreign sector.

3.3.2 Production possibilities curve (PPC)

PPC is a curve which shows various combinations of the amounts off two goods which can be produced with the given resources and technology. A PPC illustrates several economic concepts such as allocative efficiency, economies of scale, opportunity cost, productive efficiency and scarcity of resources. Scarcity of resources is the fundamental economic problem faced by all societies. The economic problem arises because our wants are unlimited and the resources at our disposal to satisfy these wants are limited.

Every economy faces trade-offs. If resources or factors of production are used to produce a particular commodity then fewer resources are available for producing other commodity. For e.g. if we spend more money on education then less amount will be available for public health services (If we wish to achieve both).

Let us assume that the given resources, man power, technology, organisational skills are used to produce say the consumer goods and defence goods. It is explained in the following table.

Table 3.1 : Production Possibility Schedule

Production Possibility Combinations	Consumer Goods (in thousand units)	Defence Goods (in thousand units)
P	300	0
Q	250	1
R	200	2
S	150	3
T	100	4
U	50	5
F	0	6

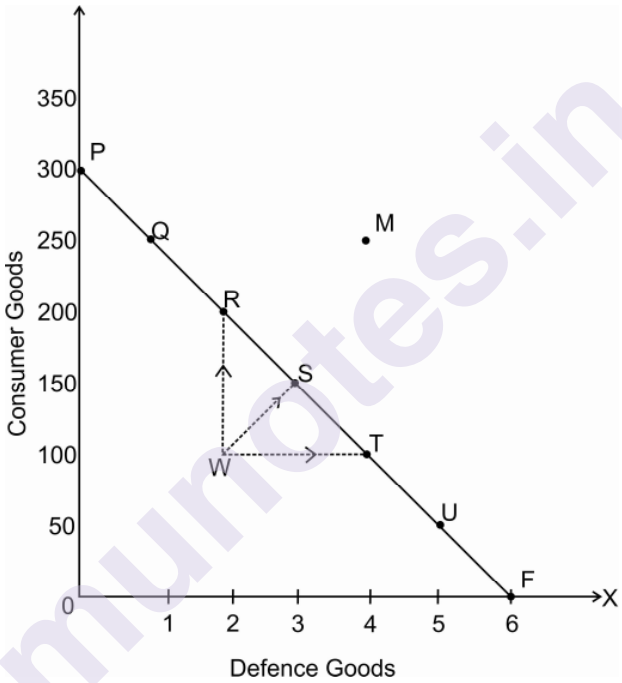


Figure 3.3

In the above diagram we see that if all the productive resources are used to produce the defence goods then we can produce 6 units of defence goods (F) and none of consumer goods. This is one extreme. Similarly, if all the productive resources are used to produce consumer goods then we can produce 300 units of it but zero of defence goods (P). This is another extreme. If we join these two points then we get a curve PF known as PPC. All the points on this curve are within our given resource.

Let us take p point below the PPS such as w. at this point the economy will have 2 units of defence and 100 units of consumer goods. It shows underutilisation of resources. Now if we use the resources optimally then we can produce either more of defence goods (T) or more of consumer goods (R) or few more of defence and consumer goods (S). This is possible by shifting on the PPC. Any point above the PPC, like M, is beyond the capacity

of the country as it requires more productive resources than available.

PPC has 3 important aspects of production.

a) It explains scarcity of resources. It is shown with the point outside PPC (Point in).
b) It explains the concept of choice to choose among the different attainable combinations of R and T.
c) It explains opportunity cost i.e. the cost of acquiring more of one good by sacrificing the other good.

Shift in PPC

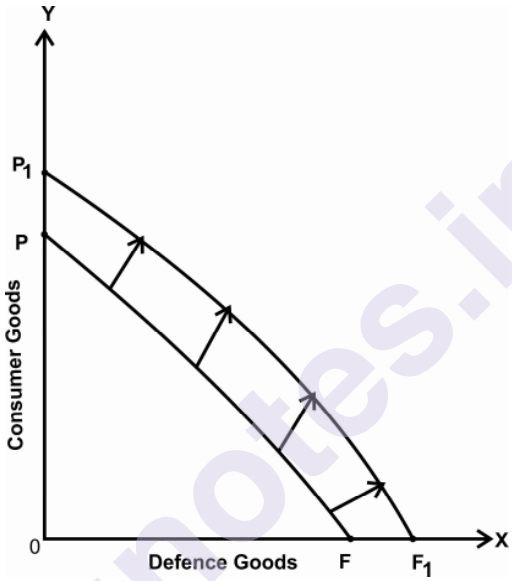


Figure 3.4

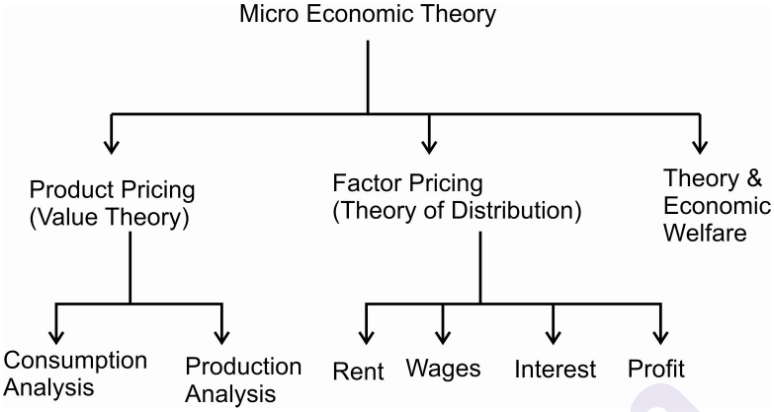
PF is the original production Possibility Curve, with given resources. It is achieved with a given technology and skill. But if we bring a change in technology and skill then with given resources we get a shift in PPC from PF to PF1. It is also possible due to innovation. The PPC shifts outward. It shows a larger combination of the two goods (defence and consumer goods).

3.4 MICRO ECONOMICS AND MACRO ECONOMICS

Economics is a science which deals with the problem of efficient allocation of scarce resources among alternative uses. The subject matter of economics is divided into two parts namely Microeconomics and Macroeconomics. Terms coined by French economist Ragner Frisch.

3.4.1 Micro Economics :- The term Micro economics is derived from Greek work 'micros' meaning small. Thus micro economics deals with the behaviour of individual economic units such as individual consumer or an individual producer. Micro means

millionth part. It deals with a small part of national economy. Micro economics gives a microscopic picture of the economy. It is a study of particular firm, particular households, individual prices, wages, income. Thus micro economics is a part of a system and not the whole.



Basic Assumptions of Micro-Economics

1) Economic Manner :- Micro economic assumes that the individual behaves in an economically rational manner. A rational consumer tries to maximise his level of satisfaction (within certain constraints like income and prices) and a rational producer tries to maximise his profits (with given investment outlay and factor prices.)

2) Mobile Resources :- Economic units or say factors of production are free to move. There are no restrictions on the mobility of the economic units for e.g. labourer is free to move from one occupation to another or owners of capital are free to invest their funds in different production activities, which are profitable.

3) Free flow of Information :- Micro economics assumes free flow of complete and reliable information about market conditions and varied opportunities. This helps people to make rational decisions.

4) Diminishing Returns :- Micro economics takes note of diminishing returns – say diminishing marginal product in production or diminishing marginal utility in consumption. It shows that additional benefit from additional homogenous commodity goes on diminishing (Law of Diminishing Marginal Utility)

5) Divisibility :- Micro economics assumes that goods and labour forces are divisible.

Uses of Micro Economics

1) **Micro** Economics provides some very important tools for formulating several economic policies and understanding some major economic issues. For e.g. the price theory helps us to understand that how the tax burden of an indirect tax is shared between buyers and sellers.

2) Micro economics is useful in the formulation of economic policies which are essential for the promotion of economic welfare. For e.g. price policy, tax policy, exchange rate policy etc.
3) Micro economic theory explains the composition or allocation of total production. For e.g. why more units of some commodities are produced than others.
4) Micro economic theory helps us to understand the working of free private enterprise economy.
5) It explains the working of price or market mechanism. It tells us that how goods and services produced are distributed amoung various people.
6) It helps us in finding out the relative prices of various factors and products.
7) Micro economics is useful in constructing behavioural models which are useful in understanding complicated and confusing phenomena.
8) Micro economics is applied to the various branches of economics such as public finance, international economics etc.

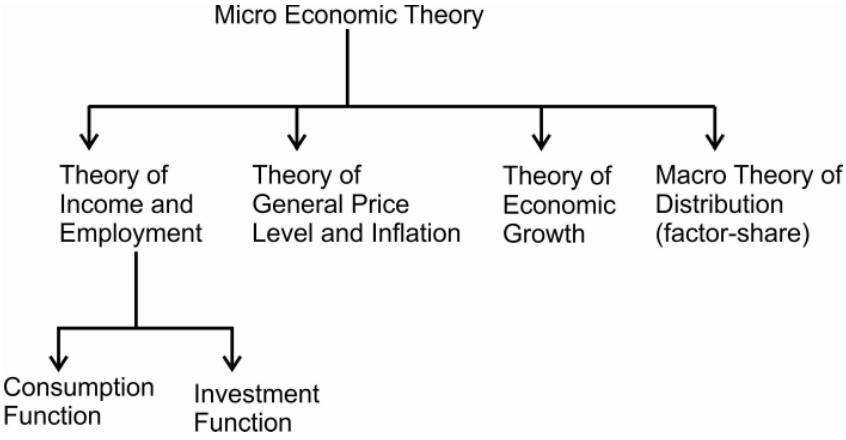
Limitations

1) It is based on unrealistic assumption of full employment.
2) It does not focus on the economy as a whole. It takes care of individual units only.
3) Description of a large and complex universe of facts like the economic system is impossible in terms of individual items.

3.4.2 Macro Economics :-

The world Macro Economics is derived from Greek word 'Makros' meaning large or aggregate (Ragner Frisch). Macroeconomics analyses the behaviour of the economy as a whole, for e.g. study ofNational Income, General Price Level, National output, Business cycle etc. The credit for the development of Macroeconomic approach goes to J. M. Keynes.

Macroeconomics deals with economic affairs 'in the large'; it concerns the overall dimensions of economic life. It studies the character of the forest and not only a tree like Micro economics.



Uses of Macro Economics

1) Macro economic analysis helps us to get an idea of how a complex economic system functions
2) It is of great significance in formulating suitable economic policies for eg. Controlof inflation, promotion of economic growth etc.
3) It helps us in understanding the functioning of an economy as a whole.
4) It helps us in studying phenomenon of trade cycle or business cycle.
5) It helps us to evaluate the resources and capabilities of an economy. It will help us to increase NI, output etc.
6) Macro economics helps us to study the problems related to the measurement of NI and related concepts
7) It helps us to analyse the problems arising from frequent changes in the value of money. It helps us to understand the effects of inflation and deflation.
8) It helps us to use monetary, fiscal policies for the economy as a whole

3.5 WHAT DO ECONOMISTS DO?

Models used by economists can be broadly classified into two groups : a) Microeconomic models, which studies, how households and firms make decisions and the way interact or b) Macroeconomic models, which look at the economy as a whole. Microeconomic models study decision making at the level of the individual or the firm, while macroeconomic models study economic aggregates like national income, investment etc. economists can play two distinct but often related roles. One role is of an analyst. For example, an economist may use an model to analyse a situation. An economist may use his model to analyse how a change in the interest rate charged by the American Federal Reserve will impact the investment level in India. As another example, an economist might use his model to analyse how the introduction of UBER taxis in Mumbai will affect the wages of drivers employed on private cars. When economists use their models to explain the world in this fashion, they are in the role of scientists. On the other hand, they might want to use their models for making specific recommendations. For example, should there be a subsidy on kerosene in order to reduce the incidence of poverty is a policy question. When economists are addressing policy issues of this kind, they are being policy advisors. When economists analyse a situation as scientists, they are describing the world “as it is”. Statements that describe the world as it is, are called “positive statements”, while statements that describe how things should be, are called “normative statements”. When economists are describing the world as it is, they are doing positive

analysis while when they are prescribing policy measures, they are engaging in normative discussion. A lot of times, economists do not always agree with one another. One of the reasons that they may disagree a great deal is that they may be using models that are widely different. A model is an abstract representation of reality. When one is abstracting from reality, one is given particular importance to some factors while relegating other factors into the background. The features of the real world that different economists chooses to ignore (or give importance to) may be different, resulting in different models. For example, suppose two economists are studying the determinants of hours worked by a landless agricultural worker in rural India. One of the economists might decide to focus on the wage rate obtained by the worker while another may focus on the fact that because the worker belongs to a backward caste, he or she is required to work rather hard. The first model gives particular importance to the wage rate while the second model gives particular importance to the social status of the worker. Because the two models are so widely different, the two economists are bound to disagree. Sometimes, economists disagree because they have different normative positions. For example, some economists might argue that taking money away from the rich by taxing them and redistributing it among the poor is valid because the income losses of the rich are less hurtful than the benefits of the income gains of the poor. This is a specific normative position, because we are making an explicit normative value judgement here. The value judgment is that it is OK to hurt the rich in order to benefit the poor. Another economist may disagree with this value judgment. Such differences in value judgements are also another reason why economists disagree among each other.

3.6 POSITIVE ECONOMICS AND NORMATIVE ECONOMICS

Economics deals with the economic problems. Economic problem arises due to unlimited wants and scarce resources. The study of economics leads to deriving economic laws and their application to solve economic problems. It helps the government to devise economic policy. In order to understand this role, it is necessary to study positive and normative economics.

3.6.1 Positive Economics :

Positive economics deals with the objective or scientific explanations of the working of an economy. It is concerned with explain what it is. Positive economics is defined as a body of systematized knowledge relating to or concerning what is. It is concerned with how the economic problems facing the society are actually solved.

In positive economics we derive generalization, theories and laws following certain rules of logic. These theories, laws and propositions explain the cause and effect relationship between economic variables. Positive economics deals with statements that can be shown to be wrong or correct by appeal of facts. It attempts to describe and analyse the existing situation, rather than suggesting how to change it.

Classical and neo-classical economists, considered Economics as a positive science To Lionel Robbins, economics is a positive a pure science. It is purely analytical. Its purpose is to describe and not be prescribed. It is a light-bearing science and not a fruit bearing one. To Robbins, economics is neutral between ends. The economist is not concerned with ends as such. He is concerned with the way in which the attainment of ends is limited. The ends may be noble or ignoble, good or bad, but if the attainment of one set of ends involves the sacrifice of others than it is an economic problem. Economics is morally colorless concept. Economics is morally colorless concept. Economics studies facts as they are and does not pass any value judgements.

The aim of positive economics is to explain how society makes decisions about consumption, production and exchange of goods.

3.6.2 Normative Economics :- Normative economics offers prescription or recommendations based on personal value judgements. It is concerned with what should be or what ought to be or how the economic problems facing the society should be solved Normative economics explains us what it ought to be. It has value judgements and tells us what ought to be.

Normative economics is a regulating science is a body of systematized knowledge relating to criteria of 'what ought to be'. The objective of normative economics is the determination of ideals. It is also called as prescriptive economics as it explains what should be the things.

Questions like whether the government should give money to the poor, whether the budget deficit should be reduced by higher taxes or lower spending, etc can be solved by value judgements rather than facts. Economists being a social scientist cannot overlook the social aspects of the problem. Problems like inequality of income, poverty, unemployment are to be dealt with normative approach. Determination of wage rate cannot be entirely left to the market forces (Demand and supply) as desired by the positive approach. To avoid exploitation of labourers the normative approach in the form of say minimum wage rate is essential.

Economists not only explain how economy actually operates but they also suggest how it should operate. It is essential for the problems of national economy.

It is said that no two economists ever agree. They may agree on a positive economic analysis of how the economy / world / system work. But there is lot of scope for disagreements on normative recommendations based on differing value judgements. Thus, there is a great deal of disagreement between economists in normative economics.

	Positive Economics	Normative Economics
1)	Concerned with 'What is' or What it is	Concerned with 'What ought to be'
2)	It describes the Fact	It deals with the desirability of the facts
3)	It is not concerned with value Judgements	It is based on value judgements
4)	It is purely objective in Approach	It is subjective in consideration

3.7 QUESTIONS

1) What is scientific method?
2) Explain the difference between positive economics and normative economics.
3) Discuss the circular flow income.
4) Explain the difference between micro and macro economics.
5) Explain production possibility curve.
6) What are economic models?

❖❖❖❖

Unit - 4

TOOLS OF ECONOMIC ANALYSIS

Unit Structure:

4.0 OBJECTIVES

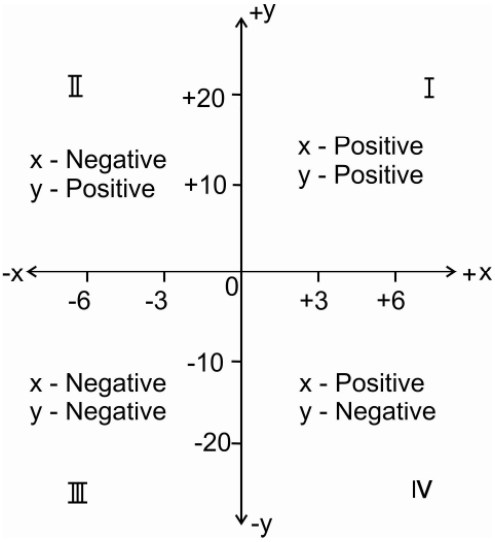
- To understand how to derive the graph
- To study the concepts of slope and curve
- To study the functional relationship

4.1 INTRODUCTION

The tools of economic analysis are found in the realm of mathematics. Mathematics is being profusely used in modern economic analysis. Diagrams, graphs provide us with visual impact and help to understand and learn economics.

4.2 GRAPHS

Graph is the most commonly used tool to present the functional relationship between two variables. The use of graph offers a better understanding of the economic generalizations. This is because it presents a visual picture of an abstract idea. Graphs can be drawn on a plain paper. But for greater accuracy and precision a graph paper is used.



X is a horizontal axis and y is the vertical axis. The space is divided into for Quadrants

I. Shows both x and y are positive
II. Shows x negative, y positive
III. Shows x negative, y negative (both are negative)
IV. Show x positive, y negative e

4.3 SLOPE

4.3.1 Positive slope :- It gives us the direct relation ship between two economic variables. For e.g. the graphical presentation of a supply curve which gives us a direct relationship between price and supply. (Change in price is cause and change in supply is effed). Price is shown on the y-axis and supply on the x-axis

$$Slope = \frac{\Delta y}{\Delta x} = \frac{\text{Change in value of vertical axis}}{\text{Change in value of horizontal axis}}$$

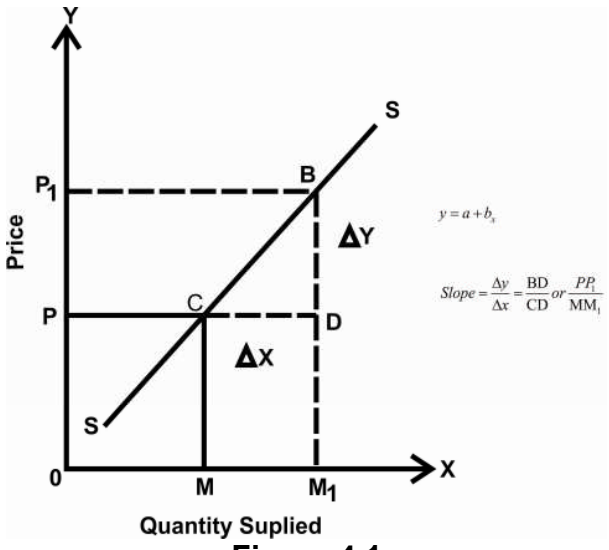


Figure 4.1

Since both BD and CD are positive there is a positive slope. It is s linear equation y = a + bx

4.3.2 Negative slope – It gives us indirect or inverse relationship between two economic variables. For e.g. graphical presentation of a demand curve which gives us inverse / indirect relationship between price and demand. Price rises, demand falls and price falls, demand rises.

$$Slope = \frac{\Delta y}{\Delta x} = \frac{\text{CD}}{\text{DB}} or \frac{PP_1}{MM_1}$$

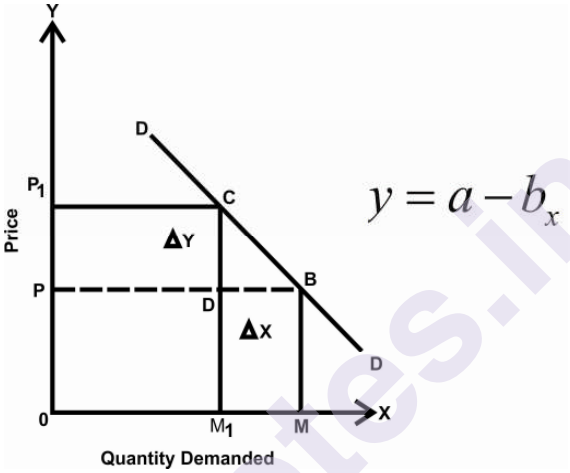


Figure 4.2

Slope of a straight Line : (Rise over Run)

A slope can also be defined as the rise over run. The rise is the vertical distance whereas the run is the horizontal distance between two variables.

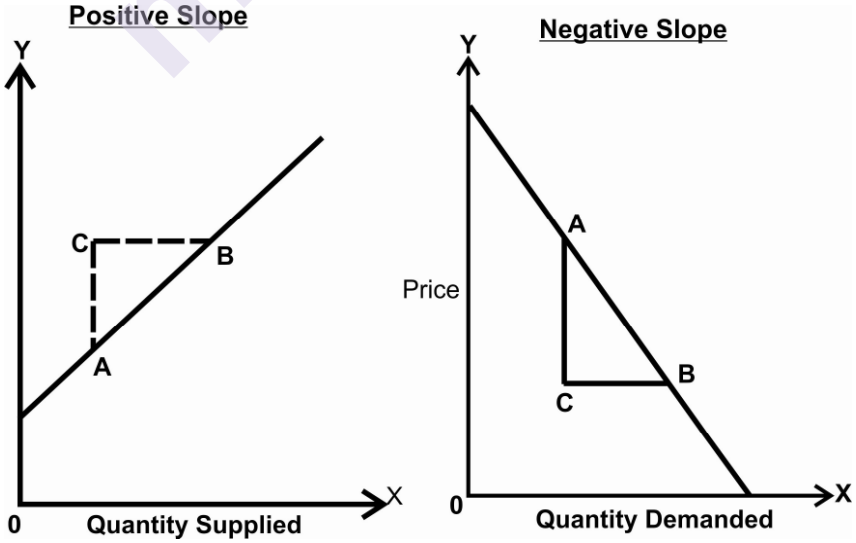


Figure 4.3

Rise is the vertical distance between A and C
Run is the horizontal distance between C and B

AB is measured as $\frac{AB \rightarrow Rise}{CB \rightarrow Run}$

4.4 STRAIGHT LINES AND CURVE

The lines can be divided as linear (Straight line) and non-linear (curve)

Lines are simple and express a proportionate change or relationship between two variables. Where as curves are complex in nature and they explain disproportionate relationship between two variables.

4.4.1 Straight Line : If the expression of a function is linear using first degree of variables we get a straight line. The function for straight line is expressed as follows.

Y = x
Y = 3x
Y = 0.25 x and soon.

Now if we plot the points and a graph of theseequation we will get three straight lines passing through the origin.

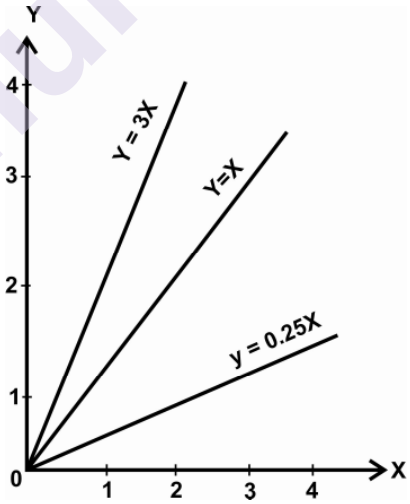


Figure 4.4

If we get the equation y = x and y = a + b x the we get two straight lines parallel to each other but with different intercept. For e.g.

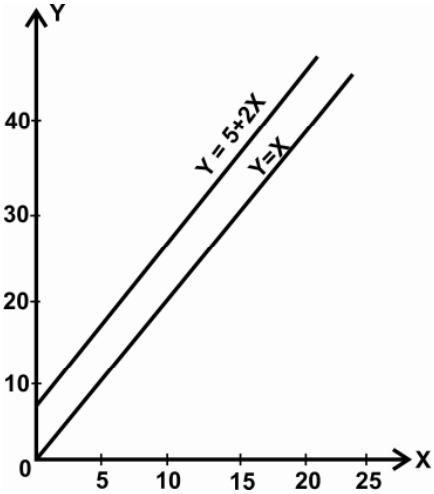


Figure 4.5

4.4.2 Curves :- When the expression of a function is non-linear then we get a curve. a curve is used to show a complex relationship between the variables represented by several points on a graph. The slop goes on changing from point to point. Thus it represents different marginal value.

Let us take an example of an indifference curve which slopes downwards from left to right.

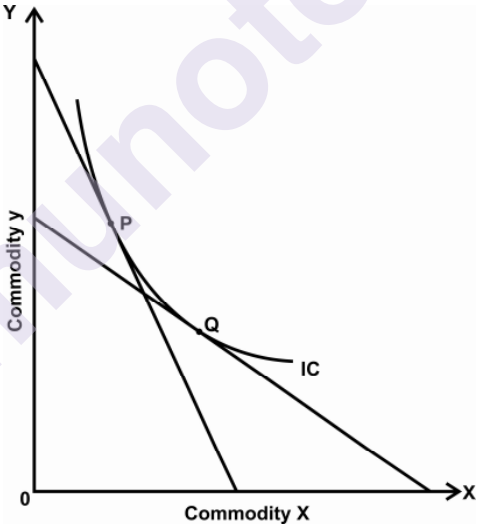


Figure 4.6

Points P and Q show different combinations of commodity x and y. To get more units of one commodity we have to give up / part with some units of other commodity.

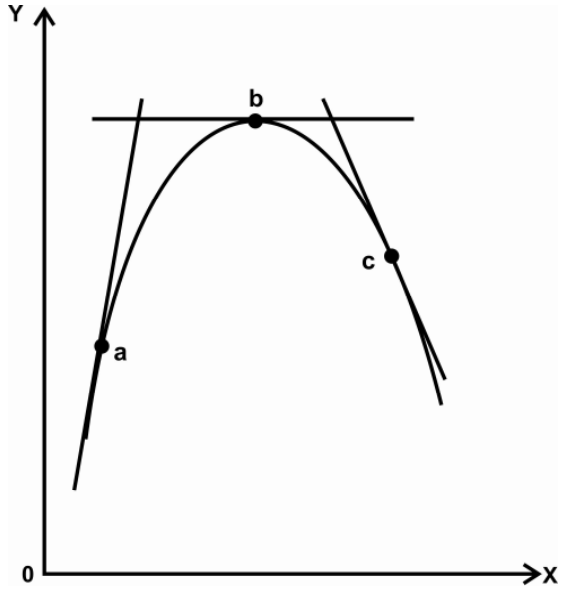


Figure 4.7

Let us now take a case of direct function.

Function is a numerical relationship between the variables. Out of the two variables, one variable is a dependent variable and other is independent variable for e.g. = y = f (x) i.e. y is dependent variable and x is independent D = f (p) or s = f (p)

4.5 DIRECT FUNCTION

Suppose x and y are both sets that contain number. Let x be the domain of the function and y be the range of the function. Let us assume that y = 2 + 3 x X. now assume that x contains elements of 1,2,3,4,5,6.

X	y	Increase / Decrease
1	2 + 3 x 1 = 2 +3 = 5	
2	2 + 3 x 2 = 2 +6 =8	3
3	2 + 3 x 3 = 2 +9 =11	3
4	2 + 3 x 4 = 2 +12 =14	3
5	2 + 3 x 5 = 2 +15 =17	3
6	2 + 3 x 6 = 2 +18 =20	3

The graphical presentation is as follows.

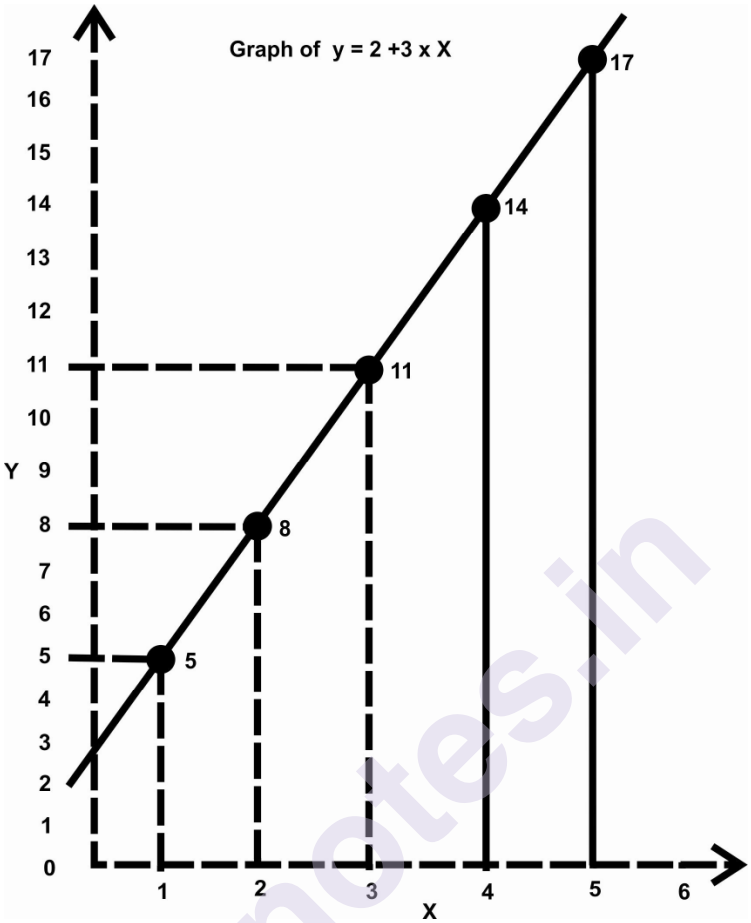


Figure 4.8

Let us take another example.
Let y = 6 – 2 x X. Value of X is 0,1,2,3,4,5,6,7,8,9,10

X	Y	Increase / Decrease
0	6 – 2 x X = 6 – 2 x 0 = 6 – 0 = 6	
1	6 – 2 x X = 6 – 2 x 1 = 6 – 2 = 4	2
2	6 – 2 x X = 6 – 2 x 2 = 6 – 4 = 2	2
3	6 – 2 x X = 6 – 2 x 3 = 6 – 6 = 0	2
4	6 – 2 x X = 6 – 2 x 4 = 6 – 8 = – 2	2
5	6 – 2 x X = 6 – 2 x 5 = 6 – 10 = – 4	2
6	6 – 2 x X = 6 – 2 x 6 = 6 – 12 = – 6	2
7	6 – 2 x X = 6 – 2 x 7 = 6 – 14 = – 8	2
8	6 – 2 x X = 6 – 2 x 8 = 6 – 16 = – 10	2
9	6 – 2 x X = 6 – 2 x 9 = 6 – 18 = – 12	2
10	6 – 2 x X = 6 – 2 x 10 = 6 – 20 = – 14	2

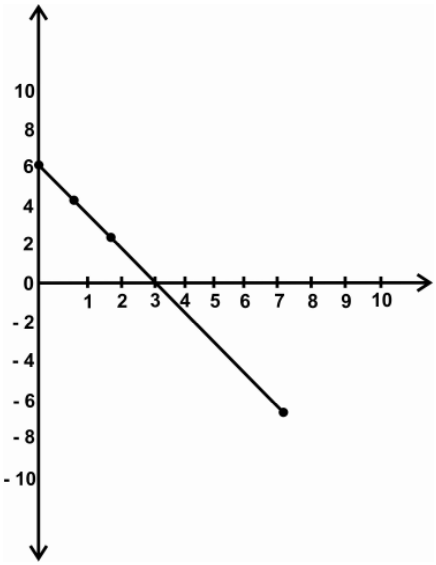


Figure 4.9

Now let us take a case of function which is not constant
Y = 2 + 3 xX 2, Let X = 0, 1, 2, 3, 4, 5

x	y
0	2 + 3 xX 2 = 2 + 3 x (0)2 = 2 + 3 x 0 = 2 + 0 = 2
1	2 + 3 xX 2 = 2 + 3 x (1)2 = 2 + 3 x 1 = 2 + 3 = 5
2	2 + 3 xX 2 = 2 + 3 x (2)2 = 2 + 3 x 4 = 2 + 12 = 14
3	2 + 3 xX 2 = 2 + 3 x (3)2 = 2 + 3 x 9 = 2 + 27 = 29
4	2 + 3 xX 2 = 2 + 3 x (4)2 = 2 + 3 x 6 = 2 + 48 = 50
5	2 + 3 xX 2 = 2 + 3 x (5)2 = 2 + 3 x 25 = 2 + 75 = 77

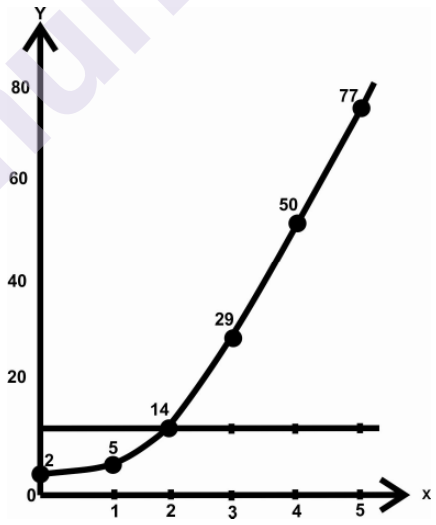


Figure 4.10

4.6 QUESTIONS

1) Explain the concept of slope.
2) Write a note on curves.
3) Explain the importance of graph in economics.

Module 3

Unit - 5

THE MARKET FORCES OF DEMAND (D) AND SUPPLY (S)

Unit Structure:

5.0 OBJECTIVES

1. To study the concept of market
2. To understand law of demand and demand curve
3. To study the concepts of individual demand and market demand
4. To study the concept of market equilibrium
5. To study the difference between individual supply and market supply

5.1 MARKET:- (MARKET AND COMPETITION)

Market, in economics, means, a network of dealings between buyers and sellers irrespective of any geographical specification. Thus, market brings together the buyers and sellers of a particular goods or services. Demand and supply explain the behaviour of people and their interactions with one another in a competitive market economy. Demand and supply are the two basic tools which

a) are at the core (centre) of exchange economy
b) make the economies work
c) affect the events and policies in an economy

Depending on the number of buyers and sellers, nature of the commodity, concept of entry and exit etc. we come across

different types of markets such as perfect competition, monopoly, monopolistic competition, Oligopoly, duopoly etc. for e.g.

- Perfect Competition is a market of large number of buyers and large number of sellers, selling homogeneous product. (Seller as Price taker)
- Monopoly is a market of large number of buyers and single seller, selling homogeneous product (Seller / monopolist as Price maker)
- Monopolistic competition is a market of large number of buyers and sufficiently large number of sellers selling heterogeneous or differentiated product.
- Oligopoly is a market of large number of buyers and few sellers selling differentiated products (Kinked Demand curve)
- Duopoly is a market of large number of buyers and two sellers selling differentiated products (Special case of oligopoly.)

Similarly we also have

- Local Market mainly for perishable goods and services.
- State or National market for durable items. Other case is Marathi films have bigger market in Maharashtra state. But Hindi films have national market.
- International Market is for different goods and services like financial services.
- We also come across share (Stock Market) bullion Market (for precious metals like gold / silver etc.), Real Estate market.

We come across competition in the market. Competition is the effort of two or more parties to ensure their position and efficiency. Competition brings out the best of quantity and quality. It ensures the most efficient or optimum allocation of productive resources.

5.2 MEANING OF TERM DEMAND

In an ordinary language, demand means a desire or a want for something. But a mere desire or willingness is not a demand in economics. In economics demand means any desire or willingness backed by purchasing power. Thus demand = willingness to Buy + Ability to pay.

E.g. If Mr. X wants to buy BMW car but does not have the ability then want will not be converted into demand. Similarly Mr. Y may have the ability to buy chicken but has no desire or willingness to buy it as he is vegetarian.

In both the cases there is no demand because willingness and ability both do not go together.

5.3 DETERMINANTS OF DEMAND

(Factors influencing Demand for a product.)

Demand for a particular commodity or a product depends on the following factors:-

1) Price of the product (P)

Price is the basic determinant of demand. Demand for any product depends on the price of that product. Usually, there is an inverse relationship between the two i.e. higher the price, lower is the demand and lower the price, higher is the demand.

2) Prices of substitutes (Psub) :

Demand for a particular product depends not only on the price of that product but also on the prices of other substitutes available in the market. If 'X' and 'Y'are two substitutes (Pepsi / coke), then demand for x depends not only on the price of x but also on the price of Y.

3) Income (Y):

Demand for a product depends on the disposable income of the individual usually; income and demand are directly related. Income reveals the purchasing power. Thus higher the income, greater is the demand and lower the income, lower is the demand.

4) Taste and Preference (T/P) :

Demo and for several products like ice creams, cakes etc. depends on the taste of a person. At the same time, different people have different preferences for different products. For eg. Non-vegetarian person will give higher preference to non-veg food than veg. food.

5) Habit (H) :

Demand for a product also depends on the habit. When the person is habituated to the consumption of a particular commodity then he creates demand for it. For e.g. Demand for cigar, tobacco, liquor, pan masala etc.

6) Fashion (F) :

When the consumption or use of a particular product is in fashion trend, then demand for that product rises. Once the consumption goes out of fashion the demand decreases.

(7) Expectations about future price change :- (Fp)

If the consumer expects some change in future price then his present demand for the product gets affected. For e.g. If the consumer expects that the price is going to rise in future, then his present demand for the product increases.

8) Advertising (A) :

In the competitive market, the demand for many products depends on advertisements and sales propaganda. Demand for many products such as soaps, toothpastes etc. is determined by the advertisement

9) Government Policy (GP) :

If a govt. imposes a tax on the commodity then its demand falls due to increase in price. If the govt. offers the subsidy on the product then its demand rises.

10) Climate / Season :- (Cl)

Demand for certain products depends on the climatic conditions and seasonal changes. For e.g. Demand for umbrella in rainy season.

11) Social Factor (S) :

Demand for a commodity is also affected by social factors like customs, traditions, value system, culture etc. For e.g. Demand for traditional sweets.

5.4 LAW OF DEMAND

The law of demand establishes a functional relationship between the price and demand for a commodity.

Demand for any product depends on several factors like Price of the product, income, taste, habit, fashion etc. But, if we allow all of them to change then the analysis becomes complicated. To avoid this we make use of the assumption 'Ceteris Paribus' i.e. 'other things being equal' or 'other things remaining same or constant and take relation between P and D.' This gives us the law of demand.

The law of demand states that other things being equal, Quantity demanded of any commodity (say X) varies inversely with the Price of that commodity (i.e. X). Thus when Price rises, the demand falls and when price falls, the demand rises.

$$D_x = f\left(P_x, \overline{Y, Y, P, H, A, F}, ...\right)$$

$$D_x = f\left(P_x\right)$$

$P_x \downarrow D_x \uparrow$ and $P_x \uparrow D_x \downarrow$

Demand Schedule :-

Demand schedule is a tabular presentation of a relation between Price and Quantity demanded. It snows the quantities of the goods that people plan to buy at various prices.

Price per Unit (com. x) (Rs.)	Quantity Demanded (com. x) (units)	
50	8	Q
40	12	R
30	20	S
20	30	T
10	50	U
5	65	V

Table 5.1

The above schedule or table shows an inverse relationship between price and demand. It shows that when price falls from Rs. 50 to Rs. 5 per unit, the quantity demanded rises from 8 units to 65 units. Similarly when price rises from Rs. 5 to Rs. 50 per unit, the quantity demanded falls from 65 units to 8 units. Thus, higher the price (Rs. 50), lower is the demand (8 units) and lower the price (Rs. 5), higher is the quantity demanded (65 units).

Demand Curve :- Demand curve is a graphical presentation of a relation between price and quantity demanded.

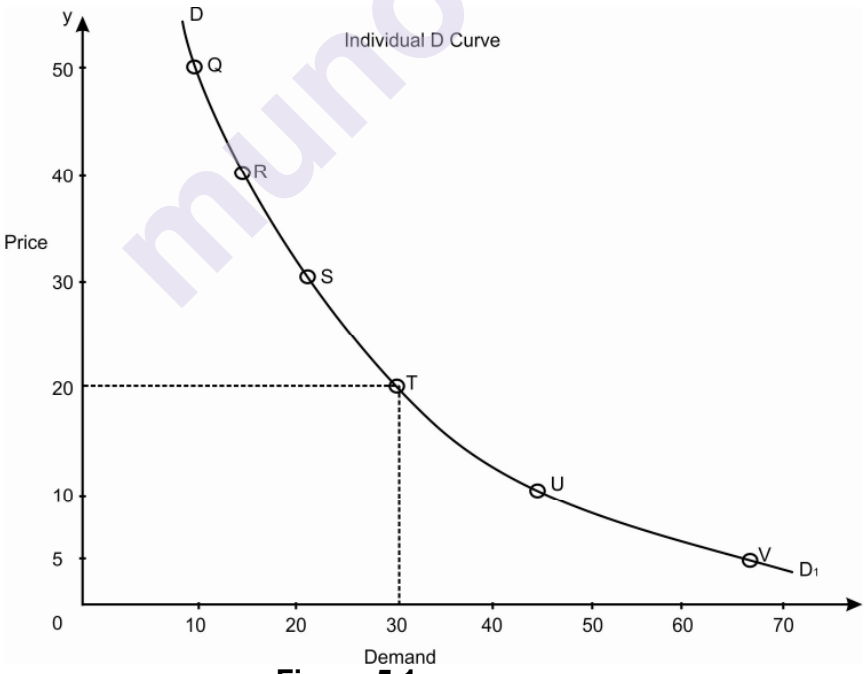


Figure 5.1

The demand (dependent variable) is shown on the X-axis and price Independent variable is shown on the Y-axis. DD is a demand curve which slopes downwards from left to right. It shows an inverse relationship between price and quantity demanded. Each and every point on the demand curve gives a

specific relationship between price and quantity demanded. For e.g. At some point 'T', the price is Rs. 20 and Quantity demanded is 30 units. The inverse relationship between price and demand is true for almost all goods in the economy.

Assumptions of the law of Demand

Law of demand is based on following assumption

1. Income remains constant :- There is no change in income – i.e. neither increase nor decrease.
2. There is no change in the prices of substitutes.
3. There is no change in the taste and preference of the consumer.
4. There is no change in fashion and advertisement.
5. No change in govt. Policy. There is neither increase nor decrease in taxes or subsidies.
6. Consumer does not expect any change in the future price.
7. The quantity of money in circulation remains constant.

Demand function for price

Law of demand explains the functional relationship between price and quantity demanded.

$Q_x = f(P_x)$

$Q_x =$ Quantity Demanded of commodity X

$f =$ Functional relationship

$(P_x) =$ Price of commodity X

$Q_x = a - bP_x$

$Q_x = 100 - 5_x$

Price Per Unit ₹	Quantity Demanded in Unit $Q_x = 100 - 5_x$
0	100
1	95
2	90
3	85
4	80
5	75

Table 5.2

It shows an inverse relationship between price and quantity demanded.

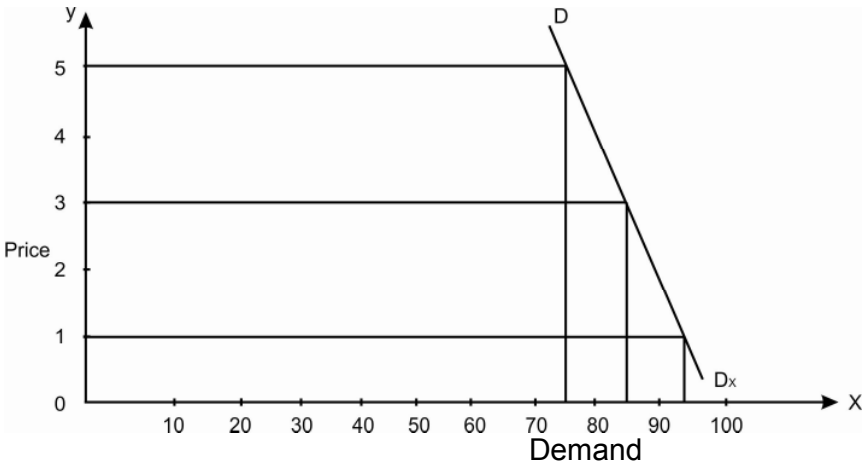


Figure 5.2

- Individual Demand Vs Market Demand is a desire backed by purchasing power.

5.5 INDIVIDUAL DEMAND AND MARKET DEMAND

Individual Demand:
Individual demand is the demand for a commodity by an individual buyer, at a particular price and at a particular point of time in the market. It is a part of market demand.

Individual Demand schedule gives us the tabular presentation of a relation between price and Quantity demanded by an individual.

Let us take the price of some commodity X and the Quantity demanded of commodity X by two individuals, say individual A and individual 'B' separately.

Price of Com. X	Demand Individual A	Price of Com x	Demand Individual A
50	1	50	2
40	2	40	4
30	3	30	6
20	4	20	8
10	5	10	10

Table 5.3

The above tables show that as the price of commodity x falls, the demand for commodity x, rises for both the individuals. From these two schedules we can draw two demand curves for individual A and B respectively.

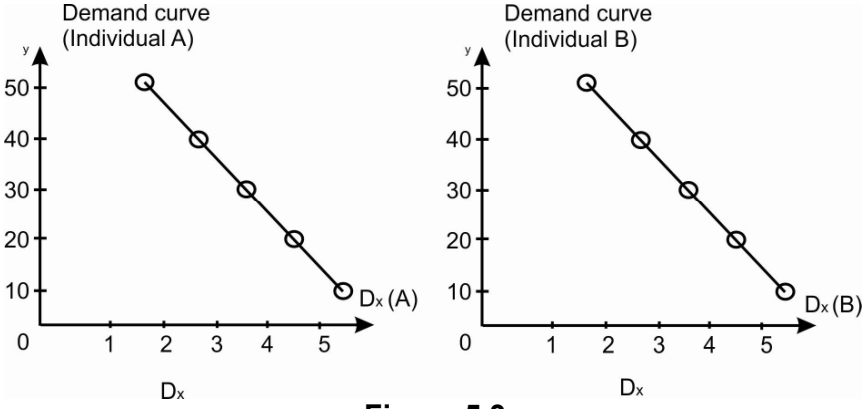


Figure 5.3

In both cases the demand curve slopes downwards from left to right, indicating inverse relationship between price and quantity demanded.

Market Demand :

If refers to the sum of (aggregate or total) all the individuals demand in the market for a particular commodity, at a particular price and time in the market. Market demand is a summation of individual demands.

Market Demand scheduler is a tabular presentation of the relation between quantity demanded and different prices of com. X by all consumers in the market. It is calculated at a point of time.

Price of Com. X	Quantity Demanded		Market Demand
	Individual A	Individual B	
50	1	2	03
40	2	4	06
30	3	6	09
20	4	8	12
10	5	10	15

Table 5.4

Market Demand curve

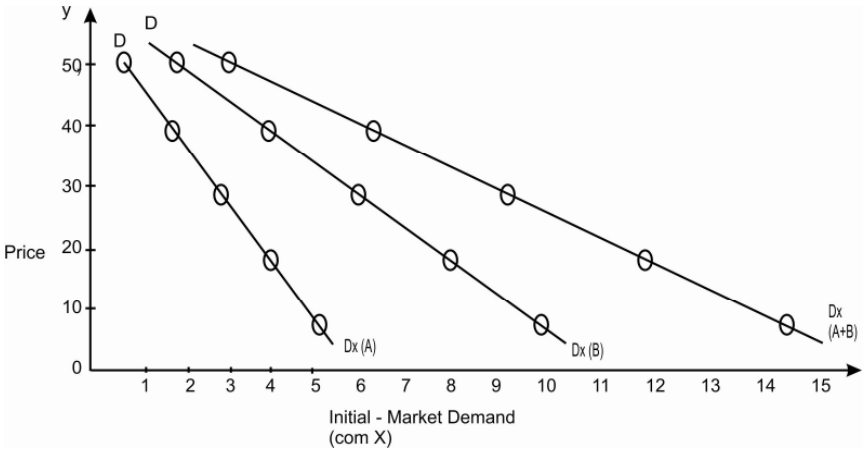


Figure 5.4

Demand on x axis and price on y-axis

The above diagram shows that the demand curves of individual A, B and the market demand curve (D x A + B) slope downwards from left to right. This indicates an inverse relationship between price and demand. Market demand curve (D x A + B) being the summation of D x A and D x B is bit flatter.

Variation in Demand and changes in Demand. (<u>Movement Vs shift in Demand curve</u>)

<u>Variation in demand</u> :- There are many factors that determine demand. One of the important factors is price. When he demand changes only due to changes in price then we get variation in demand. It is explained in two ways namely <u>Extension (Expansion)</u> and C<u>ontraction</u> of <u>demand</u>.

In this we keep all other variables constant and bring change in price of the product alone.

$$D_x = f\left(P_x, \overline{P_{sub}, Y, T, P, H, A, F}, ...\right)$$

$$D_x = f\left(P_x\right)$$

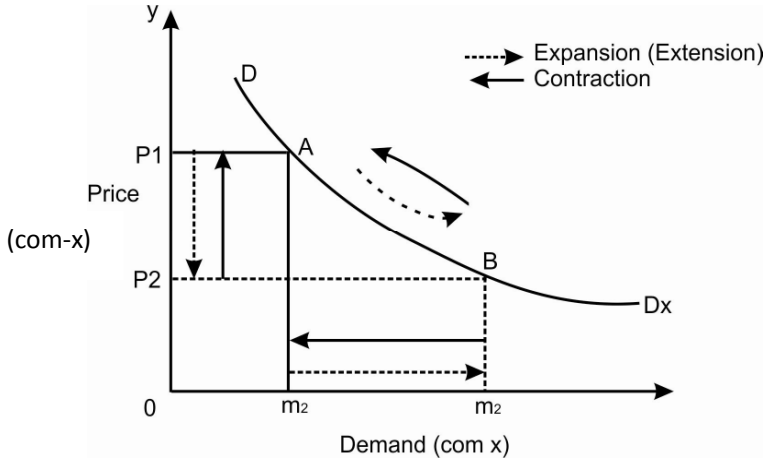


Figure 5.5

Demand is shown on the x-axis and price on the y-axis. DDx is a demand curve which slopes downwards from left to right. Let us take two points viz. A and B on this demand curve.

At point 'A' the price is OP_1 and the demand is OM_1. At point 'B' the price is OP_2 and the demand is OM_2.

Now when Price falls from OP_1 to OP_2 then the demand expands from OM_1 to OM_2. The consumer moves from point A to point B, but remains on the same demand curve DD. This is called as the Extension or expansion of demand. Similarly when price rises from OP_2 to OP_1, then demand contracts from OM_2 to OM_1. The consumer moves from point B to A, but remains on the same demand curve DD. This is called as contraction of Demand.

Thus in expansion (extension) and contraction of demand we get two important things :

1. Change in price of commodity alone. (Keeping other variables constant.)
2. Movement along a given demand curve

For e.g. If government increases the tax on a soft drink say 'Goldy' to discourage the consumption. Now due to the imposition of tax the price of 'Goldy' drink rises and thus the demand contracts. But if the tax is removed then the price of 'Goldy' falls and the demand expands.

5.6 CHANGES IN DEMAND (INCREASE AND DECREASE IN DEMAND) (SHIFT IN D CURVE)

Demand for any product depends on the price of that product and also on several factors like prices of substitutes, income, taste, preference etc. In changes in demand we remove the assumption other things remaining the same and bring a change in all demand determinants.

Thus the price may or may not change but the change in factors other than price gives us either increase or decrease in demand.

Increase in Demand :

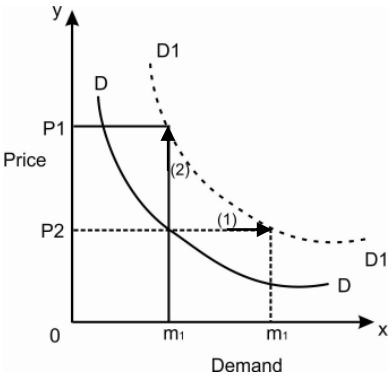


Figure 5.6

In this diagram, the demand is shown on the x-axis and the price on the y-axis. DD is the original demand curve and op is the original price.

Now increase in demand is shown in two ways

1. At a higher price (OP_1), same quantity is demanded i.e. OM and
2. At a same price (OP) more quantity is demanded i.e. OM_1.

We get a shift in the demand curve from DD to D_1D_1. The demand curve shifts to the right of the original demand cure

This happens due to
i) Increase in income ii) change in taste and preference in favour of that commodity iii) Rise in prices of substitutes iv) Change in fashion v) Rise in population etc.

Decrease in Demand:-

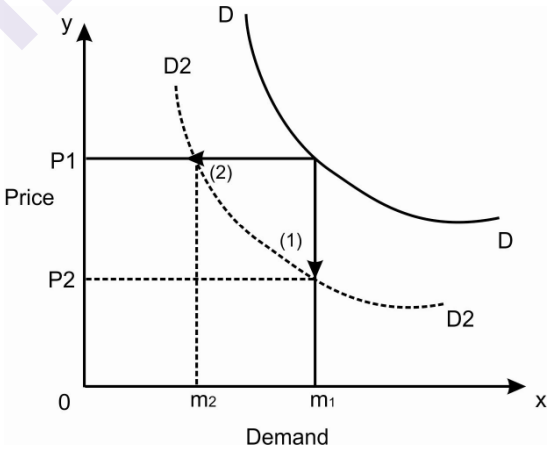


Figure 5.7

Demand on the x-axis and price on the y axis. DD is the original demand curve. OP is the original price and OM is the original quantity demanded. Now the decrease in demand is shown in two ways.

3) At same price (OP_1) less quantity is demanded i.e. OM2 and.
4) At a lower price (OP2), same quantity demanded i.e. OM_1.

In this case, the demand curve shifts from DD to D_2D_2. The demand curve shifts to the left of the original demand curve.

This happens due to
i) Fall in income
ii) Change in taste and preference against the commodity
iii) Consumption goes out of fashion.
iv) Fall in prices of substitutes
v) Fall in population etc.

Thus in increase and decrease in demand we get 2 things
I) Change in factors other than price (price may or may not change)
II) A shift in the demand curve. To the right increase and to the left decrease.

A combined case (you can draw a linear or non-linear demand.)

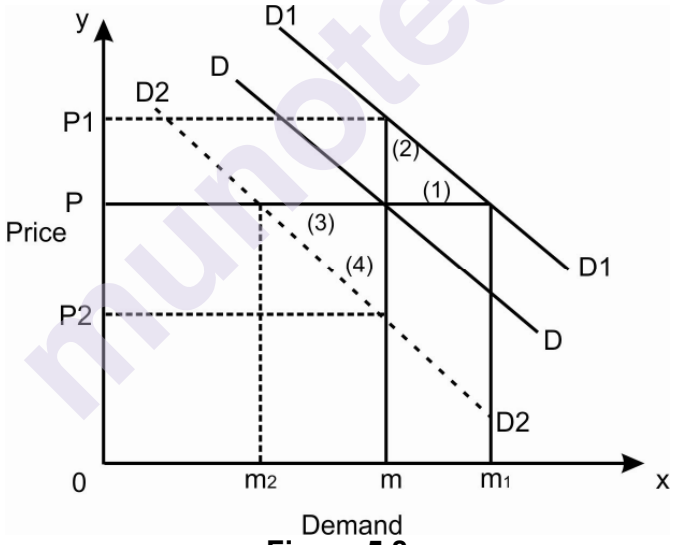


Figure 5.8

Variation in Demand		Change in Demand	
1)	It occurs due to change in price alone	1)	It occurs due change in factors other than price
2)	It gives us <u>movement</u> along a given demand curve	2)	It gives us a <u>shift</u> in demand curves
3)	It is explained with Expansion (Extension) and Contraction of Demand.	3)	It is explained with increase and decrease in Demand.

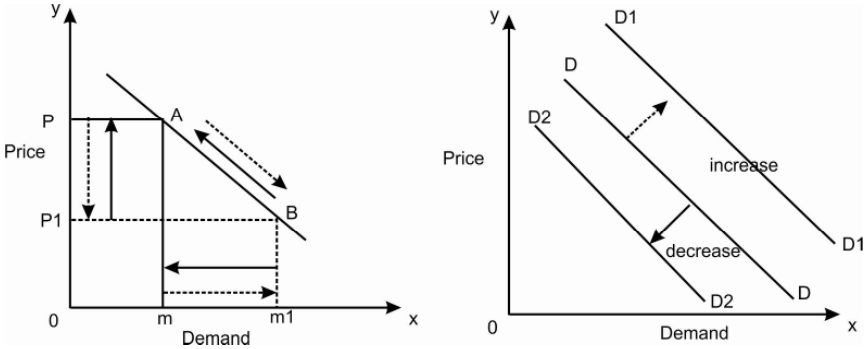


Figure 5.9

5.7 SUPPLY (S)

The supply side of the market explains the behaviour of the seller. In economics supply means, the amount of the commodity which the seller is able and willing to offer for sale at a particular price, during a particular period of time. Supply is a relative term. It is always referred in relation to price and time. Supply & price are directly related.

In economics, supply means. "the amount of the commodity which the seller (producer) is able & willing to offer for sale at a particular price, during certain period of time.

Determinants of supply :- (factors influencing supply) Factors affecting supply of a commodity are –

1) **Price of the commodity :-** Price is the single largest factor influencing the supply of a commodity. More is supplied at a lower price & less at a higher price.
2) **Seller's expectations :-** sellers expectations about the future price affects the supply. If a seller expects the price to rise in the future, he will with- hold his stock at present and there will be less supply now.
3) **Natural Conditions :-** Supply of some commodities such as agricultural products, depends on the natural environment or climatic conditions like rain fall, temperature etc. eg. A good monsoon will produce a good harvest, so the supply of the agricultural products will increase.
4) **Transport Conditions :-** There should be well connected proper approach routes, quick & cheap modes of transportation & effective and quick communication systems. This will increase supply.
5) **Price of Related products :-** Prices of substitutes or related products also influence the supply of a commodity. If the price of wheat rises, farmers may grow more of wheat & wheat & less of rice so supply of wheat will rise.
6) **Cost of Production :-** When the cost of production rises the supply decreases. E.g. When factor payments (rent, wages etc.) increases, the cost of production rises & supply falls.

7) **The state of Technology :-**The supply of the commodity depends upon the methods of production. An improvement in technique of production reduces cost & so supply increases.
8) **Factors outside the Economic sphere :-** Fire, wars, earthquakes etc. may destroy productive assets of the commodity and restrict future supplies.
9) **Govt. policies (Taxes & subsidies) :-** With an increase in the rate of a tax on a commodity, the supply of that commodity would decrease & vice versa. On the other hand, with an increase in the amount of a subsidy on a commodity, its supply would increase and vice versa.
10) **Nature of Market :-** Supply of a commodity would be higher when there is a competitive market. But in monopoly, the supply may be low. This is so because a monopolist may create artificial scarcity to raise the price.
11) **Period of time :-** In a very short period, the supply of a commodity may be fixed, whatever may be the price. But over a period of time, the supply is adjusted with demand.
12) **Self – Consumption :-** If a farmer keeps a large stock for self – consumption then the supply is less.
Sx = f (Px, Psub, Sex p, Mat, Cond, …)

5.8 LAW OF SUPPLY

The law of supply explains the relationship between price and quantity supplied. The law of supply states that 'other things remaining the same, quantity supplied of any Commodity (say x) varies directly with the price of that commodity (ie x). Thus when price rises, the supply rises and when the price falls, the supply also falls.

$$S_x = f\left(P_x, \overline{P_{sub}, I, G, T, G_p, ...}\right)$$

$$S_x = f\left(P_x\right)$$

$$P_x \downarrow S_x \downarrow, P_x \uparrow S_x \uparrow$$

(I = Investment, G = Goal, T = Technology etc.)

Supply Schedule :- Supply schedule is a tabular presentation of a relation between price and quantity supplied of a particular commodity. It shows the quantities of the good that the seller plans to sell at various prices.

Table 5.5

Price () (Com. X)	Supply (Com. X)
50	500 T
40	400 U
30	300 V
20	200 W
10	100 X

The above table (schedule) shows the direct relationship between the price and Quantity supplied. It shows that when price falls from Rs. 50/- to Rs. 10/- then the supply also falls from 500 units to 100 units. Similarly, when the Price rises from Rs. 10/- to Rs. 50/- then the supply prises from 100 units to 500 units. Thus, higher the price (Rs. 50/-), higher is the supply (500 units) and lower the price (Rs. 10/-), lower is the Quantity supplied (100 units).

Supply Curve: It is a graphical (diagrammatic) presentation of a relation between price and quantity supplied.

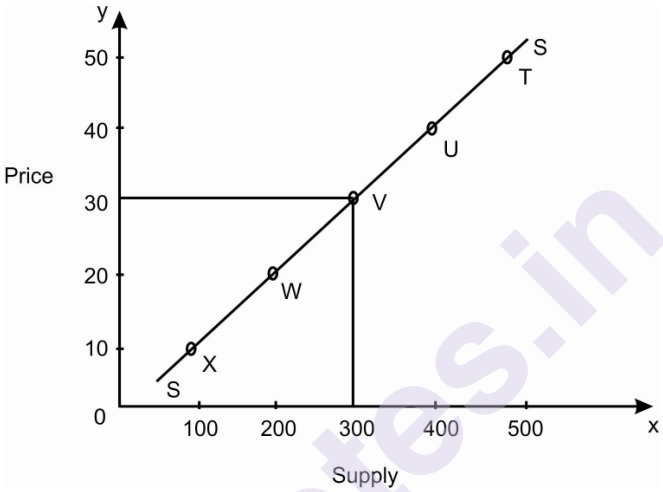


Figure 5.10

Supply on x–axis and price on the y-axis. SS is the supply curve which slopes upwards from left to right. It shows a direct relationship between price and quantity supplied. Each and every point, on the supply curve gives us a specific relationship between price and supply at that point. For e.g. Point 'V' shows that the price is Rs. 30/- and the supply is 300 units. This direct relationship between price and supply is true for almost all goods in the economy.

Assumptions of Law of supply

Assumptions :- The law of supply is based on following assumptions.

1) **Self-consumption :-** The law assumes that the producer of a commodity dose not increase his own consumption of a commodity.
2) **Technology :-** The law assumes that there is no change in the technique of production. The technology or the method of production remains constant. i.e. absence of technological change.
3) **Cost of Production :-** The law of supply assumes that the cost of production remains constant. There is no change in the cost of production. E.g. Wages, Interest etc. are unchanged.

4) **Fixed Scale of Production :-** During a given period of time it is assumed that the scale of production remains constant. If the scale of production changes, then the level of supply will also change irrespective of change in the price of the product.

5) **Govt. Policies :-** Govt. Policies like taxation policy, trade policy etc. are assumed to be constant. There is no change in subsidies also.

6) **No change in Transport Cost :-** The law assumes that transport facilities & transport costs are unchanged. There are given means of transport.

7) **No speculation :-** The law assumes that the sellers don't speculate about the future changes in the price of the product.

8) **Prices of Competitive Goods :-** It is assumed that the prices of all competitive goods which are substitute to a product remain constant.

9) **Weather Conditions :-** The law assumes that the weather conditions are normal e.g. Normal rain fall, absence of natural calamities etc.

5.9 INDIVIDUAL SUPPLY AND MARKET SUPPLY

Supply is the quantity (amount) of a commodity which the seller is able and willing to sell at a particular price and at a particular time in the market.

Individual supply: It is the supply of a commodity by an individual seller at a particular price and at a particular point of time in the market.

Individual supply schedule : It gives us the price and quantity supplied of a commodity by an individual seller.

Let us take the price of some commodity X and the quantity supplied of commodity X by say two sellers A and B.

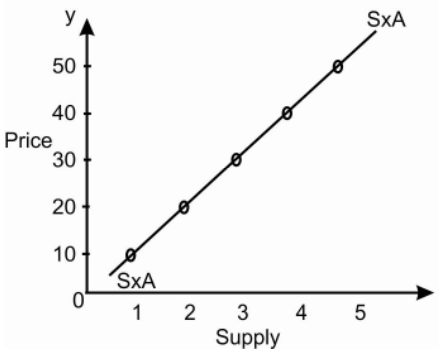
Table 5.6

Price of Com. X	Supply of X by Seller A	Price of Com x	Supply of X by Seller B
50	5	50	10
40	4	40	8
30	3	30	6
20	2	20	4
10	1	10	2

The above tables show that for both the sellers (A and B), sell less of X when price falls and supply more of commodity x when price of commodity x rises.

Individual supply curve :- It is a graphical presentation of a relation between price and supply.

Supply curve
(Seller - A)



Supply curve
(Seller - B)

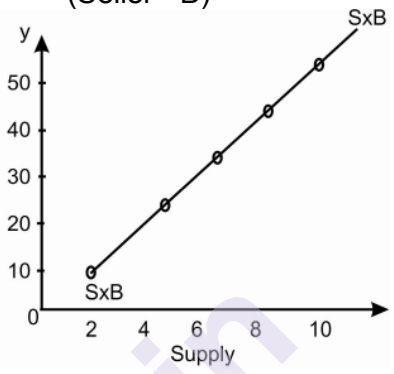


Figure 5.11

Upward sloping supply curve (SxAand S x B) give direct relationship between price and supply.

Market supply :- It refers to a sum of (aggregate / total) all the sellers supply in the market of a particular commodity, at a particular price and time in the market. Market supply is the summation of all individual supply.

Market supply schedule :- It is a tabular presentation of a relation between quantity supplied at different prices of com. x by all the sellers in the market. It is calculated at a point of time.

Price of Com. X	Quantity Supplied		Market Supply
	Seller A	Seller B	
50	5	10	15
40	4	8	12
30	3	6	9
20	2	4	6
10	1	2	5

Table 5.7

Total Market supply curve :-

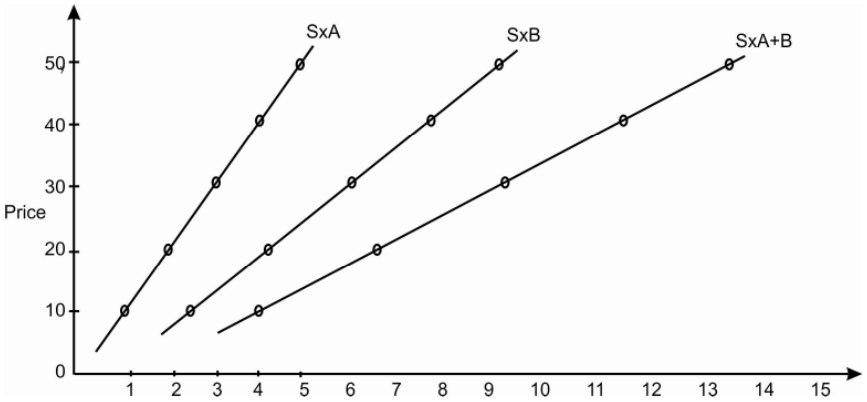


Figure 5.12

Supply on the x-axis and price on the y-axis. The above diagram shows that the supply curves of sellers A and B and the market supply curve (Sx A+B), slopes upwards from left to right. This shows a direct relationship between price and supply. The market supply curve (S x A + B) being the summassion of s x A and S x B is flatter.

- **Variation in supply and changes in supply (Movement V/S shift in supply curve)**

Variation in Supply : Supply of any commodity depends on several factors such as price of that product, prices of substitutes, investment outlay, goal, technology etc. But in variation in supply we assume that all other variables remain constant and we take note of change in price alone that affects the supply. It is explained in two ways viz. extension (Expansion) and contraction of supply.

In this case we keep all other variables constant and bring change in price of the product alone, which affects supply.

$$S_x = f\left(P_x, \overline{P_{sub}, I, T, G_p, \ldots.}\right)$$

$$S_x = f\left(P_x\right)$$

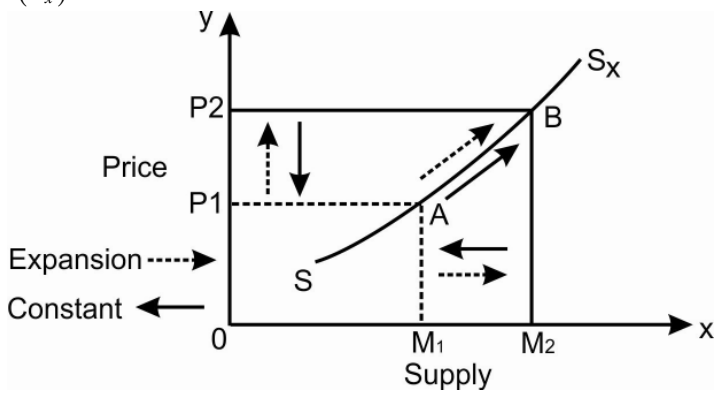


Figure 5.13

Supply is shown on the x axis and price on the y-axis. SSx is he supply curve which slopes upwards from left to right. We select two points on supply curve as A and B.

At point 'A' the price is OP_1 and supply is OM_1. At point 'B', the price is OP2 and the supply is OM2.

Now, when price rises from OP1 to OP2 then the supply expands from OM1 to M2. The seller moves from point A to B but remains on the same supply curve i.e. SS. This is called as Expansion (Extension) of supply.

Similarly, when price falls from OP2 to OP1, the supply contracts from OM2 to OM1. Now the seller moves from point B to point A but remains on the same supply curve i.e. SS. This is called as **contraction of supply**.
Thus in extension and contraction of supply, we get i) change in price alone ii) movement along a given a supply.

5.10 CHANGES IN SUPPLY – SHIFT IN SUPPLY CURVE (INCREASE AND DECREASE IN SUPPLY)

Supply of any product or commodity depends on the price of that product and also on the technology, govt. policy, goal or objective etc. In, changes in supply we remove the assumption 'other things remaining constant' and bring a change in all variables.

Thus the price may or may not change but change in factors other than price gives us either increase or decrease in supply. We get a shift in supply curve.

Increase in Supply :

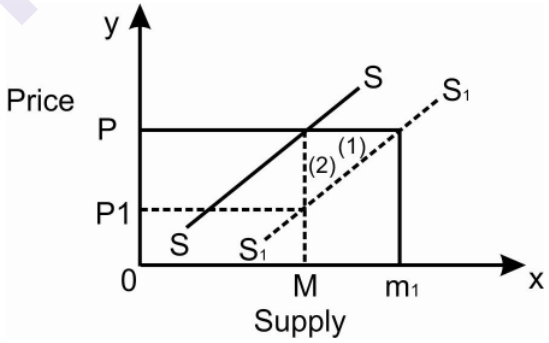


Figure 5.14

Supply on the x-axis and y-axis. SS is the upward sloping supply Curve (original). The original Prince is OP and Original Quantity supplied is OM. Now, increase in supply is shown in two ways.

1. At same price (OP), more quantity is supplied i.e. OM1 and
2. At a lower price (OP1), same quantity is supplied i.e. OM.

We get a shift in the supply curve from SS to S1S1. The supply curve shifts to the right of the original supply curve.

This happens due to
i) Fall in cost of production,
ii) Improvement in technology
iii) Favourable change in govt. Policy
iv) Increase in investment etc.

Decrease in supply :

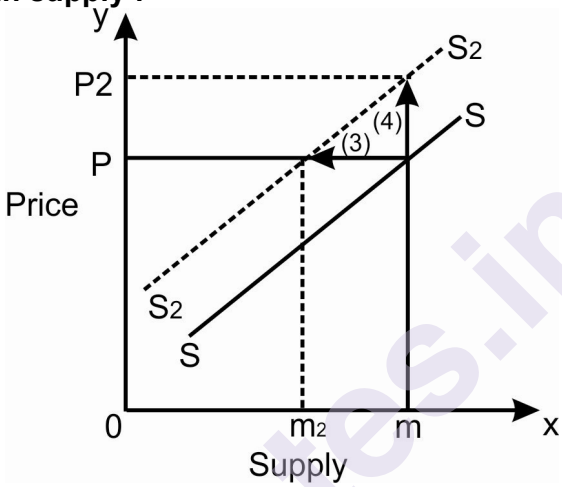


Figure 5.15

SS is the Original supply curve. OP is the original price and OM is the original quantity supplied. Now increase in supply is shown in two ways :-

3) At same price (OP), less quantity is supplied i.e. OM2 and
4) At a higher price (OP2), same quantity is supplied, OM.

In this case the supply curve shifts to the left of the original supply curve (SS to S_2 S_2)

This happens due to
i) Rise in cost
ii) govt. policy becomes unfavourable
iii) fall in investment outlay
iv) Transport bottleneck etc.

Thus in increase and decrease in supply we get
I) Change in factors other than price
II) Shift in the supply curve – to the right then increase and to the left then decrease in supply.

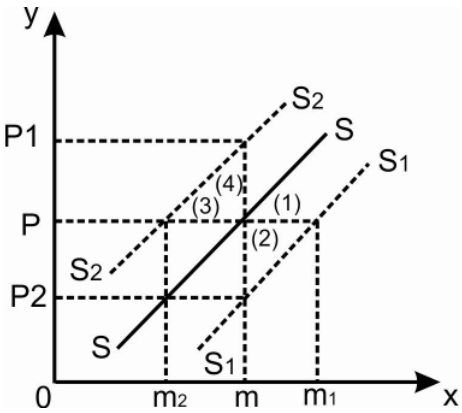


Figure 5.16

Variation in Supply		Change in Supply	
1)	It occurs due to change in price alone	1)	It occurs due change in factors other than price
2)	It gives us <u>movement</u> along a given supply curve	2)	It gives us a <u>shift</u> in supply curves
3)	It is explained with Extension and Contraction of supply.	3)	It is explained with an increase and decrease in supply. If the curve shifts to the right then increase and if to the left then decrease

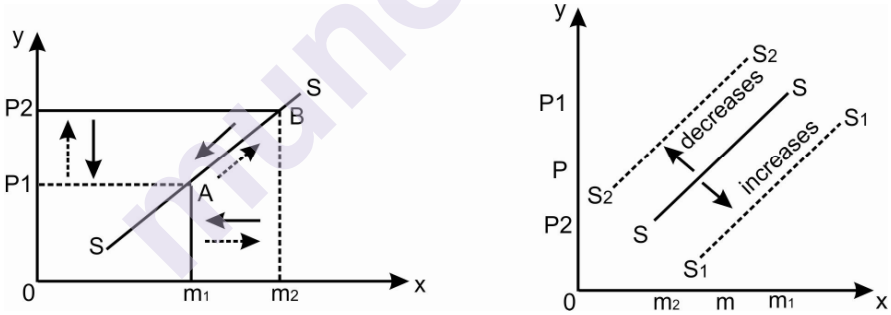


Figure 5.17

5.11 MARKET EQUILIBRIUM

Market is a network of dealings between buyers and sellers irrespective of any geographical specification.

Equilibrium is a state of rest or balance where two opposite forces are balanced with each other in such a way that any further movement away from that position is not possible as well as profitable.

As to cut a piece of cloth we need two blades of scissors, similarly to determine the market price of a commodity we need two economic variables viz. demand and supply. Demand and supply together give us the market equilibrium.

The demand and price are inversely related and the demand schedule and curve explains the quantities that individual plan to demand at various prices.

Similarly the supply and Price are directly related and the supply schedule and supply curve explains the quantities that a seller plans to sell at various prices.

Price (₹)	Demand	Supply	Pressure on Price
50	100	500	Downward
40	200	400	Downward
30	300	300	Neutral
20	400	200	Upward
10	500	100	Upward

Table 5.8

To begin with, let us assume that the price is Rs. 50/- At this price the supply (500 units) is greater than the demand (100 units). Due to the excess supply we get a downward pressure on the price (too much of anything reduces its value). Now the price falls to Rs. 40/- Now there is some increase in demand and fall in supply, yet the supply is greater than the demand. Thus we get a further downward pressure on price. The process continues till we reach equilibrium point i.e. price (Rs. 30/-) where D = S (300 units).

Similarly at the price Rs. 10/-, we find that the supply (100 units) is less than the demand (500 units). It shows scarcity (S<D) and scarcity gives higher value to the product. Thus there is an upward pressure on price. It rises till it reaches the equilibrium point, i.e. E.

Thus Rs. 30/- is the equilibrium price where D = S. No further movement is possible as well as profitable. 300 units is the equilibrium quantity. This equilibrium price is also called a ‘market clearing price’ because at this price everyone in the market is satisfied.

It is explained in the following diagram

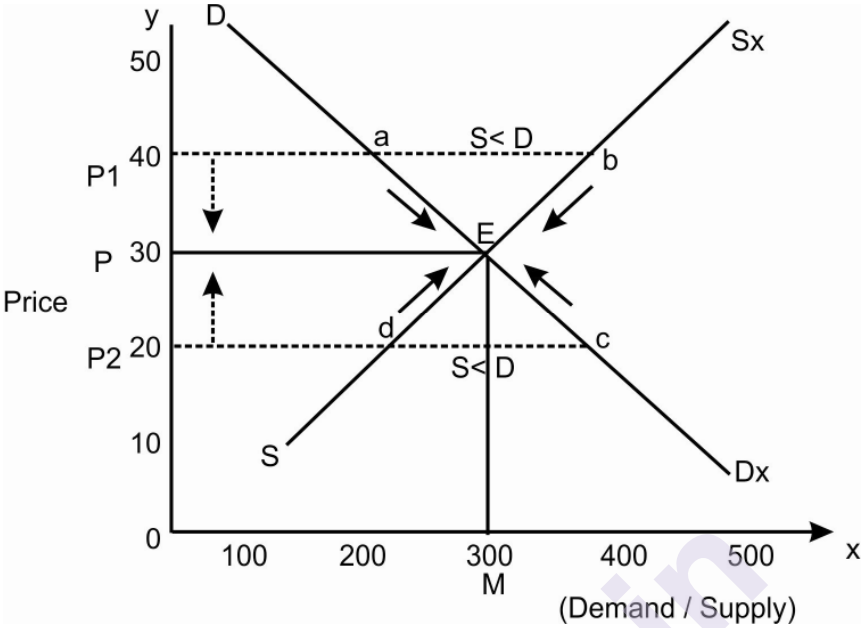


Figure 5.18

Units of commodity (D and S) are shown on the x-axis and price on the y-axis. The downward sloping demand curve DD_x cuts the upward sloping supply curve SS_x at equilibrium point 'E'. At this point the equilibrium price is 'OP' (Rs. 30/-) and equilibrium quantity is OM. (300 units).

Now, let us assume that the price rises from OP to OP1. Now we find that the supply P b is greater than the demand P1a. Due to surplus, there is a downward pressure on the price and it falls back to OP.

Similarly at OP2 price, the supply P_2d is less than the demand P2C. Now, due to scarcity the price rises till it comes back to the original price OP.

In this way, with the necessary changes in demand and supply, the system comes back to the original point of equilibrium (e.g. A ball kept at the bottom of the bowl.)

Example
Equilibrium Price
Demand Equation:-

$D_x = a - bP_x$

Where D_x =Demand for commodity x

a = constant parameter giving Quantity demanded irrespective of price.

b = Constant parameter giving relation between P x and D_x

P_x = Price of Commodity X.

As 'b' has negative sign the relationship is inverse.

Supply Equation:-

$S_x = c + dP_x$

$S_x =$ Supply of commodity x

$c =$ Constant parameter giving quantity supplied irrespective of price

d = Constant Parameter giving relationship between P_x and S_x

P_x = Price of commodity X

Here 'd' has a positive sign. Thus the relationship is direct.

Let us assume that

$D_x = 34 - 3P_x$ and $S_x = 6 + 4P_x$

Now at equilibrium :

$$D_x = S_x$$
$$\therefore 34 - 3P_x = 6 + 4P_x$$
$$\therefore 34 - 6 = 4P_x + 3P_x$$
$$\therefore 28 = 7P_x$$
$$\therefore P_x = \frac{28}{7}$$
$$\therefore P_x = 4$$

Now let us insert price '4' in the equations of demand and supply.

$D_x = 34 - 3P_x$	$S_x = 6 + 4P_x$
$D_x = 34 - 3(4)$	$S_x = 6 + 4(4)$
$D_x = 34 - 12$	$S_x = 6 + 16$
$D_x = 22$	$S_x = 22$

$P_x = 4$ is the equilibrium price where Quantity demanded equals quantity supplied. (i.e. 22 units)

Market Not in Equilibrium :

Market not in equilibrium explains a situation of disequilibrium in the market. It is a situation where D > S or S < D. Thus there is either shortage or surplus.

At equilibrium S = D but if S $\neq$ D then

(I)	(II)
S > D	S < D
(surplus)	(scarcity)

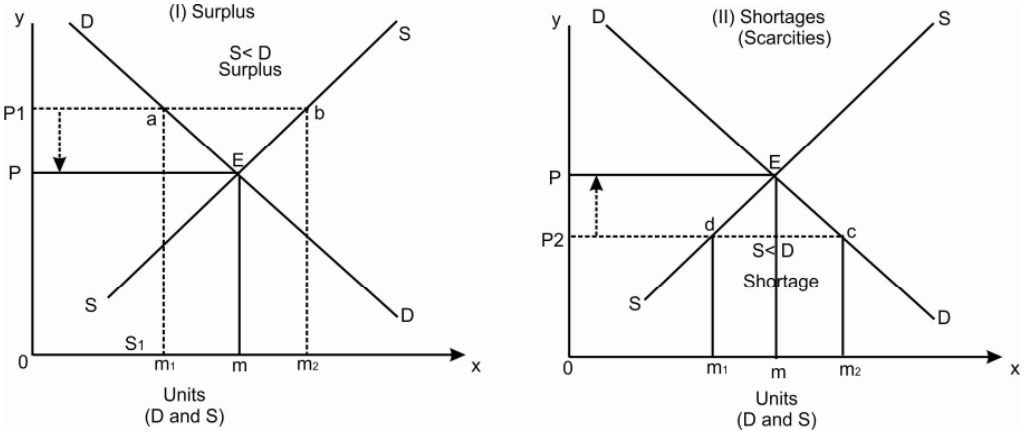


Figure 5.19

I) In diagram I, we find that at OP1 price the supply P1 b (OM2) is greater than the demand P1 a (OM1). It shows that there is surplus in the market. The seller wishes to sell more but demand is less. Thus to attract the buyers, the seller will lower the price. The process continues till we reach the equilibrium point (E), price (OP) and quantity (OM).

II) In diagram II, we find that at OP2 Price, the supply P2d (OM,) is less than the demand P2C (OM2). It shows that there is a scarcity or shortage of goods. The buyers are willing to buy more but the supply is less. Now the seller will take advantage of this situation and will raise the price. The process continues till the system reaches the equilibrium point (E), Price (OP) and quantity (OM).

Thus the activities of buyers and sellers always push the market price towards the equilibrium price. The shortages and surpluses are temporary. Reaching equilibrium point (fast or slow) differs from market to market.

Three steps to analyse changes in Equilibrium :

The position of the demand and supply determines equilibrium price and quantity. Due to the changes in factors other than price we get a shift in the demand and supply curves. These factors are changes in prices of substitutes, income, investment outlay, govt. policy etc. it gives us either increase or decrease in demand and supply.

The effects of shift in demand and supply on market equilibrium are studied in three steps.

a) A change due to shift in demand curve.
b) A change due to a shift in supply curve
c) A change due to shift in both i.e. the demand and supply.

A) Change in Market equilibrium due to a shift in demand curve.

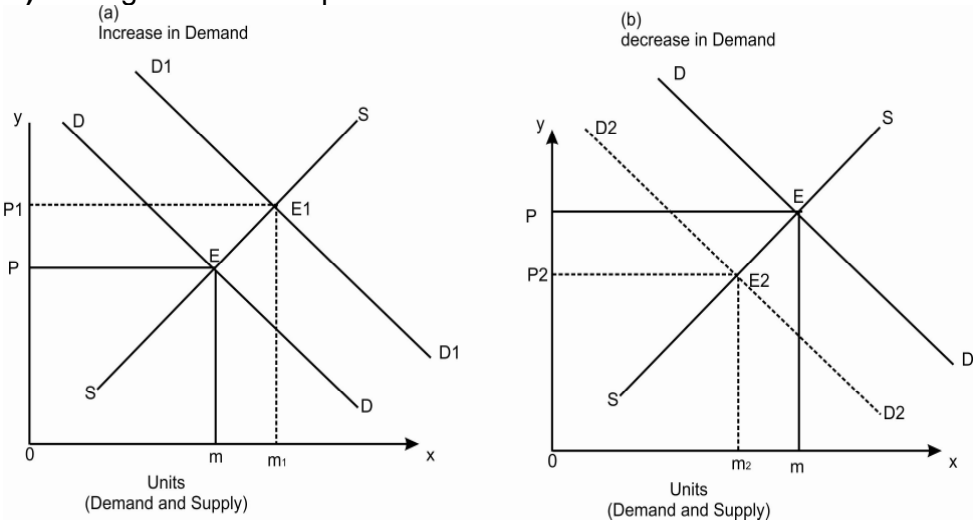


Figure 5.20

Let us explain the situation with an example of Air-conditioners (ACs). In the above diagram 'E' is the original point of equilibrium, OP is original equilibrium price and OM is original equilibrium quantity (D=S).

a) Case of increase in demand :

Let us assume that it is a summer. Due to the rise in heat we get an increase in demand of ACs in spite of no change in price. When the demand for ACs increases we get a shift in the demand curve (to the right) from DD to D1D1. It cuts the supply curve (SS) at a new equilibrium point E1. Now the price rises from OP to OP_1. This rise in price brings higher supply and at new equilibrium point, the demand equals supply at OM_1.

In this case we get two important things. <u>One</u> is we get a shift in demand curve from DD to D_1D_1. i.e. <u>increase in demand</u>. <u>Another</u> is that at new equilibrium point E1 there is an <u>expansion of supply</u> as we remain on the same supply curve.

b) Case of Decrease inDemand :-

During winter the demand for ACs falls due to cold. Thus the demand curve shifts to D_2D_2 i.e. decrease in demand. It cuts the supply curve (SS) at new equilibrium point E_2. The price falls to OP_2. Now due to fall in price, the seller will contract the supply. Now the new quantity will be OM_2. In this we get decrease in demand where we shift over to a new demand curve D_2D_2. We also get <u>a contraction of supply</u> (movement on the same supply curve SS).

B) Change in market equilibrium due to a shift in supply curve.

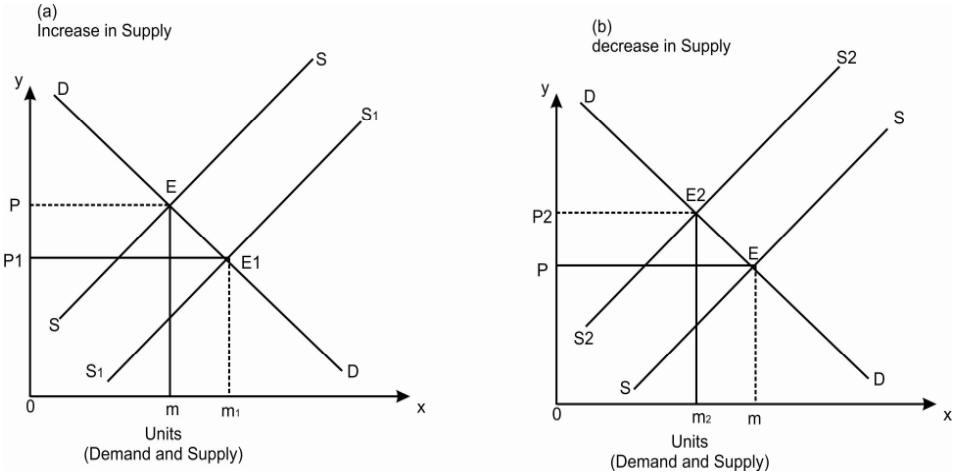


Figure 5.21

In both the diagrams DD is the original demand curve cutting SS which is original supply curve. Original equilibrium point is E, equilibrium price is OP and equilibrium quantity is OM.

Let us take e.g. Of production of sugarcane and sugar, affecting its supply.

a) Increase in supply :-

Let us assume that due to sufficient rainfall, the production of sugarcane increases. Thus the supply of sugar increases which results in the fall in price of sugar. Thus the supply curve shifts to the right S1S1 and cuts the demand curve at new equilibrium point E1. The price falls from OP to OP and supply increases to OM1.

Now due to the fall in price of sugar, the demand for sugar will rise. More sweets will be created due to fall in cost of input i.e. sugar. Thus higher supply will be matched by higher demand (OM_1) at new equilibrium price OP_1. Here (at E1) we get an <u>increase in supply</u> where supply curve shifts to the right (S1S1) and expansion of demand i.e. movement along a given demand curve DD.

b) Decrease in supply :-

Let us assume that due to a bad monsoon, the production of sugarcane falls. Thus the supply of sugar decreases. The curve shifts to the left (S2 S2) and we get a new equilibrium point E2. Now the price rises to OP2. Now new quantity supplied (OM2) will be matched by contraction of demand to OM2. (fall in supply of sugarcane reduces the supply of sugar OM2). Thus price of sugar rises to OP2.

In this case we get decrease in supply i.e. shift in supply curve SS to S2S2 and contraction of demand i.e. movement from E to E2 along a given demand curve DD.

c) Change in market Equilibrium due to a shift in both i.e. Demand and supply.

In this case we observe and study a simultaneous increase or decrease in demand and supply. We can explain this with the help of several situations like increase in supply, decrease in demand and vice versa and even the change in extent (more or less).

In this case let us observe two situations with increase in demand and decrease in supply.

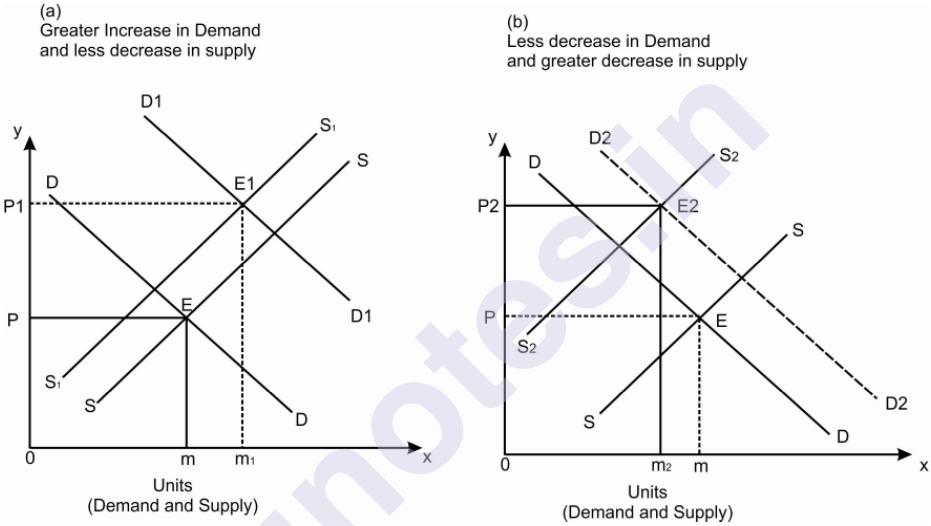


Figure 5.22

In both the cases the original point of equilibrium is E (D = S), OM is original quantity and OP is original equilibrium price.

a) In this we find that demand increases more than proportionately. We get a large increase in demand. Thus demand curve shifts from DD to D1D1 (greater distance). Say due to festival demand for sugar increases very fast.

But we get a decrease in supply may be due to bad season. But here supply decreases slightly from SS to S1S1.

Now the new equilibrium point is E1 and price rises sharply from OP to OP1 due to very high increase in demand.

b) In his case we get a moderate increase in demand from DD to D2D2. But due to a very bad season the supply of sugarcane and so sugar decreases sharply from SS to S2S2. Now the price again rises sharply from OP to OP2 and Quantity falls from OM to OM2.

Thus in both the cases, the price rises sharply from OP to OP1. In one case (a) the quantity rises and in other it falls (b).

5.12 QUESTIONS

1) What is market?
2) What is competition?
3) Write a note on Demand Curve.
4) Explain the difference between Individual demand and market demand.
5) Explain the difference between individual supply and market supply.
6) Explain the concept of market equilibrium.
7) Write notes on
    - Law of demand
    - Law of supply

Unit - 6

ELASTICITY OF DEMAND

Unit Structure:

6.0 OBJECTIVES

- To study the price elasticity of demand
- To understand the relationship between revenue and elasticity
- To study the impact on price elasticity of demand
- To study tax and its impact

6.1 ELASTICISES OF DEMAND (ED)

The law of demand explains an inverse relationship between price and quantity demanded i.e. when price rises (falls), the demand falls (rises). But here we do not measure the change i.e. how much is the change in price and how much is the change (response) in demand.

Thus in elasticity of demand we try to measure the change.

6.2 PRICE ELASTICITY OF DEMAND (PED)

PEd is the degree of responsiveness of quantity demanded of any commodity (Say x) to change in the price of that commodity (say x).

It is measured as

$$PEd = \frac{\text{Percentage change in Quantity demanded of com x}}{\text{Percentage change in price of com.x}}$$

$$PEd = \frac{\frac{\text{New } D_x - Original\ D_x}{Original\ D_x}100}{\frac{\text{New } P_x - Original\ P_x}{Original\ P_x}100}$$

$$PEd = \frac{\frac{\Delta D_x}{D_x}}{\frac{\Delta P_X}{P_X}}$$

$$PEd = \frac{\Delta D_x}{D_x} \times \frac{\Delta P_X}{\Delta P_X}$$

$$PEd = \frac{P_x}{D_x} \times \frac{\Delta D_x}{\Delta P_x}$$

P_x = original price of corn.x
D_x = original Demand for corn.x
D_x = change in demand (New - original)
P_x = change in Price (New - original)

	Original	New
Price	Rs. 50	Rs. 48
Demand	100 units	110 units

$$PEd = \frac{P}{D} \times \frac{\Delta D}{\Delta P}$$

$$PEd = \frac{P}{D} \times \frac{NewD - OriginalDemand}{NewP - Original\ \text{Price}}$$

$$PEd = \frac{50}{100} \times \frac{110-100}{48-50}$$

$$PEd = \frac{50}{100} \times \frac{10}{-2}$$

$$PEd = \frac{50}{100} \times \frac{10^5}{-2}$$

$$PEd = \frac{5}{2}$$

PED = -2.5 (-ve sign shows the inverse relation between P and D).

6.3 TYPES OF PRICE ELASTICITY OF DEMAND (PED)

1) Unit Elastic Demand : When change in price brings about exactly proportionate change in quantity demanded then demand is said to be Unit elastic. The Ed = 1. For e.g. If price falls by 10%, then the demand rises by 10% and when price rises by 10%, the demand falls by 10%.

$$PEd = \frac{10}{10} = 1$$

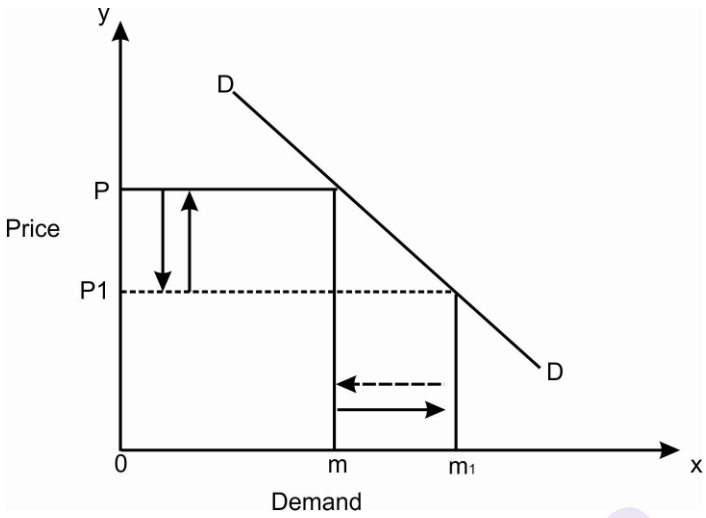


Figure 6.1

When price falls from OP to OP1 then demand rises from OM to OM_1. Here MM1 (rise in D) = PP1 fall in price. Similarly when price rises from OP_1 to OP, then demand falls from OM_1 to OM. Once again $M_1M = P_1P$.

2) Relatively Inelastic Demand :- when change in price brings about a less than proportionate change in quantity demanded then demand is said to be relatively inelastic. If price falls by 10%, then the demand rises say by 5% and if price rises by 10% then demand falls by 5%.

$$PED = \frac{5}{10} = \frac{1}{2} < 1$$

$\therefore PEd$ is less than one (Ed < 1)

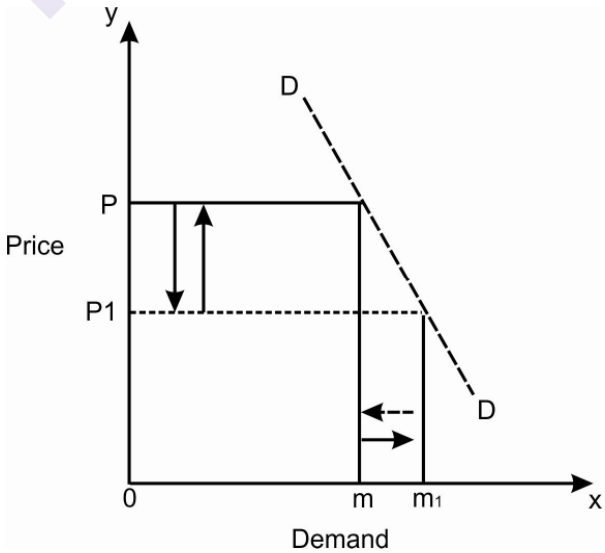


Figure 6.2

When price falls from OP to OP1 then demand rises from OM to OM1. Here rise in demand MM1 < fall in price PP1.

We get a steeper demand curve

$P \downarrow 10\% D \uparrow 5\%$ and $5\% \uparrow 10\% P \downarrow 5\%$

This happens in case of necessary goods.

3) Relatively Elastic Demand :-

When change in price brings about a more than proportionate change in quantity demanded then demand is said to be relatively elastic. For eg. If price falls by 10% then demand rise by say 20% or when price rises by 10%, demand falls by 20%

$Ed > 1$

$P \downarrow 10\% \quad D \uparrow 20\%$

$$Ed = \frac{20}{10} = 2 > 1$$

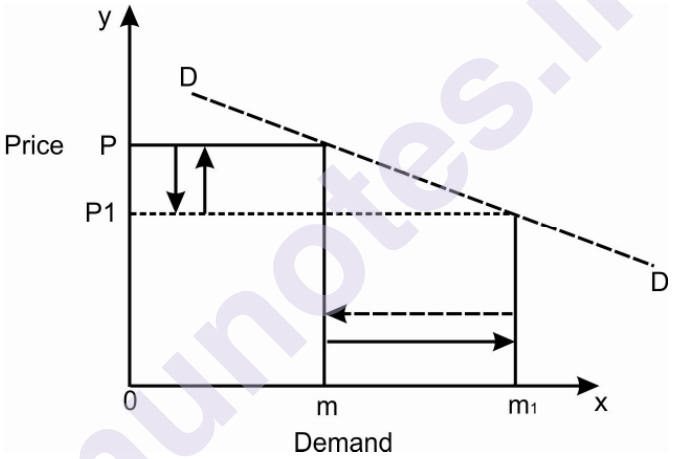


Figure 6.3

When the price falls from OP to OP1 then demand rises from OM to OM1 Here MM1 i.e. rise in demand is greater than fall in price PP1 (MM1 > PP1).

The demand curve is flatter. This happens in case of luxury goods.

4) Perfectly Inelastic Demand :- When change in price brings out no change in quantity demanded then demand is said to be perfectly inelastic. Here Ed =0. Here price may fall or rise by 10% but demand remains constant. It does not change.

$P \downarrow 10\%.D.0$

$P \uparrow 10\%.D.0$

$$Ed = \frac{0}{10} = 0$$

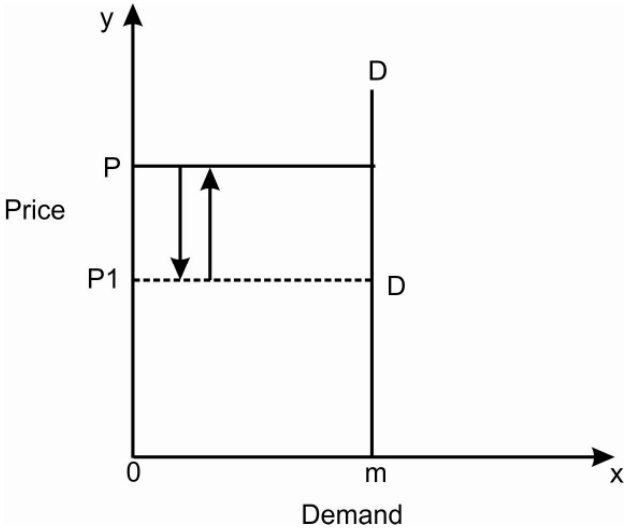


Figure 6.4

Though price falls from OP to OP1, yet demand remains constant i.e. OM. We get a vertical straight line demand curve. This happens in case of neural goods, for e.g. Salt

5) <u>Perfectly Elastic Demand</u> :- When a slight change in price brings out infinite (immeasurable) change to quantity demanded then demand is said to be perfectly elastic demand. $Ed \rightarrow \alpha$

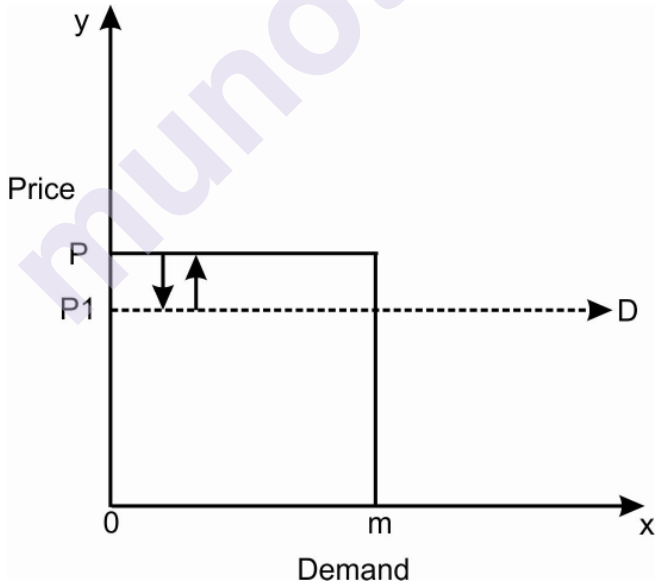
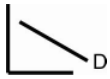


Figure 6.5

When price falls from PP1, We get infinite change (rise) in demand.

We get a horizontal demand curve.

	P	D	Ed	
Unit Elastic	↓10%	↑10%	=1	
Relatively Inelastic	↓10%	↑5%	<1	
Relatively Elastic	↓10%	↑20%	>1	
Perfectly Inelastic	↓10%	D.0	=0	
Perfectly Elastic	↓		α	

6.4 CONCEPT OF REVENUE

Let us now study the concept of revenue say the Total Revenue (TR). Purchase of goods by the consumer involves payment i.e. Total Expenditure or sell of goods by the seller involves receipts i.e. Total Revenue.

When the consumer spends (Total Expenditure) then the seller receives income i.e. Total Revenue. Thus expenditure of the consumer is income or revenue to the seller.

Thus we get the concept as Total Revenue or Total Expenditure or Total Outlay.

Now let us find out how change in price brings out change in demand to measure the change in (TR or TO or TE) elasticity of demand.

Total Revenue or Total outlay or Total expenditure is measured as PX Q Dd (i.e. Price multiplied by quantity demand)

1) <u>Unit Elastic Demand</u> :- when change in price brings about change in demand in such a way that the total outlay remains constant then demand is said to be unit elastic

<u>Price x Q Dd. = TO / TR / TE</u>			
60	100	6000	
50	120	6000	Ed < 1
40	150	6000	

2) <u>Relatively Inelastic Demand</u> : When change in price brings about change in demand in such a way that total outlay goes on decreasing then demand is said to be relatively inelastic or Ed<1

<u>P</u> x	QDd	=	<u>TO or TR or TE</u>	
60	x 100	=	6000	
50	x 110	=	5500	Ed < 1
40	x 120	=	4800	

3) <u>Relatively Elastic Demand</u> :- when change in price brings out charge in demand in such a way that the total outlay goes on increasing then demand is said to be relatively elastic or Ed > 1

Price	x	QDd	=	TO or TE or TR	
60	x	100	=	6000	Ed > 1
50	x	150	=	7500	
40	x	200	=	8000	

<u>Eg 1</u>

<u>Change in price</u>	<u>Change in Total Expenditure</u>	<u>PEd</u>
Fall	Constautor No change	Ed = 1
Rises	constant or No change	Ed =1
Falls	Rises	Ed =1
Rises	Falls	Ed =1
Falls	Falls	Ed =1
Rises	Rises	Ed =1

Eg.2

Price	QDol	To	ed
50	8	400	Relative elastic Ed > 1
40	12	480	
30	20	600	unit Elastic Ed =1
20	30	600	
10	50	500	Relatively Inelastic Ed =1
5	65	325	

E.g.

SR. No.	Price P	Quantity Demanded	TR / TO (P x Q)	Price Ed
1	5	8	40	Unit elastic
	8	5	40	Ed =1
2	5	8	40	Relatively elastic
	7	6	42	Ed >1
3	5	8	40	Relatively Inelastic
	4	9	36	Ed <1

*<u>Price ceilings</u> and Floor <u>Taxes and their impact</u>.

***<u>Price ceiling</u> :-** Price ceiling is a situation when the price is no allowed to rise above a certain level. Price ceiling has been found to be of great importance in many cases e.g. house rent market.

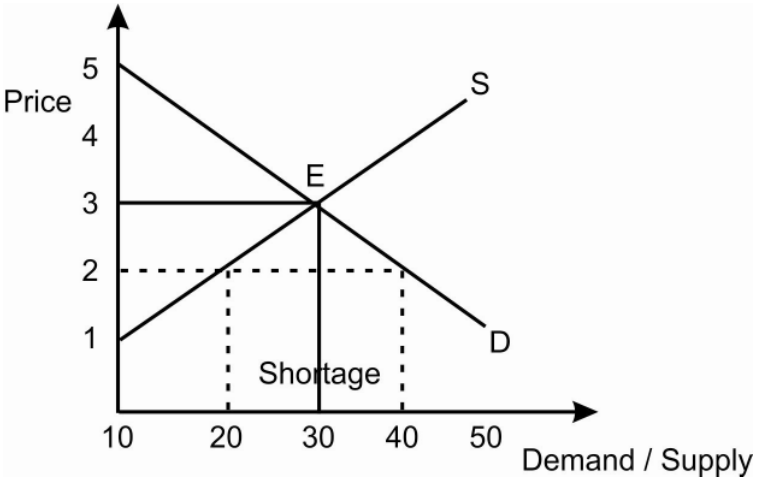


Figure 6.6

Government imposes a price ceiling to control the maximum prices that can be charged by suppliers for the commodity. This is done to make commodities affordable to the general public. However, prolonged application of a price-ceiling can lead to black marketing and unrest in the supply side.

For e.g., : Let's consider the house-rent market. In the above graph, a price of Rs. 3/- has been determined as the equilibrium price with the quantity at 30 homes. Now, the government determines a price ceiling of Rs. 2/-. At this rate there is a shortage (demand for 40 houses, but supply is only 20 houses). In the long run, the extra 20 people will try to get a house on rent, which will eventually give rise to black market and higher rents.

Price Floor : Price floor refers to a situation in which the price is not allowed to decrease below a certain level. For e.g. Government of India announces procurement price for minimum prices at which the government purchases commodities like wheat, rice and other agricultural commodities.

Floor price is higher than the market equilibrium prise.

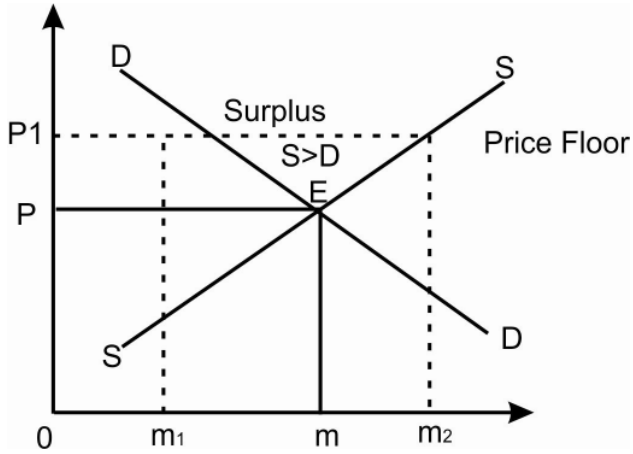


Figure 6.7

The government in order to increase the supply of rice declares a floor or minimum price of Rs. OP1 per kg. The market demand and supply settles on the equilibrium price OP. Since floor price is higher than market equilibrium price, supply becomes more than demand resulting in surplus of rice o the extent of OM2.

6.5 TAX AND ITS IMPACT

Factors Influencing Elasticity of Demand :

The demand for a commodity may be elastic or inelastic depending upon the following factors.

1) **Urgency of wants :** One of the most obvious factor influencing the elasticity of demand is the urgency of wants.

When the desire for a commodity is as strong as a necessity then the demand for it will tend to be inelastic.
Less strongly felt wants are likely to have an elastic demand

2) **Nature of commodity :** Goods and services which are regarded as necessaries of life have generally inelastic demand. E.g. :- food grains, clothes, salt etc.

Where as, the demand for luxury goods is generally elastic. E.g. :- Demand for diamonds, jewellery etc.

3) **Availability of substitutes :** A good which has no substitutes will have inelastic demand e.g. :- Demand for salt, onions, chalks etc.

Whereas, goods which have a wide range of substitutes will have more elastic demand e.g. :- demand for pepsi, case. Etc.

4) **Number of uses of commodity :** If a commodity can be put to several uses then demand for it is reactively elastic. E.g. :- Multipurpose goods like coal, electricity etc. will have elastic demand.

5) **Income :** A consumer having high income displays relatively inelastic demand for many goods where as a poor consumer has more elastic demand for the goods in general.

6) **Proportion of Income :** The proportion of income which is spent on commodities also influences elasticity of demand. If this proportion is very small then demand tends to be inelastic.

7) **Influence of Habit :** When a person is habituated to the consumption of certain commodities then his demand for that commodity will be inelastic. E.g.:- Demand for cigarettes to a chain smoker is relatively inelastic.

8) **Element of Time :** Market demand for any commodity in general will be less elastic in the short period but it becomes more elastic in the long period. It is so because.

It requires time in spreading the news of a given change to all the buyers in the market.

Consumer may expect a further change. This he may not ract immediately to a given change.

People may not change their habits and preferences instantaneously.

6.6 USES OF THE CONCEPT OF ELASTICITY OF DEMAND

1) **Fixation of price (product pricing) :** The concept of elasticity of demand is useful to the monopolist in formulating a suitable price policy. He can charge a higher price if the demand for his product is relatively inelastic.

2) **Formulation of Tax policy :** The concept of elasticity of Demand is useful to the Govt. in formulating an appropriate policy. Tax cannot be levied heavily on a commodity the demand for which is elastic. When the seller tries to shift the burden of tax over to the buyers by charging higher prices these buyers may immediately reduce the demand for the product itself. Hence the govt. may not be able to raise adequate revenue from taxes on such commodities.

3) **Price Discrimination :** Price discrimination implies the seller charges different prices to different buyers for the same product one of the factors underline price discrimination is differences in elasticity of demand. The seller charger a higher price to the buyer or in the market where demand for his product is relatively inelastic & at a lower price to the buyer oriented market where the demand is relatively elastic. Thus differences in elasticity of demand for the product makes price discrimination possible.

4) **Factor Pricing :** The concept of elasticity of demand is also useful in determining factor prices. Those factor prices, the demand for whose services is inelastic command higher rewards in the factor market. E.g. :- We can well observe that the demand for highly skilled and specialised labour say air pilots is relatively inelastic and hence they command higher wages.

5) **Process of Devaluation :** The concept of elasticity of demand is to be carefully applied when the Govt. is planning to undertake the measure of devaluation of currency. Devaluation measures reducing the value of a currency in terms of other currency. This measure is undertaken to overcome disequilibrium in the counties balance of

payments. Through devaluation it is expected that the country's exports will rise & its imports will decline. But if our demand for foreign good is inelastic, we will continue to import goods from abroad & thus our balance of payment will become more unfavourable.

6) **Policy of Nationalisation :** The concept of elasticity of demand is also useful in formulating the policy of nationalisation. The Govt. tries to take over or nationalisation the utility whose demand is inelastic. If such concerns are left in the hands of private sector then the producers would fix exorbitant prices & thereby exploit the consumers. Thus to safeguard the interested the consumers, the Govt. nationalises such industries.

Thus concept of elasticity of demand is useful in policy formation and has considerable practical utility.

6.7 QUESTIONS

1) What is the price elasticity of demand?
2) Explain the types of price elasticity of demand.
3) Explain the relationship between price elasticity of demand and total revenue.

Module 4

Unit - 7

INTERDEPENDENCE AND TRADE

Unit Structure :

7.0 OBJECTIVES

- To understand the concept of international trade and specialization
- To study the concept of absolute cost advantage
- To study the difference between opportunity cost and comparative cost advantage
- To study the relevance of Comparative advantage and trade
- To understand the applications of comparative cost advantage to international trade
- To understand the gains from trade

7.1 SPECIALIZATION AND TRADE

International trade refers to trade in goods and services between the countries of the world. When producers and traders from one country sell goods and services to other countries, they are said to be exporting. Similarly, when producers and sellers from one country buy goods and services from other countries, they are said to be importing. International trade thus constitutes exporting and importing of goods and services by countries of the world. An economy that involves in international trade is called an open economy and one that does not involve in international trade

is called a closed economy. The advantages from international trade are known as gains from trade.

Trade within the country is called domestic trade. Without domestic trade, each region within the country will have to be self-sufficient and the country as a whole will have to sacrifice the benefits of regional specialization. With domestic trade, each region can specialize in producing those goods and services in which it has either a natural or an acquired advantage. Nations can also gain from specialization. Every country produces more of some goods than their residents wish to consume i.e. they create an **exportable surplus**. Every country also consumes more than what it can produce and hence create an **importable deficit.** Surpluses and deficits in consumption give rise to international trade. International trade is required to enjoy the gains of specialization. International trade allows each nation to specialize in producing those goods and services that it produces relatively efficiently while trading to buy those goods and services that it would produce relatively less efficiently. There are three main sources of gains from trade. The *first* is those differences between countries of the world in climate and factor endowment that lead to advantages in producing certain goods and disadvantages in producing others. The *second* source is the reduction in the cost of production of each country as a result of specialization and large scale production. The third source is international competition which promotes rapid technological change and economic growth than what is possible without international competition.

7.2 MEANING OF ABSOLUTE COST ADVANTAGE

The absolute cost advantage theory of international trade was put forward by **Adam Smith** in his work "**The Wealth of Nations**". Smith believed that every country has an absolute advantage in producing some commodity over the others. Thus a country must import those goods which are relatively cheap in other countries and export those goods which are cheaply produced inside the country. Smith advocated a laissez faire economy and believed in free trade between the countries. Free trade will lead to specialization, improved productive efficiency and greater economic welfare of the people in the world. Specialization or international division of labor would lead to a more efficient labor force and the excess output produced domestically can be traded internationally for those goods which the home country is not efficient in producing it.

According to Smith, a country should specialize in those products in which it either has a natural or an acquired advantage. **Natural advantage** may be available to a country on account of

climatic conditions, availability of natural resources, abundant supply of labor etc. However, natural advantage can be exploited to one's own advantage only in producing and exporting primary goods. In value terms, primary goods constitute an insignificant percentage of world trade the bulk of international trade is carried out in manufactured goods and services. The competitive advantage of nations in the export of manufactured goods and services depends upon **acquired advantage.** For example, Japan has an acquired advantage in the production of high quality steel although she has a natural disadvantage in not having iron and coal mines. While India has abundant supply of natural resources in terms of minerals and mines, it can exploit its natural advantage only exporting iron ore and import value added steel from Japan for want of an acquired advantage. Rapid technological advances have replaced old products by new ones and have altered the competitive advantage of nations in world trade. For instance, natural yarn such as cotton, silk and wool have been replaced by synthetic yarn and synthetic rubber have displaced natural rubber.

APPLICATION OF ABSOLUTE COST ADVANTAGE IN INTERNATIONAL TRADE

The theory of absolute cost advantage can be illustrated with the example of a two country two commodity model. Let us assume that the two countries are India and the United States and the commodities are tea and wheat. Let us also assume that both the countries have the same quantum of productive resources available to them to produce the two goods. Both the countries have 200 units of resources. In the absence of international trade, both India and the United States decide to allocate her resources equally between tea and wheat. Accordingly, India would be producing 12.5 quintals of tea and 5 quintals of wheat, whereas, United States would be producing 2.5 quintals of tea and 10 quintals of wheat. The total production of tea and wheat will be 15 + 15 = 30 quintals. The production possibilities of tea and wheat are given in Table 7.1 below. It is clear from these figures that India has absolute advantage in the production of tea over the United States and the United States has absolute advantage in the production of wheat over India. In India, eight units of resources are required to produce one quintal of tea as against 20 units to produce one quintal of wheat. In the United States, 20 units of resources are required to produce one quintal of tea as against 10 units to produce one quintal of wheat. India can produce one quintal of tea with only 40% of resources required to produce in the United States and the United States can produce one quintal of wheat with only 50 % of the resources required to produce in India. When both countries decides to specialize as per the principle of absolute cost advantage and agree to trade in the ratio 1 : 1, India will produce 25 quintals of tea and the United States will produce 20 quintals of wheat. The total output will now be 45 quintals. The

world as a whole will be better off because specialization has led to an increase in output by 50 per cent. Further trading in the ratio 1:1, India will receive 0.6 more wheat for every unit of tea exported and the United States will receive 0.75 more tea for every unit of wheat exported.

Table 7.1 – Absolute Cost Advantage (200 Units of Resources)			
	India	**United States**	**Absolute cost ratio**
Tea (Quintals)	25 (8 Units)	5 (40 Units)	8/40 = 0.2
Wheat (Quintals)	10 (20 Units)	20 (10 Units)	20/10 = 2.0
Domestic Exchange Ratio	1 T = 0.4W	1 W = 0.25T	
If the terms of trade are set in the ratio 1:1, then India will receive 0.6 more wheat for every unit of tea exported and the United States will receive 0.75 more tea for every unit of wheat exported. Before trade, given equal distribution of resources between tea and wheat, India will produce 12.5 quintals of tea and 5 quintals of wheat whereas the US will produce 2.5 quintals of tea and 10 quintals of wheat. Total output of tea and wheat would be 15 quintals each i.e. 30 quintals. Post specialization, India will produce 25 quintals of tea and the US will produce 20 quintals of wheat. World output will be 45 quintals. Specialization will therefore lead to improved economic welfare of the people.			

If the principle of absolute cost advantage is applied to the countries of the world, it will lead to international division of labor and specialization. Greater efficiency will improve world output and the economic welfare of the world as a whole will improve.

7.3 MEANING OF OPPORTUNITY COST AND COMPARATIVE COST ADVANTAGE

The comparative cost advantage theory of international trade was put forward by David Ricardo (1772-1823) in his well known work 'Principles of Political Economy', 1817. David Ricardo based his theory of comparative cost advantage on his labor theory of value. According to the labor theory of value, the value of any product can be determined by the labor content or the labor cost and the exchange of goods take place on the basis of the relative content of labor in the products. If the prices of products in a given industry are higher than the labor cost, it will attract labor from other industries and the supply of products will increase until the prices become equal to labor cost. The principle of labor cost is based on

the assumption that labor is the only productive factor, that it is homogeneous, perfectly mobile between occupations and regions within a country and that there is perfect competition in the labor market. Since the factors of production are immobile between countries, the labor theory of value was found to be inadequate to explain international trade. In order to explain the basis of international trade, David Ricardo put forward the theory of comparative cost advantage.

According to the doctrine of Comparative Cost Advantage, international trade takes place because every country has different advantages in the production of different products. A country will specialize in the production of that product in which it has a greater comparative advantage or her comparative disadvantage is the least. A country will therefore export the product in which it has comparative advantage and import the products in which it has less comparative advantage or has a comparative disadvantage.

Opportunity cost is the cost of opportunity lost. Given the resources and the production possibility frontier, any country can produce only a given combination of two goods. In order to produce more of one good, the country will have to sacrifice more of another good i.e. produce less of another good. If India wants to produce more wheat, it will have to sacrifice more cloth and vice versa. The opportunity cost of producing more wheat will be the additional units of cloth that India will have to sacrifice. The opportunity cost of production is given by the slope of the PPF. A straight line PPF indicates constant opportunity cost whereas a concave PPF indicates increasing opportunity cost.

The principle of 'comparative cost advantage' explains interdependence both within and without the countries of the world and the gains arising out of specialization. We live in an inter-dependent world not only in the economic sphere but also every other sphere of human endeavor. Amongst all the spheres, the economic sphere of inter-dependence is measurable, factual and verifiable. Comparative advantage has many practical applications due to interdependence.

Should Sachin Tendulkar cook his own Food?

Sachin is known to be the greatest batsman in the world today. He has an incredible record in international cricket. With more than 100 first class centuries and 15000 plus runs in his cricketing kitty, his record shall remain unrivalled for many more years to come. Sachin may be multi-talented and possibly he may be a good cook. But does it mean that he should spare his time and energy in cooking food for himself and his family. In order to answer this question, we take recourse to the concepts of opportunity cost and comparative advantage. Let us assume that

Sachin can cook food for himself and his family in three hours. But in the same three hours, he could film a commercial for any multi-national product and earn Rs.10 million. In contrast, Sanjay a professional chef can work in Sachin's kitchen and earn Rs.2500/- for four hours of cooking. In the same four hours, Sanjay can work in Copper & Silver, a Grade-A restaurant and earn Rs.2500.

The opportunity cost of Sachin for cooking is Rs.10 million and that of Sanjay is Rs.2500. Sachin has an absolute advantage in cooking because he can do it in three hours i.e. a lesser input of time. However, Sanjay has a comparative advantage in cooking for Sachin because he has a lower opportunity cost.

7.4 COMPARATIVE ADVANTAGE AND TRADE

The gains from specialization and international trade depend upon the comparative cost ratios i.e. trade is possible even when one country has an absolute advantage in producing both the commodities. David Ricardo (1772-1823), the English economist put forward the comparative cost advantage theory of international trade. In order to understand his theory, let us assume that there are two countries, the United States and India. Both produce the same two goods, wheat and cloth. However, the opportunity cost of producing these two goods is different in these two countries.

Assuming a linear PPF i.e. the opportunity cost is assumed to be constant, let us assume that the opportunity cost of producing one kilogram of wheat is 0.60 meter of cloth in USA and two meters of cloth in the UK. The opportunity cost of cloth and wheat in respect of the two countries is given in Table 7.2.

Table 7.2 – Opportunity cost of wheat and cloth in India and the USA

	Wheat (Kg)	**Cloth (Meters)**
USA	0.60 m cloth	1.67 kg wheat
UK	2.00 m cloth	0.50 kg wheat

Column one reveals opportunity cost per kilogram of wheat and column two shows the opportunity cost per meter of cloth. The USA has comparative advantage in wheat whereas the UK has in cloth.

Column two shows the opportunity cost of producing cloth in both the countries. The numbers in column two are the reciprocals of the numbers in column one (1/0.60 = 1.67 and ½ = 0.5). The opportunity cost of producing wheat is lower in the USA than the UK. The world output of wheat will be higher if the USA specialized in the production of wheat. However, the opportunity cost of producing one unit of cloth in the UK is lower than USA. World

cloth output would be higher if the UK produces cloth. The opportunity cost of producing one unit of cloth is only 0.50 kilograms of wheat in the UK whereas it is 1.67 kilograms of wheat in the USA. The gains from USA specializing in wheat and the UK in cloth are shown in Table 7.3.

Table 7.3 – Gains from Specialization with different opportunity costs.

	Wheat (Kg)	**Cloth (Meters)**
USA	+ 1.0	- 0.6
UK	- 0.5	+ 1.0
Total	+ 0.5	+ 0.4

To produce one more kg of wheat, the USA must sacrifice 0.6 m of cloth and to produce one more meter of cloth, the UK must sacrifice 0.5 kg of wheat. If USA specializes in wheat and the UK in cloth, world output of wheat and cloth will increase.

The advantages of international trade flow from the differing opportunity costs in the two countries. The following conclusions are made:

1. Country A has a comparative advantage over country B in producing a product when the opportunity cost of production in country A is lower. It means, country A has comparative disadvantage in the other product.

2. Opportunity costs depend on the relative costs of producing two products and not on absolute costs.

3. When opportunity costs are the same in both countries, there is no comparative advantage and there is no gain from specialization or international trade.

4. When opportunity costs differ in any two countries and both countries are producing both products, it is always possible to increase production of both products by reallocating resources within each country.

7.6 GAINS FROM TRADE

The classical theory of international trade is based on free trade between countries of the world and that trade benefits all participants due to comparative cost differences. The main benefits or gains of international trade are as follows:

1. **Maximum Output.** Free trade maximizes world output. Trade enables the developing countries to benefit from technological development taking place in the advanced countries.

Developing countries can import the most modern means of production and maximize their output. Economists G Haberler and AK Cairncross observes that developing countries need foreign capital and technological know how for their development and without earning foreign exchange through exports, they will not be able to import foreign capital.

2. **Enlarged Consumption Basket.** International trade helps countries to import those goods and services which are either not produced at home because of the higher costs or the factor endowments of the country are not suitable for the production of such goods. Countries of the world can therefore enjoy a larger consumption basket with trade than without trade.

3. **Greater Competition and check on Domestic Monopolies.** International trade increases the scope of competition thereby increasing the efficiency of domestic producers. Further, due to greater competition, the emergence of monopolies can be prevented. Greater competition can increase the economic welfare of the people.

4. **Mobility of Goods.** International trade in goods and services is a proxy for factor mobility. The disadvantages of factor endowments are greatly neutralized and the trading countries are benefited from international division of labor.

5. **Increase in the Size of the Markets and Rise in Real Incomes.** According to Professor Myint, due to specialization, international trade expands the size of markets and hence goods and services are produced on a larger scale, thereby reducing the cost of production. Greater demand for goods and services not only increases factor prices but also lead to innovation and reduced cost of production. Thus higher demand and lower cost would increase the real income of factor owners.

7.7 QUESTIONS

1. What is specialization and how specialization leads to international trade?
2. What is absolute cost advantage? Explain the application of the principle of absolute cost advantage to international trade.
3. What is opportunity cost? Explain the application of the principle of opportunity cost in every-day life.
4. Explain the applications of the principles of opportunity cost and comparative cost advantage in international trade.
5. Explain the gains from international trade.

Unit - 8

TRADE POLICY PREVIEW

Unit Structure :

8.0 OBJECTIVES

- To understand the meaning of trade policy
- To study the difference between Free Trade and Protection
- To study various instruments of Trade Policy
- To understand the Policy of Free Trade
- To study the advantages and disadvantages of Free Trade
- To understand the meaning of Protectionist policy
- To study the arguments in favor of Protectionist Policy

8.1 TRADE POLICY - INTRODUCTION

Trade policy is also known as commercial policy which is concerned with international trade between countries of the world. Exports and imports are the two components of international trade. Hence, trade policy can be classified into two main policies i.e. import policy and export policy. Trade policy aims at influencing the volume; composition and direction of international trade i.e. trade between one's own country and the rest of the world. The volume of trade pertains to the size of imports and exports. The composition of trade refers to the goods and services imported and exported and the direction of trade refers to the countries from which goods and services are imported and the countries to which goods and services are exported. If a country has balance of trade problem i.e. when a country has a negative trade balance, its import policy will be geared to reduce the quantity of imports and its

export policy will be aiming to increasing exports so that there is equilibrium on the trade account. Thus countries having a problem of trade deficit follow a policy of import restriction-cum-import substitution and export promotion to achieve trade balance.

8.2 FREE TRADE AND PROTECTIONISM

Ideologically speaking, there are two policy options available to a country in the context of international trade. One is the **free trade policy** and the other is the protective trade policy. The policy of free trade was propagated by classical economists like Adam Smith and David Ricardo by emphasizing on the allocative efficiency of free trade. The free trade movement began in the 19th Century Great Britain with a heavy emphasis on the distributive efficiency of free trade. David Ricardo had argued that removal of tariffs on corn would increase the real wages of workers in Great Britain on account of reduced prices of corn and also increase the demand for labor on account of higher profits and more investments made by the capitalist class.

The **policy of protection** or protective trade policy was pursued by the United States in the 19th century. Trade policy in the US was dominated by the 'Infant Industry Argument' during the first half of the 19th century. **Alexander Hamilton** put forward two arguments in favor of protection in his 'Report on Manufactures'. He argued that infant industries will achieve economies of scale on account of protection and consequent preferential access to the domestic market. Further, infant industries will also achieve economies of experience due to protection which gives them time to learn by doing.

Towards the end of the 19th century when Europe faced competition from the United States, Argentina and Russia, the policy of free trade was gradually replaced by the policy of protection. Germany was the first European nation to invoke the policy of protection in 1879. Bismarck, the German Chancellor introduced tariff law in 1879 by giving more protection to industry and agriculture. In Germany, Friedrich List was the chief advocate of the '**infant industry'** argument. Based on his experience in the United States and the success of US protectionist trade policies, **Friedrich List** passionately argued in favor of protection in Germany. His main argument against free trade and for protection was that that free trade is advantageous between equal countries and that nations should not be influenced by allocative arguments alone. Nations can prosper by the international division of labor or free trade only if their domestic industries are developed and are capable of exporting manufactured goods and not raw materials. Germany was followed by France with the Meline Tariff Law of

1892 enacted to promote industrial development in France. By the middle of the 20th century, free trade policy was completely replaced by the policy of protection.

However, after the Second World War, the countries following protectionist trade policy began to realize their mistakes and started making plans for liberalizing international trade and payments. The International Monetary Fund (IMF) and the International Bank for Reconstruction and Development were set up to manage the international monetary system and encourage international lending. The movement of free trade was reborn after the Second Great War and the constitution of GATT in the year 1947. With the formation of GATT, a new era of trade liberalization began in the world. The GATT (General Agreement for Trade and Tariffs) was reconstituted into World Trade Organization (WTO) in the year 1995.

8.3 INSTRUMENTS OF TRADE POLICY

Tariffs, quotas and non-tariff barriers to trade are the three instruments of trade policy. Tariffs and quotas are imposed by governments to raise customs revenue, improve terms of trade, restrict imports and expand exports. When government imposes tariffs on imported goods which are not domestically produced, it is aimed at raising revenue from imports. Similarly, tariffs are also imposed on exports in the form of export duties.

In India, tariffs are imposed on imports whereas exports do not carry any tariffs because India has been consistently experiencing a negative trade balance. In India, export promotion measures are therefore implemented to encourage exports. For instance, Export Oriented Units, Export Processing Zones, Electronic Hardware Technology Park and Software Technology Parks are set up in India amongst other measures to boost exports.

Tariffs on imports and import quotas known as **Quantitative Restrictions** are devices used to protect import competing domestic industries and to accelerate domestic production. Import duties in particular affect the quantity and direction of international trade through prices. **Subsidies** on export are offered to encourage exports. Although the WTO prohibits the use of subsidies to encourage exports, many countries subsidized their exports in more discreet manner by way of charging low interest rates on export credit, tax concessions, subsiding production of export industries and by giving various other facilities thereby imparting a competitive edge. Import quotas or QRs are direct in their effect in terms of restricting imports. **A quota is an absolute**

limit fixed by the government on the quantity of import of a given commodity.

In India, QRs or import quotas were imposed on a large number of items. It was only on 01st April 2001 that the QRs were removed on more than 700 items of imports in pursuant to WTO agreement. All quantitative restrictions constituting quotas, licenses and canalization were to be phased out by 2003 as per the commitment made by India to WTO. India lost the case on QRs against USA and accordingly on 01 April 2001, quantitative restrictions on 715 items were removed.

Quotas as an instrument of trade policy have drawbacks such as allocative inefficiency and corruption. The WTO prohibits imposition of quotas, save exceptions. However, tariffs, subsidies and quotas are easily identifiable instruments of trade policy as against restrictive trade instruments such as environmental consideration, child labor content, phy7to-sanitary conditions etc. Other more discreet forms of trade barriers can be explained in terms of preferential buying of goods and services by the government agencies from the domestic producer without any regard to competitive prices. Such practice can be rampant in fairly mixed economies and not so rampant in capitalist free economies like the USA.

8.4 THE POLICY OF FREE TRADE

Laissez faire or free trade refers to the free play of market forces of demand for imports and supply of exports. A free trade regime is however not free from customs duties. Both imports and exports do attract custom duties to the extent they do not affect the competitive advantage of trading nations and that sovereign nations are enable to earn tax revenue in the same manner as they would be earning from domestic trade. It only means absence of restrictive government intervention in the sphere of international trade. Prohibitive duties and quantitative restrictions are the two instruments used by governments to restrict international trade. For Adam Smith, free trade is “that system of commercial policy which draws no distinction between domestic and foreign commodities and therefore neither imposes additional burden on the latter nor grants any special favor to the former”. Under free trade, there are no trade barriers and there is free movement of goods and series across the borders. The classical economists like Adam Smith and David Ricardo propagated globalization in the form of free trade in the 18th and 19th centuries.

8.5 ADVANTAGES & DISADVANTAGES OF FREE TRADE

The arguments made by the classical economists in favor of free trade are as follows:

Advantages of Free Trade :

1. **Greater Gains from Trade :** Free trade maximizes allocation efficiency of scarce resources i.e. resources will be allocated to their most profitable use. Amongst other factors, trade emerges between countries on account of comparative cost advantage. According to David Ricardo, a country should specialize in the production of those goods and services in which it either enjoys a comparative cost advantage or has the least comparative cost disadvantage. Following the dictum of comparative cost advantage, international division of labor or specialization will take place and maximum world output can be produced leading to maximum economic welfare of participating nations.

2. **Greater Employment, Greater Income and Greater Consumption.** Due to international division of labor and specialization, economies of scale will emerge and the cost of production will be minimized. Markets will be more perfect both nationally and internationally, each firm will be maximizing output and minimizing cost resulting in optimum firms with optimum employment. With maximization of profits, there will be greater investment, employment, output, income and consumption.

3. **Cheaper and Variegated Imports.** Under free trade, every country would be specializing in those lines of production in which it has either a comparative cost advantage or a comparative least cost disadvantage. Every country would therefore be producing goods and services at relatively least cost. For instance, let us assume that India emerges a software giant in the international market, the rest of the world will be in a position to buy the cheapest software from India and India will have the access to the world market for its software exports. Increased income thus generated can be used to make cheap imports of a variety of consumer goods produced elsewhere in the world. For instance, a wide variety of consumer durables could be imported at the cheapest rates, an area in which India has a comparative cost disadvantage. Thus free trade not only makes your exports cheaper to the rest of the world but also makes imports cheaper for you.

4. **Greater Competition and Anti-Monopolistic Business Environment.** Free trade contributes to an unfettered

international market wherein factors of production are freely mobile between countries and uses. Free trade can thus obtain maximum allocation and distributive efficiency. Both monopoly and monopolistic markets fair poorly in terms of allocation and distribution efficiencies. Mal-allocation of resources and mal-distribution of income are some of the serious weaknesses of imperfect markets like monopoly and monopolistic competition or even oligopoly. Under-utilization of production capacity, want of specialization and less than optimum employment are other weaknesses. Since there is unrestricted entry in the markets and inefficient firms are free to exit, only efficiency is rewarded under free trade and free markets. Free markets produce the spirit of innovation and invention and to maintain one's competitive edge in the international market there is no alternative to innovation and invention which are the driving forces of a market economy.

5. **Greater Economic Equality both within and between the Nations.** Free trade promotes and rewards economic efficiencies leading to every expanding world GDP through expanding employment, output, income and demand. Since economic activities will be optimized, there will be little or no scope for inflation. Both imperfect markets and inflation are welfare reducing aspects of modern monetary economies. Sustained economic growth with creeping inflation or constant price levels will bring about rapid growth in economic welfare of the people. Further on account of free factor mobility, surplus labor will be able to move into areas of deficit and similarly surplus capital will also be able to move into capital deficit countries. Thus ever expanding economic opportunities and equal factor rewards promote economic equality both within and between the nations.

6. **Economic Integration and Globalization.** Free movement of factors of production and free movement of goods and services will bring about rapid economic integration of the world economy. Free movement of labor, capital and entrepreneurs will bring about both economic and social integration of the world economy and the world society. On account of optimization of economic activities there may be stability in the price level in the international and national markets. Since prices will be same both in the national and international markets, various currencies will have the same purchasing power which may lead to a single world currency. Thus there will be not only economic and social integration of the world economy but also a political integration. The logical conclusion of economic globalization must necessarily and essentially be political globalization or the world State.

Disadvantages of free trade :
The following arguments are made against free trade:

1. **Anti-competitive Practices amongst the Trading Countries.** Unilateral protectionist measures adopted by trading countries would invite counter-imposition of trade barriers. Trade barriers can be either tariff based or non-tariff based. As a result, there will be moves and counter moves leading to an environment of uncertainty and discordance. However, the element of uncertainty and discordance is due to the absence of a regulating mechanism or the lack of effectiveness of the existing trading mechanism.

2. **Unfavorable Terms of Trade.** Terms of trade refers to the relationship between the export price and import price of a country. Terms of Trade are said to be favorable if the export price of a country is greater than the import price. However, underdeveloped countries mainly exports primary commodities and hence have unfavorable terms of trade. Unfavorable terms of trade occur on account of inefficiencies in production and other areas of business activities. These inefficiencies can be corrected by pursuing right agricultural policies and equilibrium terms of trade can be established.

3. **Unfair Competition, Unequal Gains and the Argument of Dependence.** International trade left free to the trading countries and their exporting firms may give rise to unfair trade practices. Creation of artificial scarcity, dumping, misuse of trade-marks and brands, competitive advertising and mal-information campaigns are all some of the unfair trade practices. However, unfair trade practices can be regulated and effectively controlled provided effective supervisory and regulative mechanism is put in place. Gains of trade are based on efficiencies in production and marketing. The argument that under-developed countries are at a competitive disadvantage is not strong enough because underdevelopment of countries is on account of lack of or absence of factor mobility. One cannot unshackle trade in goods and services without unshackling factor movement. The argument of dependence is not a rational economic argument. It is more based on emotion and thoughtless nationalism. Competitive advantage and inter-dependence are the guiding principles of free trade and they need to be protected and upheld by all trading countries.

8.6 PROTECTIONIST POLICY

A protectionist policy is adopted by a country to give protection to domestic or national industries against competition

from imports. The most common instruments of protection are import tariffs and import quotas. Other instruments of protection include exchange control, state trading, subsidies and international cartels. It was Alexander Hamilton who put forward the argument for a protectionist trade policy in the 19th Century in the USA. The famous 'infant industry argument' put forward by Alexander Hamilton dominated trade policy in the United States in the first half of the 19th century. Germany and France followed protectionist policy in the last quarter of the 19th century. Although the world as a whole under the aegis of the World Trade Organization appears to be moving towards a policy of free trade, almost all the countries are found to be practicing one or other form of protection.

Arguments put forward in favor of protection can be divided into economic and non-economic arguments. The economic arguments are: infant industry argument, diversification of industry argument, employment promotion argument, balance of payment and terms of trade arguments, the pauper-labor argument and the anti-dumping argument. The non-economic arguments constitute the defense issue, the issue of patriotism and the protection to categories of people and occupation.

8.7 ECONOMIC ARGUMENTS IN FAVOR OF PROTECTION

1. The Infant Industry Argument.

A child needs to be nursed and cared to adulthood. Similarly, a country or a nation needs to be nursed and cared to independence in the realm of the economy. Industries which are newly established in a country needs to be protected from competition from abroad. Alexander Hamilton argued that protection to the manufacturing industries in the United States will offer them the benefits flowing from economies of scale and economies of experience. In Germany, Friedrich List argued that free trade was advantageous only between equal countries and hence less developed countries must follow a protectionist policy until they become equally developed. However, it is obvious from the arguments made by Hamilton and List that the protectionist policy must be temporary and therefore transitory. Once the infant industries become adults, protection must be withdrawn and free trade should be allowed.

2. The Diversification of Industry Argument.

The Diversification of Industry argument is in fact an argument in favor of self-sufficiency and independence. The proponents of this argument believes that international trade based on international division of labor leads to specialization and specialization in turn leads to unbalanced growth of national

economies. Further, there are no safeguards against risks arising out of specialization and the only safeguard against specialization IS DIVERSIFICATION OF THE INDUSTRY. Accordingly, a country should not only develop its industry according to her factor endowments and competitive advantage but also set up industries tin which it is a at a competitive disadvantage. However, the advantage of free trade is in the balanced growth of the world economy and not national economies. Once the world understands the importance of maximizing wealth generation, it also learn to enjoy the fruits of prosperity, I am sure they will not foolishly indulge in war and destroy wealth.

3. The Employment Promotion Argument.

Countries facing a deficit on the balance of payment account due to net negative exports along with the problem of unemployment can promote employment generation by imposing restrictions on imports and promoting domestic demand. Increase in domestic demand in a recessionary phase of the trade cycle would uplift the level of private investment, generate employment, output, income and demand via the investment multiplier. The growth in domestic demand by import restriction will however be offset by a fall in exports due to retaliation by the trading partners, thereby nullifying the gains of import restriction. Further, imposition of such tariffs can also open up un-official trade channels in the form of smuggling activities. Finally, trade policy is not the only policy option available for employment generation. Both monetary and fiscal policies are must more efficient and less disruptive in promoting employment generation in a recessionary period.

4. The Balance of Payments and Terms of Trade Argument.

Countries having a trade deficit can use tariff as a corrective instrument. Imposition of tariffs on imports will increase the price of imports and therefore reduce demand. However, the imports on which tariff is imposed must have elastic demand so that the expenditure on imports falls down and helps in reducing the trade deficit. Further, the exporting country may have to share the burden of tariff wholly or partly depending upon the price elasticity of demand for imports. If the demand for imports is highly elastic, the exporting country will have to reduce prices of exports due to imposition of tariff by the importing country in order to offset the contraction in demand. How the exporting country responds to a tariff imposition does not matter to the importing country as long as increase in tariffs helps the importing country to reduce its trade deficit.

Tariff as an instrument of correction of trade deficit is only a short term measure. In the long run, a country will have to improve its export competitiveness and correct the negative trade balance.

Sooner or later a country must learn the adult play and cannot afford to be a child in an indefinite manner.

5. The Cheap Labor Argument.

Labor is believed to be cheap in labor abundant countries and hence it is assumed that they can produce labor intensive goods at much cheaper rates. However, labor productivity is also very low in labor surplus countries. Hence the argument made by rich countrie3s that cheap labor intensive commodities will flood the markets of rich countries and will pull down the wage rates or create unemployment is not economically sound. Cost of production is not determined by wage rates alone. Amongst other factors, labor productivity is an important factor determining the cost of production and if the labor productivity in high wage countries is sufficiently high enough to off-set the wage differential between high wage and low wage countries, there is no rationale to make the cheap labor argument and impose tariffs to protect domestic industry. And if the labor productivity in hi8gh wage countries is not high enough to off-set the wage differential, there, they do not deserve high wages. There is every reason for their wages to go down and establish the competitive parity.

6. The Anti-dumping Argument.

A firm which has a monopoly in the domestic market may resort to dumping in the foreign markets with a view to capture the foreign markets. A monopoly firm or a monopolistic firm or even an oligopoly firm may resort to dumping provided domestic demand is sufficiently high enough to off-set any losses that may arise due to dumping. A firm is believed to be dumping when it sells the products at a higher price in the domestic market and at a lower price in the international market. There is no doubt that dumping is an unfair trade practice and it must be stopped by a countervailing duty so that the motives of dumping are not realized. However, if the exporting firm, though selling at a lower price in the foreign market, is not selling at less than cost price, its action cannot be considered as one of dumping.

Non-economic Arguments in favor of Protection.

Free trade is only a precursor or a beginning of the historical process of dismantling national borders and transforms the world into a borderless globe. Free trade is pregnant with globalization and globalization cannot be limited to trade in goods and services. It has to logically extend to land, labor, capital and enterprise. Given the historical destination of free trade, the arguments both economic and non-economic logically appear to be stupid except under exceptional circumstances. Nonetheless, let us have a look at the non-economic arguments made against free trade.

The Defense, Patriotism and Culture Argument.

As long as the world is divided into nation states and each nation state is a closed society, the defense argument is perfectly correct in pursuing independence in the production of defense requirements and assigning the necessary protection to defense industries. However, one must note that cutting-edge technology is not available in the international market even if you have the foreign exchange to pay for it. Further, the risk arising out of dependence on other countries for the supply of essential articles or defense goods can be easily minimized by diversifying the sources of supply. Today, no country is militarily independent. If countries were militarily independent or economically independent, there would not have been grand military alliances like the NATO or grand economic alliance like the European Union and other lesser grand military and economic alliances. It has been more than fifty years since the colonial countries of Asia and Africa gained independence and their entire history of military and economic independence has been one of fighting with each other and resulting in their common impoverishment. Today, none of these countries are either militarily independent or economically self-sufficient. While the rich countries of Europe, America and Asia are intelligent enough to form grand economic and military alliances, the poor countries of Asia and Africa seems to be stuck in the muck of time and space. They are yet to come to terms with nationalism and fail to understand that nationalism is not the end of evolution of human societies and that is only an intervening stage continuing its evolutionary process. Countries and people cannot be evil. It is individuals at helm of affairs who can be evil and potentially capable of destroying collectivities of people and wealth. Well meaning people, institutions and nation states should marshal their resources to create a defense against evil individuals and save planet earth and its inhabitants from collective annihilation. The countries of Asia and particularly the countries of south Asia have the worst record of human rights violations and particularly women's right violations. This has been definitely on account of the fact that winds of individual freedoms which the west steadfastly upholds are yet to completely blow over the dark regions of Asia and Africa. Civil liberties, economic freedoms, individual freedoms and planet earth as a common abode will become a reality only though free mobility of products and factors across a borderless world.

CONCLUSION :

International trade is only half complete without free international movement of factors of production. Many of the arguments made against free trade are on account of lack of or the absence of factor mobility between nation states. Free factor mobility will help in equalizing product prices and convert international trade into simply trade. Adequate and effective

supervisory and regulatory bodies at the international level will eliminate or control the element of unfair trade practices and ensure that gains from trade are obtained through real efficiencies.

8.8 QUESTIONS

1. What is trade policy? Explain the arguments made in favor of free trade policy.
2. Explain the disadvantages of free trade.
3. Explain the instruments of trade policy.
4. Explain the superiority of free trade over protectionist trade.
5. Explain the arguments made in favor of protectionist trade policy.

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Modified Pattern of Question Paper for Semester End Assessment implemented from 2020-2021 For Economics courses at F.Y.B.A.

Duration 3 hours Total Marks = 100 (per semester)

All 5 questions carry 20 marks and are compulsory.
There will be internal choice in each Question.

Q1.Attempt any two questions (Module 1) 20marks
A.
B.
C.

Q2.Attempt any two questions (Module 2) 20marks
A.
B.
C.

Q3.Attempt any two questions (Module 3) 20marks
A.
B.
C.

Q4.Attempt any two questions (Module 4) 20marks
A.
B.
C.

Q5.Attempt any two questions (Module 1,2,3,4. One question from each module) 20 marks
A.
B.
C.
D.

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