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Economics: Meaning, scope and subject matter, definitions, activities, approaches to economic analysis, micro and macro economics, positive and normative analysis, Nature of economic theory, rationality assumption, concept of equilibrium, economic laws as generalization of human behaviour

Economics

Economics is popularly known as the “Queen of Social Sciences”. It studies economic activities of a man living in a society. Economic activities are those activities, which are concerned with the efficient use of scarce means that can satisfy the wants of man. After the basic needs viz., food, shelter and clothing have been satisfied, the priorities of people shift towards other wants. Human wants are unlimited, in the sense, that as soon as one want is satisfied another crops up. Most of the means of satisfying these wants are limited, because their supply is less than demand. These means have alternative uses; there emerge a problem of choice. Resources being scarce in nature ought to be utilized productively within the available means to derive maximum satisfaction. The knowledge of economics guides us in making effective decisions. The subject matter of economics is concerned with wants, efforts and satisfaction. In other words, it deals with decisions regarding the commodities and services to be produced in the economy, how to produce them most economically and how to provide for the growth of the economy.

Scope of Economics

Scope means province or field of study. While discussing the scope of economics, we have to indicate whether it is a science or an art and a positive science or a normative science. It also covers the subject matter of economics.

i) Economics - A Science and an Art

a) *Economics is a science:* Science is a systematized body of knowledge that traces the relationship between cause and effect. Another attribute of science is that its phenomena should be amenable to measurement. Applying these characteristics, we find that economics is a branch of knowledge where the various facts relevant to it have been systematically collected, classified and analyzed. Economics investigates the possibility of deducing generalizations as regards the economic motives of human beings. The motives of individuals and business firms can be very easily measured in terms of money. Thus, economics is a science.

Economics - A Social Science: In order to understand the social aspect of economics, we should bear in mind that labourers are working on materials drawn from all over the world

and producing commodities to be sold all over the world in order to exchange goods from all parts of the world to satisfy their wants. There is, thus, a close inter-dependence of millions of people living in distant lands unknown to one another. In this way, the process of satisfying wants is not only an individual process, but also a social process. In economics, one has, thus, to study social behaviour i.e., behaviour of men in-groups.

b) *Economics is also an art:* An art is a system of rules for the attainment of a given end. A science teaches us to know; an art teaches us to do. Applying this definition, we find that economics offers us practical guidance in the solution of economic problems. Science and art are complementary to each other and economics is both a science and an art.

ii) Positive and Normative Science

Economics is both positive and normative science.

a) *Positive science:* It only describes what it is and normative science prescribes what it ought to be. Positive science does not indicate what is good or what is bad to the society. It will simply provide results of economic analysis of a problem.

b) *Normative science:* It makes distinction between good and bad. It prescribes what should be done to promote human welfare. A positive statement is based on facts. A normative statement involves ethical values. For example, “12 per cent of the labour force in India was unemployed last year” is a positive statement, which could be verified by scientific measurement. “Twelve per cent unemployment is too high” is a normative statement comparing the fact of 12 per cent unemployment with a standard of what is unreasonable. It also suggests how it can be rectified. Therefore, economics is a positive as well as normative science.

iii) Methodology of Economics

Economics as a science adopts two methods for the discovery of its laws and principles, viz., (a) deductive method and (b) inductive method.

a) *Deductive method:* Here, we descend from the general to particular, i.e., we start from certain principles that are self-evident or based on strict observations. Then, we carry them down as a process of pure reasoning to the consequences that they implicitly contain. For instance, traders earn profit in their businesses is a general statement which is accepted even without verifying it with the traders. The deductive method is useful in analyzing complex economic phenomenon where cause and effect are inextricably mixed up. However, the deductive method is useful only if certain assumptions are valid. (Traders earn profit, if the demand for the commodity is more).

b) *Inductive method:* This method mounts up from particular to general, i.e., we begin with

the observation of particular facts and then proceed with the help of reasoning founded on experience so as to formulate laws and theorems on the basis of observed facts. E.g. Data on consumption of poor, middle and rich income groups of people are collected, classified, analyzed and important conclusions are drawn out from the results.

In **deductive** method, we start from certain principles that are either indisputable or based on strict observations and draw inferences about individual cases. In inductive method, a particular case is examined to establish a general or universal fact. Both deductive and inductive methods are useful in economic analysis.

iv) Subject Matter of Economics

Economics can be studied through a) traditional approach and (b) modern approach.

a) Traditional Approach: Economics is studied under five major divisions namely consumption, production, exchange, distribution and public finance.

Consumption: The satisfaction of human wants through the use of goods and services is called consumption.

Production: Goods that satisfy human wants are viewed as “bundles of utility”. Hence production would mean creation of utility or producing (or creating) things for satisfying human wants. For production, the resources like land, labour, capital and organization are needed.

Exchange: Goods are produced not only for self-consumption, but also for sales. They are sold to buyers in markets. The process of buying and selling constitutes exchange.

Distribution: The production of any agricultural commodity requires four factors, viz., land, labour, capital and organization. These four factors of production are to be rewarded for their services rendered in the process of production. The land owner gets rent, the labourer earns wage, the capitalist is given with interest and the entrepreneur is rewarded with profit. The process of determining rent, wage, interest and profit is called distribution.

Public finance: It studies how the government gets money and how it spends it. Thus, in public finance, we study about public revenue and public expenditure.

b) Modern Approach: The study of economics is divided into: i) Microeconomics and ii) Macroeconomics.

1. Micro-Economics or Price Theory:

The term “micro-economics” is derived from the Greek word “micro”, which means small or a millionth part. It is also known as “Price theory”. It is an analysis of the behaviour of small decision-making unit, such as a firm, or an industry, or a consumer, etc. It studies only the employment in a firm or in an industry. It also studies the flow of economic

resources or factors of production from the resource owners to business firms and the flow of goods and services from the business firms to households. It studies the composition of such flows and how the prices of goods and services in the flow are determined.

A noteworthy feature of micro-approach is that, while conducting economic analysis on a micro basis, generally an assumption of “full employment” in the economy as a whole is made. On that assumption, the economic problem is mainly that of resource allocation or of theory of price.

Importance of Micro-Economics: Micro-economics occupies a very important place in the study of economic theory.

- **Functioning of free enterprise economy:** It explains the functioning of a free enterprise economy. It tells us how millions of consumers and producers in an economy take decisions about the allocation of productive resources among millions of goods and services.
- **Distribution of goods and services:** It also explains how through market mechanism goods and services produced in the economy are distributed.
- **Determination of prices:** It also explains the determination of the relative prices of various products and productive services.
- **Efficiency in consumption and production:** It explains the conditions of efficiency both in consumption and production.
- **Formulation of economic policies:** It helps in the formulation of economic policies calculated to promote efficiency in production and the welfare of the masses.

Limitations of Micro-Economics: Micro-economic analysis suffers from certain limitations:

- It does not give an idea of the functioning of the economy as a whole. It fails to analyse the aggregate employment level of the economy, aggregate demand, inflation, gross domestic product, etc.
- It assumes the existence of “full employment” in the whole economy, which is practically impossible.

2. Macro-Economics or Theory of Income and Employment:

The term “macro-economics” is derived from the Greek word “macro” which means “large”. Macro-economics is an analysis of aggregates and averages pertaining to the entire economy, such as national income, gross domestic product, total employment, total output, total consumption, aggregate demand, aggregate supply, etc. Macro-economics looks to the

nation's total economic activity to determine economic policy and promote economic progress.

Importance of Macro-Economics:

- It is helpful in understanding the functioning of a complicated economic system. It also studies the functioning of global economy. With growth of globalisation and WTO regime, the study of macro-economics has become more important.
- It is very important in the formulation of useful economic policies for the nation to remove the problems of unemployment, inflation, rising prices and poverty.
- Through macro-economics, the national income can be estimated and regulated. The per capita income and the people's living standard are also estimated through macro-economic study.

Limitations of Macro-Economics:

- Individual is ignored altogether. For example, in macro-economics national saving is increased through increasing tax on consumption, which directly affects the consumer welfare.
- The macro-economic analysis overlooks individual differences. For instance, the general price level may be stable, but the prices of food grains may have gone up which ruin the poor. A steep rise in manufactured articles may conceal a calamitous fall in agricultural prices, while the average prices were steady. The agriculturists may be ruined.

DEFINITIONS OF ECONOMICS

Several economists have defined economics taking different aspects into account. The word 'Economics' was derived from two Greek words, oikos (a house) and nemein (to manage) which would mean 'managing an household' using the limited funds available, in the most satisfactory manner possible.

Wealth Definition of Economics: Adam Smith (1723 - 1790), in his book "An Inquiry into Nature and Causes of Wealth of Nations" (1776) defined economics as the science of wealth. He explained how a nation's wealth is created. He considered that the individual in the society wants to promote only his own gain and in this, he is led by an "invisible hand" to promote the interests of the society though he has no real intention to promote the society's interests.

Criticism: Smith defined economics only in terms of wealth and not in terms of human welfare. Ruskin and Carlyle condemned economics as a 'dismal science', as it taught

selfishness which was against ethics. However, now, wealth is considered only to be a mean to end, the end being the human welfare. Hence, wealth definition was rejected and the emphasis was shifted from 'wealth' to 'welfare'.

Welfare Definition of Economics: Alfred Marshall (1842 - 1924) wrote a book "Principles of Economics" (1890) in which he defined "Political Economy" or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well being". The important features of Marshall's definition are as follows:

- According to Marshall, economics is a study of mankind in the ordinary business of life, i.e., economic aspect of human life.
- Economics studies both individual and social actions aimed at promoting economic welfare of people.
- Marshall makes a distinction between two types of things, viz. material things and immaterial things. Material things are those that can be seen, felt and touched, (E.g.) book, rice etc. Immaterial things are those that cannot be seen, felt and touched. (E.g.) skill in the operation of a thrasher, a tractor etc., cultivation of hybrid cotton variety and so on. In his definition, Marshall considered only the material things that are capable of promoting welfare of people.

Criticism:

- Marshall considered only material things. But immaterial things, such as the services of a doctor, a teacher and so on, also promote welfare of the people.
- Marshall makes a distinction between (i) those things that are capable of promoting welfare of people and (ii) those things that are not capable of promoting welfare of people. But anything, (E.g.) liquor, that is not capable of promoting welfare but commands a price, comes under the purview of economics.
- Marshall's definition is based on the concept of welfare. But there is no clear-cut definition of welfare. The meaning of welfare varies from person to person, country to country and one period to another. However, generally, welfare means happiness or comfortable living conditions of an individual or group of people. The welfare of an individual or nation is dependent not only on the stock of wealth possessed but also on political, social and cultural activities of the nation

Scarcity Definition of Economics: In his publication "Nature and Significance of Economic Science" Lionel Robbins formulated his conception of Economics based on the

scarcity concept. “Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.

Growth Definition of Economics: Prof. Paul Samuelson defined economics as “the study of how men and society choose, with or without the use of money, to employ scarce productive resources which could have alternative uses, to produce various commodities over time, and distribute them for consumption, now and in the future among various people and groups of society”. The major implications of this definition are as follows:

- Samuelson has made his definition dynamic by including the element of time in it. Therefore, it covers the theory of economic growth.
- Samuelson stressed the problem of scarcity of means in relation to unlimited ends. Not only the means are scarce, but they could also be put to alternative uses.
- The definition covers various aspects like production, distribution and consumption.

Of all the definitions discussed above, the ‘growth’ definition stated by Samuelson appears to be the most satisfactory.

However, in modern economics, the subject matter of economics is divided into main parts, viz., i) Micro Economics and ii) Macro Economics. Economics is, therefore, rightly considered as the study of allocation of scarce resources (in relation to unlimited ends) and of determinants of income, output, employment and economic growth.

Positive Economics and Normative Economics

- Positive economics is concerned with “what is” whereas Normative economics is concerned with “what ought to be”.
- Positive economics describe economic behaviours without any value judgment while normative economics evaluate them with moral judgment.
- Positive economics is objective while normative economics is subjective.
- The statement, “Price rise as demand increase” is related to positive economics, whereas the statement, “Rising prices is a social evil” is related to normative economics.

Nature of Economic Theory

Economic theory involves generalisations which are statements of general tendencies or uniformities of relationships among various elements of economic phenomena. A generalisation is the establishment of a general truth on the basis of particular experiences.

For example, the generalisation that demand is an inverse function of price expresses a relationship between price and demand, other things remaining the same. If other things

remain the same, the law of demand holds valid. If other things do not remain the same, it stands refuted.

Rationality Assumption:

The rationality assumption is the expectation that individuals will select from a series of choices the one that will maximize utility; this utility is subject to definition and can be based on pure economic profit, social benefit, and a host of other factors.

Concept of Equilibrium:

In the methodology of economics, concept of equilibrium occupies an important place. The concept of equilibrium is employed in almost every theory of economics in the fields of price income and growth.

Word equilibrium means a state of balance. When two opposing forces working on an object are in balance so that the object is held still, the object is said to be in equilibrium.

In other words, when the object under the pressure of forces working in opposite directions has no tendency to move in either direction, the object is in equilibrium. Thus, a system can be said to be in equilibrium when the various important variables in it show no change and when there are no pressures or forces working which will cause any change in the values of important variables.

Thus, by consumer's equilibrium we mean that in regard to the allocation of money expenditures among various goods the consumer has reached the state where he has no tendency to re-allocate his money expenditure. Similarly, a firm is said to be in equilibrium when it has no tendency to change its level of output, that is, when it has no tendency either to increase or to contract its level of output.

Whether it is the price, level of income or employment, solution always lies in the equilibrium value. Thus, the important topic in microeconomics is that how the prices of goods are determined and the prices are in equilibrium when the quantity demanded and the quantities supplied of the goods are equal. At the market price at which the quantity demanded and the quantities supplied are equal, both buyers and sellers would be satisfied.

Therefore, that once would be ultimately settled in the market and there would be no tendency for it to change unless some changes in the determining conditions of demand and supply occur. Likewise, the levels of income and employment in advanced capitalist countries are determined by their equilibrium levels at which aggregate demand is equal to aggregate supply.

It may, however, be pointed out that equilibrium in economic activities may never be realised in actual practice. But the importance of the equilibrium analysis lies in the fact that

if other things remain the same the economy would tend towards the equilibrium values. What happens is that before the final equilibrium is reached changes occur in the determining factors so that the system tends to move towards new equilibrium value corresponding to the new changed conditions.

Two types of equilibrium have been distinguished:

Partial Equilibrium Analysis:

In partial equilibrium approach to the pricing, we seek to explain the price determination of a commodity, keeping the prices of other commodities constant and assuming that demands of various commodities are not interdependent. In explaining partial equilibrium approach, Marshall writes. “The forces to be dealt with are, however, so numerous that it is best to analyse a few at a time and to work out a number of partial solutions as auxiliaries to our main study.

Thus we begin by isolating the primary relations of supply, demand and price in regard to a particular commodity. We reduce to inaction all other forces by the phrase, ‘other things being equal.’ We do not suppose that they are inert, but for the time being we ignore their activity. This scientific device is a great deal older than science. It is the method by which consciously or unconsciously sensible men dealt from the time immemorial with every difficult problem of everyday life.”

Thus, in Marshallian explanations of pricing under perfect competition demand function (or a demand curve) for a commodity is drawn with the assumption that prices of other commodities remain constant. Similarly, supply curve of a commodity is constructed by assuming that prices of other commodities, prices of resources or factors and production function remain the same.

Then the Marshall’s partial equilibrium analysis seeks to explain the price determination of a single commodity through the intersection of demand and supply curves, prices of other goods and resources etc. remaining constant. That is, the data of the system are taken as given and kept the same and the determination of price-output equilibrium of a single commodity.

Given the assumption of *ceteris paribus* it explains the determination of the price of a good independently of the prices of all other goods. With the change in the data, new demand and supply curves will be formed and, corresponding to these, new price of the commodity will be determined. This partial equilibrium analysis of price determination also studies how the equilibrium price changes as a result of change in the data. But, given the independent data, the partial equilibrium analysis discusses only the price determination of a commodity

in isolation and does not analyse how the prices of various goods are inter-dependent and inter-related and how they are simultaneously determined.

It should be noted that partial equilibrium analysis is based on the assumption that the changes in a single sector do not significantly affect the rest of the sectors. Thus, in partial equilibrium analysis, if the price of a good changes, it will not affect the demand for other goods. Prof. Lipsey rightly writes. “All partial equilibrium analyses are based on the assumption of *ceteris paribus*. Strictly interpreted, the assumption is that all other things in the economy are unaffected by any changes in the sector under consideration (say sector A). This assumption is always violated to some extent, for anything that happens in one sector must cause changes in some other sectors. What matters is that the changes induced throughout the rest of the economy are sufficiently small and diffuse so that the effect they in turn have on the Sector A can be safely ignored.”

General Equilibrium Analysis:

In general equilibrium analysis, the price of a good is not explained to be determined independently of the prices of other goods. Since the changes in price of a good X affect the prices and quantities demanded of other goods and in turn the changes in prices and quantities of other goods will affect the quantity demanded of the good X, the general equilibrium approach explains the mutual and simultaneous determination of prices of all goods and factors. Thus, general equilibrium analysis looks at multi-market equilibrium. It considers the way in which the prices of all goods in an economic system are determined simultaneously, each in its own free market.

As stated above, partial equilibrium approach assumes that the effect of the change in price of a good X will be so diffused in the rest of the economy (i.e., over all other goods) as to have negligible effect on the prices and quantities of other individual goods. Therefore, where the effect of a change in the price of a good on the prices and quantities of some other goods is significant, as is there in the case of inter-related goods, the partial equilibrium approach cannot be validly applied in such cases and therefore the need for applying general equilibrium analysis which explains the mutual and simultaneous determination of their prices and quantities.

General equilibrium analysis deals with inter-relationship and inter-dependence between equilibrium adjustment of prices and quantities of various goods and factors with each other. General equilibrium exists when, at the going prices, the quantities demanded of each product and each factor are equal to their respective quantities supplied.

A change in the demand or supply of any good or factor would cause changes in prices and quantities of all goods and factors and there will begin adjustment and readjustment in demand, supply and prices of other goods and factors till the new general equilibrium is established. Indeed, the general equilibrium analysis is solving a system of simultaneous equations.

The Nature of Economic Laws and Generalizations

Economics is a science and like other sciences it also has its laws. Economic laws also known as generalisations, principles and uniformities.

The economic laws describe how a man behaves as a producer and a consumer. The economic laws are also concerned with how the economic system works and operates. Man in his economic life produces wealth, consumes wealth, and changes it with others.

Therefore, economic laws have been framed which govern production, consumption and exchange of wealth by men. Besides, economic laws are also concerned with how the national product produced is distributed and how the level of income and employment are determined.

Lastly, economic laws also describe growth of the economy as well as international trade between the various countries of the world. In fact, economic laws have been framed in all fields of the subject matter of economics, namely, consumption, production, price determination, determination of income and employment, growth of the economy, foreign trade, etc.

Among the important laws of economics, mention may be made of Law of Demand, Law of Diminishing Marginal Utility, Law of Variable Proportions or Diminishing Returns, Keynesian Psychological Law of Consumption, the Principles of Multiplier and Accelerator, Malthusian Law of Population, Law of comparative Advantage.

According to Marshall, “economic laws are these social laws which relate to branches of conduct in which the strength of the motives chiefly concerned can be measured by money price.” By this Marshall means that economists have framed laws and theories which explain the conduct or behaviour of man who tries to maximise some things or seek to fulfill his objectives, and these things and objectives must be measurable in terms of money.

What is not measurable in terms of money does not come within the purview of economics. However, this is a very narrow view about economic laws. Therefore, Robbins broadened the scope of economic laws and brought out that whether any objective or conduct of man is concerned with money or not, it can come within purview of laws of economics if it

is concerned with the problem of choice, that is, allocation of scarce resources among unlimited wants.

According to Robbins, economic laws are statements of tendencies which govern human behaviour concerning the utilisation of scarce resources for the achievement of unlimited wants. In other words, when resources are scarce and wants are unlimited and therefore the problem of choice arises, economists have to frame the laws of choice, whether or not variables and objectives involved in it are measurable with money.

Economic Laws as Statements of Tendencies:

The nature of economic laws has been a subject of controversy. Marshall thought that the laws of economics are not exact and definite; they are mere statements of tendencies. According to him, this is unlike the laws of physical sciences which are quite exact, precise and definite.

Because of the exactness and definiteness, the laws of physical sciences can predict the course of events. But laws of economics lack this predictive value. Laws of economics are conditional and are associated with a number of qualifications and assumptions and these assumptions and qualifications are generally contained in the phrase “other things remaining the same,” or *Ceteris Paribus* which is attached to every law and theory of economics.

But, in the real world, these other things generally do not remain the same because the economic world is dynamic and ever-changing. For example, according to the law of demand when price of a commodity rises, its quantity demanded by the consumer will fall.

But if along with the rise in price of the commodity, income of the consumer increases, then the consumer may demand more of the commodity even at the higher price. This seems to be contrary to the law of demand but in fact this is not so because the law of demand assumes that other things, such as income, tastes and prices of the related goods remain the same, and in our case this qualification has not been fulfilled because income of the consumer has increased. Law of demand will hold good only if other things such as income, tastes and preferences, the prices of related goods remain constant and unchanged.

Likewise, according to the law of diminishing returns, when amount of labour to a given piece of land is increased, marginal product of labourer would diminish beyond a certain stage. But again in actual practice this may not happened so.

It may happen that when the use of labour is increased on a given piece of land, improved and more productive technology is employed, and then the marginal product of labour may increase rather than decline.

Actually this has happened in the present-day developed countries where along with the growth of population and labour force on land, marginal product of labour has increased and this is due to the fact that there has been rapid progress in agricultural technology in these countries due to which marginal productivity has increased. But this also does not prove that law of diminishing returns is invalid. This is because law of diminishing returns also assumes that other things such as technology amount of capital etc. remain unchanged.

It is worth mentioning that laws of economics are not like those of the legal laws passed by the Government or Parliament. These legal laws are made by the Government or the Parliament in order to maintain law and order in the country, and it is compulsory for the citizens to obey those laws. If any man violates these legal laws he invites punishment from the government. On the other hand, economic laws tell us how a rational man behaves in his economic life.

Scientific Nature of Economic Laws:

Laws of economics are of scientific nature. All scientific laws establish relationship between cause and effect. Economic laws also establish relationship between cause and effect about economic behaviour of man and economic phenomena. If we observe man in using his scarce resources to satisfy his unlimited wants, then we will see that he behaves in a particular manner.

By observing the behaviour of several people, economists have established certain generalisations or general principles which are called economic laws. Therefore, these economic laws are general tendencies of man's behaviour in his economic life.

Therefore economic laws are related to economic life of man. In his economic life, man produces wealth and consumes it. Besides, the distribution and exchange of wealth also affect the economic life of man. Economists have made several laws regarding production, consumption, distribution and exchange of wealth. Like other scientific laws, economic laws also establish relationship between cause and effect.

For example, according to the law of demand, when price of a commodity falls, its quantity demanded increases, other things remaining the same. Here the fall in the price is the cause, and the rise in quantity demanded is the effect. Law of Diminishing Marginal Utility describes that as a man has more units of a commodity, its marginal utility goes on diminishing. Here, the increase in the quantity of the commodity is the cause and the fall in marginal utility is the effect. This holds goods in case of other economic laws also.

It is thus clear that economic laws are hypothetical and conditional. But this does not mean that economic laws are not scientific or that they are useless. As a matter of fact, all scientific laws are conditional. The famous scientific law of gravitation is also conditional.

According to the law of gravitation, when any commodity is thrown in the air, then it falls down to the ground. This is because the earth has the power to attract and pull other things to it. But this famous scientific law also depends upon the fulfillment of certain conditions.

The condition for the law of gravitation to apply is that no opposing forces obstruct the commodity from falling to the ground. We often see that aeroplanes, birds, balloons, etc. fly in the air and don't fall to the ground. This is because some opposing forces are at work which prevents these things from falling to the ground. Due to the working of these opposing forces, law of gravitation does not apply in these cases. Therefore, law of gravitation also applies when the opposing forces do not operate. Take another example of a scientific law from the science of chemistry.

According to a well-known law of chemistry, water is formed if two atoms of hydrogen are mixed with one atom of oxygen: but this law will also apply under specific conditions. Water will be formed with two atoms of hydrogen and one atom of oxygen under certain conditions of temperature and pressure. Thus, all scientific laws hold good under certain conditions.

Therefore, the fact that economic laws are conditional and hypothetical is not a unique thing. Nor does this conditional and hypothetical nature destroy the scientific nature of economic laws. Economic laws are, therefore, as important and useful as the laws of physical sciences.

Economic Laws are less Exact and Definite than Laws of Physical Sciences:

But it is worth mentioning that laws of economics are less exact and definite than the laws of physical sciences. Law of gravitation which we have mentioned above is so exact and definite that we can calculate and measure exactly the movements of the solar system and we can predict their exact position at a particular time.

But this is not true in case of economic laws. As said above, economic laws are not so exact and definite; we cannot say with certainty how a man would behave under certain conditions and, therefore, cannot exactly predict his behaviour. We can only say that a man would tend to behave in a particular manner. But because of ignorance, habit, blind faith, emotion, it is quite possible that he behaves contrary to a relevant economic law.

That is why, Marshall said that “the laws of economics are to be compared with the laws of tides, rather than with the simple and exact law of gravitation” Laws of tides tell us that how tides rise and fall twice in a day. Besides, they tell us that the height of the tides is maximum on a full-moon day.

In other words, on a full-moon day tides are most furious. We can know from these laws of tides that what would be the length of these tides at a certain place on a certain day. But all this we cannot say with definiteness and certainty because tides are affected by external conditions such as air, weather, rain and storm.

It cannot be said that what these external conditions will be at a particular place and time. Therefore, how much tides rise at a particular date and time cannot be predicted with certainty? We can say only this much that if these other conditions remain the same, what will be the height of these tides at a certain place and time. Thus, like economic laws, laws of tides are also statements of tendencies.

Now the question arises why economic laws are less definite and exact than those of natural sciences. This is because the object of economic study is such that economic laws cannot be completely definite and exact. The object of economic study is man with a free will and with certain wants and resources.

The behaviour of man is governed by several external forces which are beyond his control. Economic behaviour of man is affected by his tastes, fashions, social conditions and customs, family conditions, etc. and all these go on changing. Therefore, economic laws framed by establishing relation between cause and effect in regard to human behaviour cannot be exact and definite.

Man's tastes and other external conditions often change and, therefore, man may behave contrary to the established laws of economics. On the other hand, the objects of physical sciences are inert things which lack free will and whose nature always remains the same. Therefore, the laws of physical sciences are more exact and definite. Besides the laws of physical sciences are formulated by making controlled experiments.

By controlling many factors the functional relationship between physical variables are established, but it is not possible to make such controlled experiments regarding human behaviour. We cannot shut a man in a laboratory and keep many things constant and study his attitude and reactions to a particular change and thus establish relationship between relevant economic variables.

In order to establish economic laws regarding human behaviour, we have to observe man's actions and reactions in the actual world. Empirical observations are an important way of establishing laws of economics.

Another way to formulate laws of economics is the use of introspective or psychological method. Economists by knowing their reactions to a certain economic phenomenon also think that others too would behave in the same way, human nature being the same. Thus, by their own psychological reactions they derive generalisations about economic behaviour of the people.

Although laws of economics are less exact and definite than the laws of physical sciences, yet they are more exact and definite than the laws of other social sciences. Economics is fortunate enough to have a measure of money with which we can assess the motives or objectives as well as the results. Such a measure is not available to other social sciences.

Basic concepts: Goods and services, desire, want, demand, utility, cost and price, wealth, capital, income and welfare.

i) Goods and Services

Any tangible commodity that satisfies human want is called a good or visible good or material good. These goods can be seen or felt, (E.g.) rice, book, etc. Any intangible thing that satisfies human want is called a service or invisible good or immaterial good. (E.g.) Services of an engineer or a teacher can be sold, but they cannot be seen or felt.

ii) Free Good and Economic Good

A good or service that has no price is called a free good. The air that we breathe satisfies us. But we do not pay any price for such goods. So, these goods are free goods and they are not scarce. Rice is a commodity, which commands a price. Such goods are called economic goods and these goods are scarce.

iii) Consumer Goods and Producer Goods

We use goods like rice, pen etc. to satisfy our wants directly. They are called consumer goods. On the other hand, we use goods like tractor, thrasher, cultivator, etc. to produce various other commodities, i.e., these goods do not satisfy our wants directly. Such goods are called producer goods or capital goods or investment goods.

iv) Perishable Goods and Durable Goods

Goods that decay or perish quickly are known as perishable goods, (E.g.) fruits, vegetables, fishes etc. Durable goods are those goods that last for a long period of time, (E.g.) tractor, thrasher etc.

v) Wealth and Income

In economics, by wealth we mean only economic goods. The production of goods and services creates income and wealth. Wealth is an economic good which is an easily transferable (material) good. Immaterial or non-transferable (services) goods cannot form wealth. Remuneration paid to the different factors of production is called income. For example, a person leases out his house for rent. Then, the rent is his income. A labourer earns wages for the labour he renders in the production process. Thus, wealth is a fund and income is a flow from the wealth. When we refer to income, we say so many amounts for a specific period of time. On the other hand, wealth is termed as the value of all tangible assets (land, building, money etc.) at a particular point of time.

vi) Real Income and Money Income

Income can be expressed in terms of either commodity or money. If income is expressed in terms of commodity, it is known as real income. If the income of an attached labourer or permanent labourer is 10 bags of paddy per year, then it is his real income. The standard of living depends on real income only. When income is expressed in terms of money, then it is called money income. For instance, when we say that the income of a manager is Rs. 2000 per month, then it is his money income.

Vii) Cost and Price

Cost is typically the expense incurred for making a product or service that is sold by a company. Price is the amount a customer is willing to pay for a product or service. The cost of producing a product has a direct impact on both the price of the product and the profit earned from its sale.

Theory of Consumer Behaviour

An important problem to be tackled by the consumer in his daily life is the problem of choice. The choices may be economic as well as non-economic in nature. Economic choices are those which have an economic significance, or which affect the economic life of the community in a direct or in an indirect manner. For instance, if a person grows roses for commercial purpose instead of growing roses as a hobby, it is an economic choice. An economic choice or economic decision involves a choice between alternatives; the basic reason for this being the scarcity of means and multiplicity of ends. Thus, the theories of consumer behaviour relate to the decisions to be taken by the consumer for the purpose of satisfying his wants.

1) Consumption

Consumption, in its broadest sense, means the use of economic goods and personal services for satisfying human wants. It is also defined as the destruction of utilities contained in the goods. The destruction of utilities may be instantaneous as in the case of perishable good or gradual as in the case of durable goods like house, furniture etc.

2) Wants

Consumption theories deal with the satisfaction of human wants. Anything that we desire is a want. The process of satisfaction of these wants is called consumption. The goods and services that satisfy human wants can be broadly divided into three categories, viz., a) necessities, b) comforts and c) luxuries.

Types of Want

a) Necessaries:

Necessaries are those goods and services that are essential for our existence and to maintain our efficiency. There are three kinds of necessities, namely, i) Necessaries for life, ii) necessities for efficiency and iii) conventional necessities.

i) Necessaries for existence or life: These commodities are absolutely essential for the very existence of human beings, (E.g.) food (rice).

ii) Necessaries for efficiency: Goods and services which are essential for maintaining the working capacity at a higher level, (E.g.) nutritious food (Horlicks), cycle, etc.

iii) Conventional necessities: Although some goods are not absolutely necessary, many people use them out of habit or long established customs and conventions, (E.g.) coffee or cigarette.

b) Comforts

Comforts are goods that lead to easy living and make our life pleasant. They also improve our working efficiency. However, there is one important difference between necessities for efficiency and comforts. In case of necessities for efficiency, the returns or benefits that we get from them are proportionately higher than the money spent on them. But in case of comforts, the additional benefit or satisfaction is not in proportion to the money spent on them, (E.g.) scooter.

c) Luxuries

Luxuries are goods and services that are highly expensive and they do not in any way add to the efficiency of people. They are just meant for enhancing the prestige of a person, (E.g.) ornaments, bungalow, car, etc. However, it should be noted that necessities, comforts and luxuries are all relative terms. They are subjected to vary according to different places, time periods, persons and social setting. For example, scooter is a luxury to a poor man, while it is a comfort to a rich man. Also, what is a comfort today may become a necessity tomorrow.

Characteristics of Want:

The characteristics of human wants are discussed below:

i) Wants are unlimited in number and variety: As soon as one want is satisfied, another want arises. Thus, there is no end to human desire.

ii) Particular want is satiable: The quantity of a commodity that a man can enjoy at a particular time is limited by his physical and mental powers. If a person is hungry, he can satisfy his want fully by consuming sufficient quantity of food at a particular point of time.

iii) Wants are recurrent: Wants recur. People want many things again and again, (E.g.) food and clothes. The frequency of consumption of goods and services depends upon the durability and necessity of the commodities.

iv) Wants are competitive: Some wants are to be satisfied more urgently than others. A consumer should choose the most urgent want for satisfaction, as the means are always limited. For a hungry man, want for food is more urgent than anything else.

v) Wants are alternative: We have many alternatives to satisfy a particular want. E.g. If tea is not available, a person can drink coffee.

vi) Wants are complementary: In order to satisfy a single want, we may require several goods together, (E.g.) betel-leaf and areca nut, pen, ink and paper, etc.

vii) Wants tend to become habit: If we satisfy a want in particular way for quite some time, it becomes a habit. (E.g.) Taking coffee after breakfast.

3) Standard of Living

The amount of necessities, comforts and luxuries with which we are generally accustomed is said to constitute our standard of living. Kirkpatrick defined standard of living as “the measure or the evaluated amounts of different kinds and qualities of economic goods involved in meeting the physical and psychic needs and wants of the different individuals composing the family”.

Determinants of Standard of Living

- Standard of living depends on real income and not on money income of the family.
- It depends on number of members in the family and also on their wants.
- It depends on price variations of commodities. Lower the prices, the higher are the standard of living and vice versa.

4) Utility

Utility may be defined as the power of a commodity or service to satisfy a human want. The term ‘utility’ should be differentiated from ‘satisfaction’. Utility implies ‘expected satisfaction’ whereas satisfaction stands for ‘realized satisfaction’. A consumer thinks of ‘utility’ when he is contemplating the purchase of a commodity, but he secures the ‘satisfaction’ only after having consumed the commodity.

Utility and Value:

The term ‘utility’ differs from ‘value’ of a commodity.

- Utility is the want-satisfying power of a commodity, while the term ‘value’ would mean the power of a commodity to exchange for another commodity.

- Utility is subjective, whereas the value is an objective term.
- Both economic and free goods have utility. But only economic goods have value.

Characteristic Features of Utility

- Utility is relative: The same commodity may have different degrees or magnitude of utility for different persons.
- Utility cannot be equated with usefulness: A commodity may not be useful, yet it may have utility for a particular person. For example, liquor is considered to be harmful to health, yet it may have a high degree of utility for an alcoholic. Hence, utility carries no moral or ethical significance.
- Utilities are independent: Utility of one commodity does not in any way affect that of another.

Kinds of Utility:

Utility of a commodity may increase due to several reasons.

- 1) **Form Utility:** If the physical form of a commodity is changed, its utility may increase. For instance, the utility of cotton increases, if it is converted into clothes.
- 2) **Place Utility:** If a commodity is transported from one place to another, its utility may increase. For instance, if rice is transported from Tamil Nadu to Kerala, its utility will be more.
- 3) **Time utility:** If the commodity is stored up for future usage, its utility may increase. During rainy season, water is stored up in reservoirs and it is used at a later time. This increases the utility of that stored water.

Agricultural Economics: Meaning, definition, characteristics of agriculture, importance and its role in economic development, Agricultural planning and development in the country.

Introduction

A study of economic principles, with emphasis on their application to the solution of farm, agribusiness, and agricultural industry problems in relationship to other sectors is known as Agricultural Economics. In other words, it applies principles of economics to issues of agricultural production, natural resources, and rural development. It mainly focuses on principles of microeconomics.

Agricultural economics began in the 19th century as a way to apply economic principles and research methods to crop production and livestock management. The roots of the discipline, however, can be found in the writings of the classical economists like Adam Smith.

The word, agriculture comes from the Latin word *ager*, referring to the soil and *cultura*, to its cultivation. Agriculture, in its widest sense can be defined as the cultivation and /or production of crop plants or livestock products. It is synonymous with farming: the field or field –dependent production of food, fodder and industrial organic materials.

Having known the meaning of agriculture, let us know what economics is. Economics is the science that studies as to how people choose to use scarce productive resources to produce various goods and to distribute these goods to various members of society for their consumption. Now having defined agriculture and economics, we look into the field of agricultural economics.

Definition

Agricultural Economics is an applied field of economics in which the principles of choice are applied in the use of scarce resources such as land, labour, capital and management in farming and allied activities. It deals with the principles that help the farmer in the efficient use of land, labour and capital. Its role is evident in offering practicable solutions in using scarce resources of the farmers for maximization of income.

Prof. Gray has defined agricultural economics as “The science in which the principles and methods of economics are applied to the special conditions of agricultural industry”

According to **Prof.Hibbard**, “Agricultural economics is the study of relationships arising from the wealth-getting and wealth-using activity of man in agriculture”

Snodgras and Wallace defined agricultural economics as “an applied phase of social science of economics in which attention is given to all aspects of problems related to agriculture.”

Importance of Agricultural Economics

Akin to economics, the field of agricultural economics finds to seek relevance between cause and effect using the most advanced methods viz., production functions and programming models. It uses theoretical concepts of economics to provide answers to the problems of agriculture and agribusiness. Initially earnest efforts were made by the economists to use the economic theory to agricultural problems. Now the subject matters of agricultural economics is enriched in many directions and fields taking the relevant tools of sciences particularly mathematics and statistics. Agricultural depression which occurred in last quarter of 19th century and middle of 20th century brought about increased attention and concern to find out plausible cause and solutions for world agricultural depression. Here in this context the contribution made by agronomists, economists, horticulturists, etc., is noteworthy. Agriculture is the integral part of the world food system, having the foundation links between crops and animal production system. Agricultural economists here have to play a major role in understanding the intricacies involved in the foundation systems. Knowledge regarding problems in production, finance, marketing and government policies and their impact on production and distribution is very essential to find out suitable solutions for the farm problems. Students of agricultural economics are taught the subject disciplines viz., microeconomics, macroeconomics, agricultural production economics, farm management, agricultural marketing etc... to fulfill the requirements.

Agricultural Planning and Development in the Country

Agriculture has a long history of 10,000 years and it is the backbone of the Indian economy. At the time of independence, its contribution to the national income was 50 per cent, but in the year 2000 its contribution has come down to 25 per cent. Before independence there was stagnation in agriculture and it was crawling at an annual growth rate of 0.3 per cent, during the first half of the 20th century. Setting up of Royal Commission of Agriculture during 1928, under the chairmanship of Marquess of Linlithgow marked the first serious effort directed towards the improvement of agriculture. World economic depression of 1929-33 affected Indian market for raw and manufactured jute and demand for other Indian exports. There was a significant fall in the prices of agricultural commodities and this hit the rural people hard. Many farmers turned into agricultural labourers. So, the first task of

Indian Government under the British regime was, therefore, to initiate growth in the process of agriculture.

Planning as an instrument of development was underlined by Sri. M. Visveswarayya in the year 1934. But the first attempt regarding planning was made by National Planning Committee under the chairmanship of Pandit Jawaharlal Nehru in 1938. However, the committee could bring out the reports on planning in 1948 only. Meanwhile, immediately after independence, the All-India Congress Committee appointed the Economic Programme Committee with Pandit Jawaharlal Nehru as the chairman in November 1947. The committee submitted its reports recommending the institution of a permanent Planning Commission on January 25th, 1948. In March 1950, the Planning Commission was set up by the Government of India under the chairmanship of Pandit Jawaharlal Nehru. The first five-year plan draft outline was issued by the Planning Commission in 1951.

The first five-year plan in the country was started in the year 1951 and ended in 1956. It gave importance to agriculture and industry. Nearly Rs. 600 crore was allotted to agriculture, out of the actual public sector outlay of Rs. 1,960 crore. This constituted 30.61 per cent.

Second five-year plan was implemented in 1956 and closed in 1961 with public outlay of Rs. 4,600 crore, out of which Rs. 950 crore was earmarked to agricultural sector. Though the actual outlay on agriculture increased to Rs. 950 crore in the second plan, but its percentage share in the public outlay decreased to 20.65 per cent.

Similarly, in the other subsequent plans though the outlay on agriculture was increasing but its percentage in total public outlay has remained more or less stable at 21 to 23 per cent. During sixth plan and ninth plan, the percentage share of agricultural outlay was around 23 per cent (Table 50.1).

First Five-Year Plan (1951-56)

At the time of independence, the country was facing foodgrain crisis, hence the first five-year plan focussed on the increased production of foodgrains. Its target was fixed at 62.6 million tonnes. But due to popularization of Japanese method of cultivation, the production of rice increased to 28.7 million tonnes. Another remarkable achievement made in the first plan was that all the actual production levels of rice, wheat, oilseeds, sugarcane, cotton etc., were above their targeted levels. Community development programmes and extension services were given prime importance in this plan. The National Extension Service was initiated in 1953. In order to achieve targeted production level, emphasis was laid on improved tillage

practices, use of improved seeds, fertilizers, water etc. Land reclamation and land development measures were also given importance during the first five-year plan.

Second Five-Year Plan (1956-61)

The target of foodgrain production was envisaged at 24 per cent higher in the second plan over that of the first plan. It wanted this increased production to be achieved through the adoption of improved technology and intensive cultivation. The second plan laid emphasis on diversified agriculture and development of livestock. The level of food production in the second plan was around 76 million tonnes. Similarly, the production of sugarcane also increased. The number of agricultural credit societies increased from 1,05,000 to 2,10,000. The total loan advanced by PACS was around Rs. 200 crore. The total net irrigated area increased from 51.5 million acres in the first five-year plan to 70 million acres in the second five-year plan.

Third Five-Year Plan (1961-66)

The third plan provided larger outlay for the development of large irrigation projects and small irrigation schemes, soil conservation programmes and development of cooperatives. The programmes aimed at the doubling the rate of agricultural production growth. The two specific priority goals envisaged were viz., (1) to produce enough foodgrains and make the economy self-sufficient and (2) to produce commercial crops to meet the exports and industrial sector. With these goals in its framework, a target of increased agricultural production as a whole by 30 per cent was envisaged. Foodgrain production actually increased by 32 per cent over second plan. Rice, wheat, oilseeds, cotton, pulses etc., had also increased by 30 to 50 per cent. Irrigation increased to 90 million acres, soil conservation measures were undertaken in an area of 11 million acres, dry farming technology in 22 million acres and land reclamation in 3.6 million acres. Extension and community development programmes were extended nearly to 360 million farmers. Co-operative farming was given a boost through pilot projects in 320 districts of the country. Intensive agricultural district programme (IADP) was started first in three districts during 1960-61 and later extended to 13 districts. In the remaining part of India, Intensive Agricultural Area Programme (IAAP) was started in 1964-65. Due to drought conditions, agricultural production had declined from 82.7 million tonnes in 1961-62 to 72.3 million tonnes in 1965-66. National Seeds Corporation was set up in 1963. Agro-Industries corporations were also started in different states in the country. National Co-operative Development Corporation (NCDC) and Agricultural Refinance Corporation (ARC) were also started in 1963. Co-operative marketing societies and co-operative processing societies were

rigorous in their activities with a turnover of Rs. 583 crore. In sum, the third plan failed in agricultural front because only 10 per cent increase was obtained against the target of 30 per cent.

Annual Plans (1966-69)

Due to the wars of 1962 and 1965, the fourth five-year plan could not be immediately implemented in 1966. There was a steep fall in agricultural production during 1965 and 1966. Devaluation of rupee also occurred in 1966. These events necessitated readjustment in the planning process. As a result, three annual plans were formulated for three consecutive years in the place of fourth plan. The total outlay for these three plans amounted to Rs. 6,625 crore out of which 23.82 per cent i.e., Rs. 1,578 crore were allotted to agricultural sector. The High Yielding Varieties Programme (HYVP) was implemented during the year 1967. Food production rose to 95.1 million tonnes in 1967-68 due to HYV programme. Minor irrigation was given utmost importance in these plans. During the period 1966-69, 1,60,000 private tube wells and 7,00,000 pumpsets were added. Institutional source provided Rs. 200 crore for the development of Agro-Industries Corporations, land development and irrigation development. Irrigated area increased by 18.6 million ha under major and medium irrigation projects and 8.1 million ha under minor irrigation schemes.

Fourth Five-Year Plan (1969-74)

This plan had two major objectives for the development of agricultural sector. The first objective aimed at an annual growth of 5 per cent in agriculture and the second objective was aimed at facilitating economic development of large number of rural population including small cultivators, dry land farmers, landless agricultural labourers etc. Accordingly, priority programmes in agriculture looked into maximizing production from the rural areas and bridging the gaps between rural and urban areas eliminating imbalances in the region. The target of foodgrain production was kept at 125 million tonnes, oilseeds 10.7 million tonnes, cotton 8.5 million bales, jute 9 million bales etc. Special programmes in the selected area were implemented with improved package of practices of high yielding varieties of seeds. Emergency Food Production Programme was also started. Importance was given to the use of potential input supplies, agricultural research and extension programmes, incentives to farmers, efficient use of irrigation water, etc.

The target for rice production could not be realized and it was only 44.1 million tonnes. Oilseed production and pulse production were also affected very badly. In spite of favourable price trends, centrally sponsored scheme of integrated dry land agricultural development was launched with 24 pilot projects in the selected areas for demonstrating dry

land technology during 1970-71. All India coordinated research projects for dry land agriculture under the purview of Indian Council of Agricultural Research (ICAR) was also started. A central scheme on soil conservation was extended to eight more catchment areas to cover 80 million ha. under soil conservation programme. The total agricultural credit (ST and MT loans) disbursed to small and marginal farmers amounted to Rs. 757.9 crore and that of long-term credit was Rs. 628.3 crore in the year 1973-74. The community development programme covered nearly 5,123 blocks having 5,67,000 villages. On the whole, the plan achieved an annual growth of 2.8 per cent in agricultural production as against the targeted growth rate of 5 per cent.

Fifth Five-Year Plan (1974-79)

At the time of implementing fifth plan the economy was facing severe inflation. The major objectives of this plan were (1) to achieve self-reliance and (2) to adopt suitable measures to raise standard of living of rural people below poverty line. The fifth plan strengthened the strategies of agricultural production of the previous plans. High yielding varieties of cereals, multiple cropping practices and water management methods were adopted mainly in the command areas of major and medium irrigation projects. Besides, seed technology, substantial development in the use of manures, and efficient distribution arrangement of chemical fertilizers were given prominence for overall agricultural development. The food grain production achieved during this plan was 125 million tonnes. Sugarcane, pulses and cotton production exceeded their targets, whereas, jute and mesta production was below their targets due to excess rains. The area under high yielding varieties was 35.2 million ha. Gross cropped area increased to 173.92 million ha. During 1977-78, Krishi Vignana Kendras and training centers were established for imparting advanced and potential agricultural technology to the farmers. 78,000 gohar gas plants were also installed during the period. National seeds projects were also launched in the states of Andhra Pradesh, Maharashtra, Bihar and Karnataka. The share of agriculture in the bank credit was 11.8 per cent in 1978. Short term loans advanced were Rs. 1,650 crore, medium term loans Rs. 235 crore, and long term loans Rs. 410 crore during the fifth plan period.

Sixth Five-Year Plan (1980-85)

The sixth plan aimed at achieving an annual growth rate of 3.8 per cent in agriculture. To achieve this objective, it has devised strategies for crop production based on steady growth of foodgrain production, substantial increase in pulse production, self-sufficiency in oilseed production and increased production in tea, tobacco and spices. Wheat and rice production was keeping pace with their targets during the plan, whereas rest of the crops did

not achieve the target. The production of foodgrains at the end of the plan stood at 138.1 million tonnes. Rice and wheat recorded a production of 54.5 and 41.2 million tonnes respectively. The production of oilseeds was 104 million tonnes against its target of 12.7 million tonnes. A centrally sponsored scheme of community nurseries of rice and minikit distribution scheme of rice, wheat, bajra, maize and ragi were intensified in order to create a clear impact on production of cereal crops. NABARD was established in July 1982. The total agricultural credit advanced was Rs. 5,556 crore in 1984.

Seventh Five-Year Plan (1985-90)

The average annual production of foodgrains during seventh plan stood at 155 million tonnes. Production of cereals recorded 34.76 million tonnes in 1989. The recorded high-level production of pulses and oilseeds was 14.06 million tonnes and 18.46 million tonnes respectively during 1990-91. Similarly, sugarcane production recorded a higher level of 240 million tonnes in 1990-91. Distribution of certified seeds was 57.04 lakh quintals during 1989-90. The area under high yielding varieties was 63.1 million ha. against the targeted area of 70 million ha. Agricultural credit sanctioned from institutional sources increased to Rs. 12,570 crore in 1989-90. The value of livestock sector rose to Rs. 27,700 crore in 1987-88. During this plan, dairy and fisheries development were given prominence, as a result, their production increased substantially. The plan aimed at direct attack on problems of rural poverty, rural unemployment and regional imbalances in the development. Rural employment programmes were launched during the seventh plan.

Eighth Five-Year Plan (1992-97)

The aim of the eighth plan was to generate surplus of food grains for export and attain self-sufficiency in pulses and oilseeds. The growth rate expected was 4 per cent in respect of gross value of output and 3 per cent with regard to the value-added products. The targets set for 1996-97 were 88 million tonnes for rice, 66 million tonnes for wheat, and 17 million tonnes for pulses. Regarding oilseeds the targeted production was 23 million tonnes. The production of sugarcane was expected to be 275 million tonnes.

The strategy that was spelt out to achieve the targeted production levels were laying emphasis on dry land farming, spreading benefits of green revolution to the eastern region and improving efficiency of irrigation.

Ninth Five-Year Plan (1997-2002)

In order to achieve the objectives of removing the incidence of poverty and unemployment and ensuring food and nutritional security, ninth plan put a targeted annual growth rate of 4.7 per cent. The demand for foodgrain consumption would likely to increase

from 197 million tonnes in 1996-97 to 298 million tonnes in the year 2011-2012. Hence, the production should increase from 199 million tonnes in 1996-97 to 337 million tonnes in 2011-2012. Similarly, demand for sugar and jaggery is expected to increase to 55 million tonnes in the year 2011 and that of milk and fish to 181 million tonnes and 11 million tonnes respectively. The supply of milk and fish production are put at 227 million tonnes and 15 million tonnes respectively in the year 2011-2012. The targeted growth rate of agricultural crops output is expected to increase at 3.82 per cent per annum and that of agriculture at 4.5 per cent. Annual targeted growth rate for livestock is 6.59 per cent, poultry 7.5 per cent, and fisheries 6.5 per cent.

Strategies for Agricultural Development

We notice a significant shortfall in the investment on agriculture, from 24 to 21 per cent from sixth plan to eighth plan. This fall was not allowed in ninth plan and the public sector investment constituted nearly 23 per cent. Long gestation projects viz. irrigation projects are given preference in the ninth Plan. Credit is considered as the most important factor of private investment and its availability to the people is ensured through interest rate reduction. Available minimum support policy is enunciated to provide adequate incentives to the farmers and at the same time keep the Indian agricultural commodities competitive in the markets. A clear cut input subsidy policy is framed to help the small farmers in the high potential areas. This plan envisages large expenditure on agricultural research, extension services, expansion of irrigation, and reducing the gap between irrigation potential and actual irrigation. Cropping intensity is expected to raise from 134.2 per cent to 140.4 per cent. Gross cropped area or gross sown area is expected to raise from 190.5 million ha. to 203 million ha. Fertilizer consumption is targeted to increase from 14.3 million tonnes to 20 million tonnes. To achieve high-targeted annual agricultural growth rate and exports, massive expansion and upgradation of agricultural marketing, storage and distribution infrastructure are given priority. Facilities for packing, grading, certification of agricultural commodities and development of future agricultural markets are given special attention with adequate funds.

Tenth Five-Year Plan (2002-07)

The targeted GDP growth rate was 8 per cent, while the actual growth achieved was 7.7 per cent. The foodgrain production target was 225mt to 243mt at the end of the tenth plan. Thrust areas for the tenth plan were: utilization of waste lands and un- utilised and under-utilised lands, reclamation/development of problem soils, rainwater harvesting and conservation for the development of rainfed areas, development of irrigation, especially minor irrigation, conservation and utilization of biological resources, diversification of high

value crops, increasing cropping intensity, timely and adequate availability of inputs, strengthening of marketing, processing/ value addition infrastructure, revamping and modernizing the extension systems and encouraging private sector to take up extension services, bridging the gap between research and farmer's yields, cost-effectiveness while increasing productivity, promotion of farming systems approach, promotion of organic farming, utilization of organic waste, etc. Continued emphasis will be placed on progressive institutionalisation for providing timely and adequate credit support to farmers with particular focus on small / marginal farmers and weaker sections of the society to enable them to adopt modern technology and improved practices for increasing agricultural production and productivity. An amount of Rs. 3,59,701 crore is estimated as production credit for distribution through institutional sources and Rs. 3,76,865 crore for investment credit, making a total of Rs. 7,36,566 crore for tenth plan.

Eleventh Five-Year Plan (2007 - 12)

The targeted GDP growth was 9 per cent, while the achievement was 7.9 per cent. The National Food Security Mission (NFSM) was launched starting with rabi 2007-08. The scheme has three components - NFSM - rice, NFSM - wheat and NFSM - pulses. Another objective was accelerating agri- growth through high-value segment (horticulture, livestock and fisheries). Incentivizing the states to ensure that APMCs are reformed and notified for direct buying from farmers and encourage clustering of farmers in groups through NGOs, be it in the form of cooperatives and farmer clubs, were the other areas highlighted. Planned to encourage NABARD refinance to SHGS at 7 per cent interest rate with the condition that they will not charge more than 11 per cent from farmers. National Land Records Modernization Programme (NLRMP) was launched in 2008. Massive programme of 'Jalayagnam' of creating 98.41 lakh ha of new irrigation potential was also planned.

Twelfth Five-Year Plan (2012 - 17)

In the 12th five-year plan 9 per cent GDP growth is expected. Agricultural and manufacturing sectors are expected to grow at 4 and 10 per cent respectively. Coming to agricultural research, the important issues are increasing funding to agricultural R&D, farming system-based technology developments, national initiative on climate resilient agriculture, inter-departmental platforms for multi-disciplinary research in priority areas, national agricultural entrepreneurship project to nurture entrepreneurship through research and national agricultural education project to improve education quality in State Agricultural Universities. Rural economy growth has to be enhanced by sustained agricultural growth and

development of rural areas by providing rural infrastructure and amenities. Forest economies and tribal societies need greater protection and promotion.

Demand: meaning, law of demand, demand schedule and demand curve, determinants, utility theory, law of diminishing marginal utility, equi-marginal utility principle; **Consumer's equilibrium and derivation of demand curve, concept of consumer surplus, Elasticity of demand: concept and measurement of price elasticity, income elasticity and cross elasticity.**

Demand

Demand is the desire to possess something and the ability to pay for it.

Law of Demand

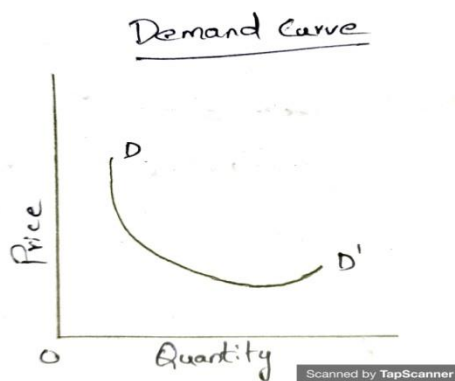
The law of demand has been postulated as “at a given time, as the price of a commodity increase, other things remaining same, the quantity demanded tends to decrease and vice-versa”.

Demand Schedule

Demand schedule is a hypothetical schedule of quantity likely to be demanded of a commodity at a given time at various prices of a commodity.

Demand Curve

If the demand schedule is represented in the form of a graph, taking the quantity demanded in X-axis and the price in Y-axis, a curve would be formed (DD'). This curve is the demand curve. The curve slopes down from left to right showing that as price falls, the quantity demanded increases and vice-versa. The demand curve represents a fixed situation and it cannot indicate changes over a period of time.



Determinants of Demand

The amount of commodity that a household wishes to purchase is called as quantity demanded. Purchase of this quantity is influenced by several factors, which are called the determinants of demand. The relationship between the quantity demanded and its

determinants is usually expressed in the form of a functional equation known as demand function.

$$Q_d = f(P_i, P_j, Y, T)$$

Where,

Q_d = Quantity demanded

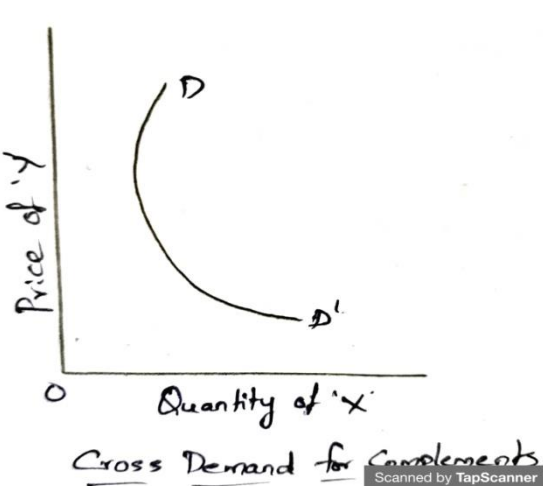
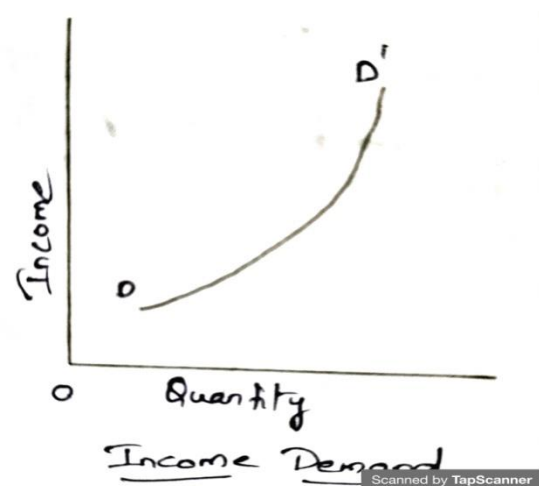
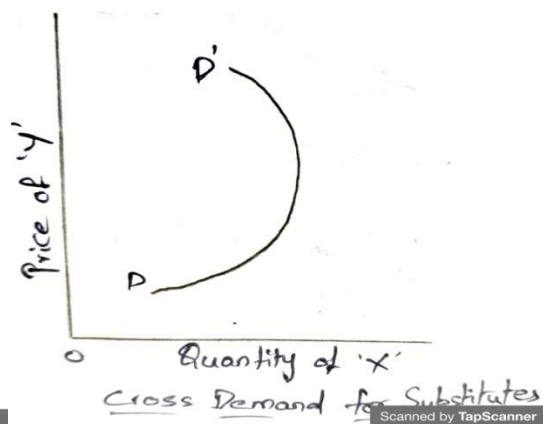
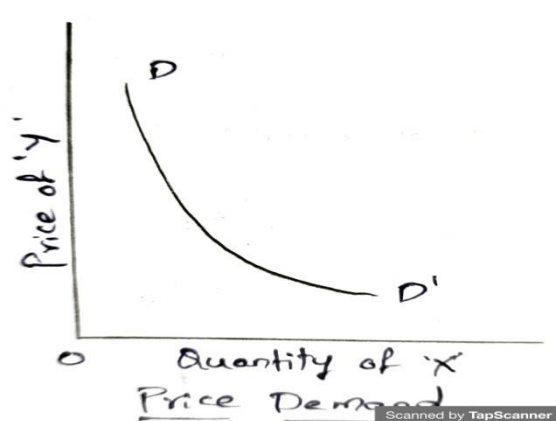
P_i = Price of the commodity

P_j = Price of its substitutes or complements

Y = Income of the consumer

T = Tasted and f preferences of the consumer

The relationship between the quantity demanded of a commodity and its price, consumers' income and its effective substitutes' price can be represented diagrammatically as follows.



Utility

Utility denotes satisfaction. It refers to the subjective pleasure or usefulness that a person derives from consuming a good or service.

We should not identify utility with any neural activity that psychologists can measure. Rather utility is economic concept that economists use to understand how rational consumer allocate their limited resources among the competing wants to derive satisfaction.

There are two basic approaches to quantify utility (1) Cardinal approach (2) Ordinal approach.

Cardinal approach says utility can be measured in terms of money units or in terms of subjective units called **utils**.

Ordinal approach says utility cannot be measured but can only be ordered or ranked according to the satisfaction derived from each commodity.

Cardinal Approach

Total Utility and Marginal Utility

Total utility is the total satisfaction or utility derived by consumption of a given quantity of goods or services.

Much more important than total utility is the concept of Marginal utility. **Marginal utility** is defined as the change in total utility resulting from a unit change in the quantity consumed or it is the additional satisfaction resulting from an additional unit of consumption.

$$\text{Marginal utility} = \frac{\text{Change in total utility}}{\text{Change in quantity consumed}}$$

Marginal utility analysis is very important to understand the consumer behaviour. Based on the marginal utility analysis two important laws are derived.

1. Law of Diminishing Marginal Utility and
2. Law of Equi-marginal utility
3. Consumers Surplus

1. Law of Diminishing Marginal Utility

It is one of the fundamental laws of economics. The concept of diminishing marginal utility was found in the writings of Gossen and Bentham. It is also known as Gossen's first law. But it was William Tanley Jevons who brought out its significance.

Definition

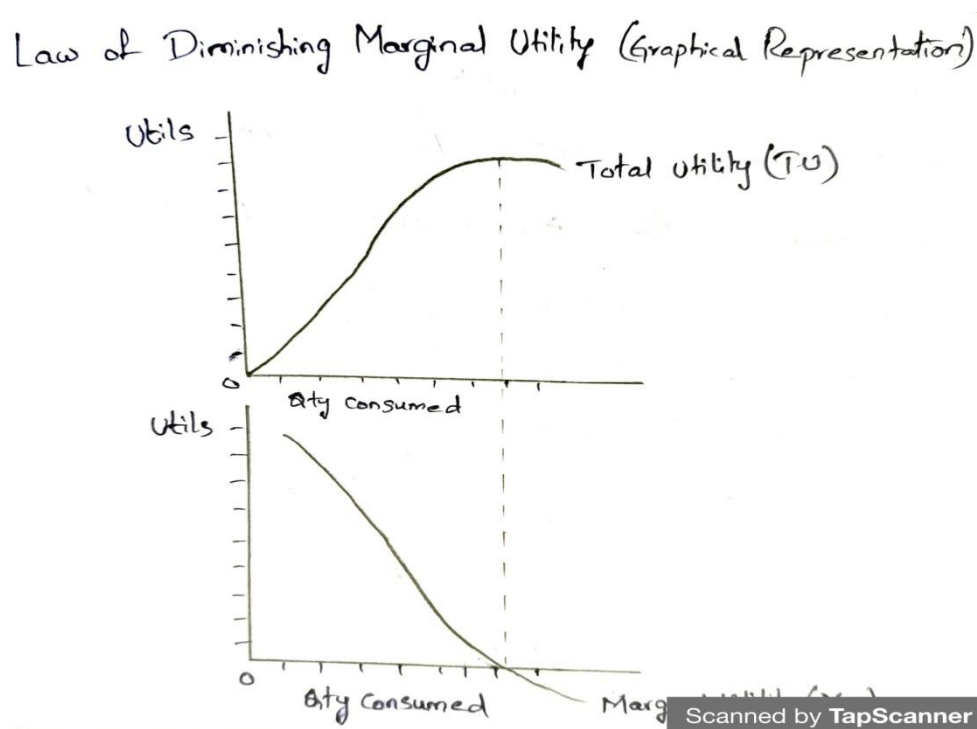
"The additional benefit which a person derives from a given increase of his stock of a thing diminishes with every increase in stock that he already has"- **Marshall**.

The law states that as the amount of good consumed increases, the marginal utility of that good tends to diminish. It means when we take more and more quantities of a particular

commodity, the satisfaction we derive from each additional unit will decrease i.e., TU increasing at decreasing rate.

The graph below shows the relationship between total utility and marginal utility. MU curve is very important because it shows the operation of the Law of diminishing marginal utility. i.e. As the consumption of a product is increase, both total utility and marginal utility increases to maximum and then decline. When the TU is at its maximum the MU is zero.

Eg: Satisfaction, a thirsty man derives from drinking successive glasses of water will be decreasing.



Assumptions

- Successive units consumed are identical
- It is applicable only at a given time
- Income, taste and preference of consumer are unchanged.

Importance of the Law

- Demand curve is derived based on this law.
- The concept of consumer surplus can be explained using this law.
- This law explains the paradox of value.

Eg: Water has high utility but no price. Diamond has high price but low utility. The diamonds are very scarce, and cost of getting an extra one is high, while water is relatively abundant and cost of getting an extra one is low, while water is relatively

abundant and cost of getting an extra one is very low or with no cost. i.e. Value-in-use is different from value-in-exchange because it has no marginal utility.

- d. This law forms the basis for the theory of value. It explains why with the increase in supply of a commodity its price falls.

2. Law of Equi-Marginal Utility (Equilibrium condition of the consumer)

Definition: “If a person has a thing which he can put to several uses, he will distribute it between these uses in such a way that it has the same marginal utility in all”. – Marshall.

This law is also referred as Gossen’s second law. Law of equi-marginal utility explains how a consumer allocates his limited income among different commodities in his basket. The law states that consumer would buy a good only (i.e. each good is demanded) upto the ratio of marginal utility to its price is equal for all the commodities.

For eg: If there are 1.....n, commodities then the consumer will allocate his income such a way that:

$$\frac{MU_1}{P_1} = \frac{MU_2}{P_2} = \dots \dots \dots = \frac{MU_n}{P_n}$$

This is because if any one commodity gives more MU per rupee, then more income will be spent on that commodity till the MU per rupee is reduced to the level of other commodities. If any commodity gives less MU per rupee than the equilibrium level, then less money is spent on that commodity till the MU of that commodity has increased to the level of equilibrium.

For single commodity, equilibrium condition is $MU_x = P_x$

Limitations of the Law

1. In practice, very accurate calculations as there in the law may not be possible.
2. Some of our decisions are governed by habits and not utility alone. That is to say consumers may also have irrational preferences.
3. Lack of knowledge about substitutes may limit the operation of this law.
4. Some commodities are not divisible for equalization of marginal utilities.

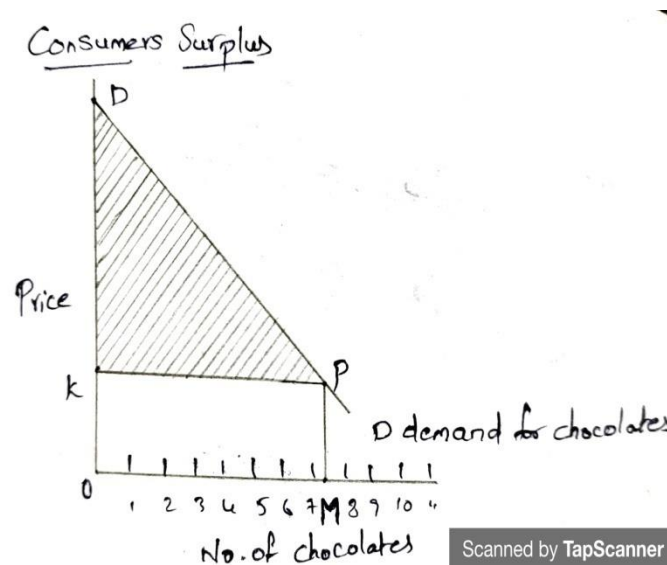
Practical importance of the law of equi-marginal utility

The law is applicable for all branches of economics. In consumption it explains how to get maximum satisfaction from limited resources. In production equi-marginal concept is used to explain the most economical combination of factors of production. Here one factor is substituted for another till marginal product from all other factors is same.

3. Consumers Surplus

The concept of consumer surplus was first introduced by Alfred Marshall and according to him, it is measured in monetary units and is equal to the difference between the amount of money that a consumer actually pays for buying certain quantity of commodity and the amount he could be willing to pay for the same quantity rather than go without it.

When a consumer is prepared to buy a commodity, he always calculates the utility he is going to derive from its consumption. Every rational consumer compares the utility he derives from the consumption of a commodity, against the price he has to pay. If the utility is more than the price paid, he prefers it and if it is *vice-versa*, he does not buy the same good. The surplus of utility he derives is consumer's surplus. In a nutshell, consumer's surplus is the difference between what the consumer is willing to pay and what he actually pays.



Consumer is prepared to pay OMPD for four chocolates, but as buyer in the market he pays only OMPK for four chocolates. Hence the consumer's surplus is given by OMPD-OMPK, which is equal to DPK, the shaded area in the figure.

The consumer's surplus is universal phenomenon occurring whenever a consumer buys more than one unit of good. By establishing one price for the good, the market assures that consumer can gain extra value over what he is willing to pay for the good. The lower the prices larger will the consumer's surplus.

If the price is dropped to zero the good becomes free good when all the area under the demand curve would be realized as consumer's surplus {e.g. public goods like roads, parks).

The amount of consumer's surplus for a good depends upon the elasticity of the consumer's demand curve. A high elasticity of demand means that consumer's surplus is small and vice versa.

Importance of Consumer's Surplus

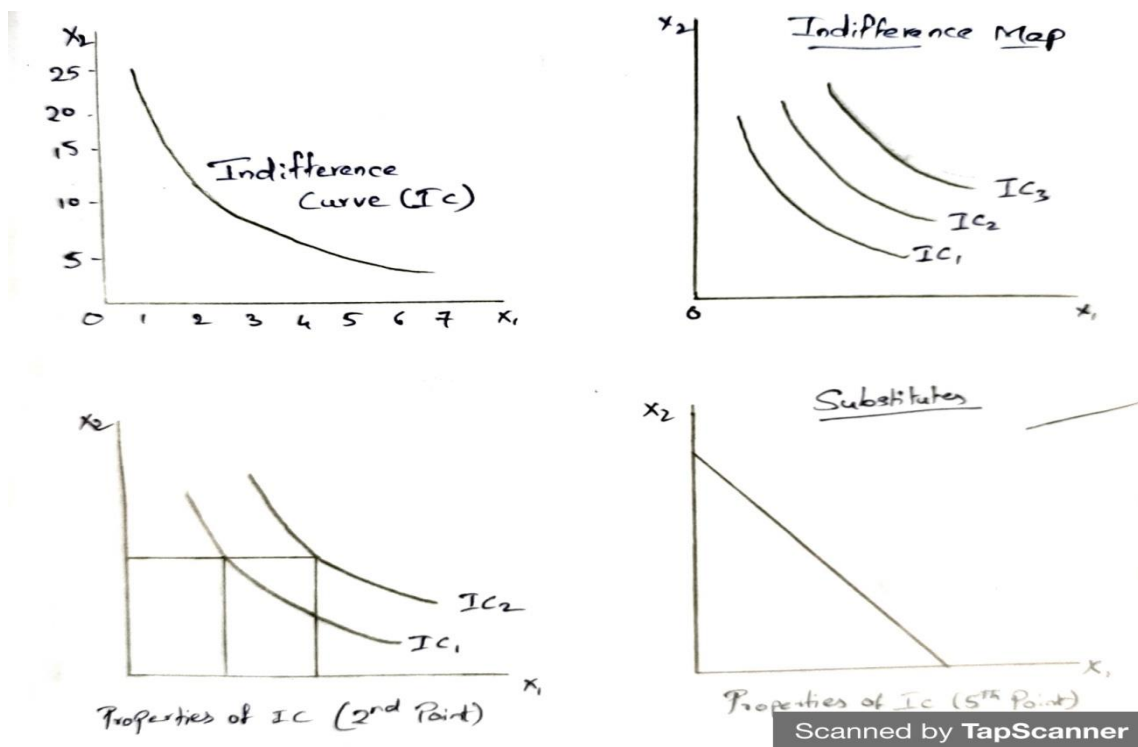
1. Economists use the concept of consumer's surplus frequently in evaluating the efficiency of the economy.
2. To make distinction between value-in-use and value-in-exchange.
 - i) The commodity like salt has more utility but has only a small exchange value. In such cases consumer's surplus will be more. A commodity like diamond has only a limited utility but has a great exchange value. In this case, consumer's surplus will be less. Thus, the concept of consumer's surplus enables us to draw a line between value-in-use and value-in-exchange.
3. Helpful to monopolist in price fixation.
 - i) Monopolist fixed price in such a way that it bears atleast a small amount of consumer's surplus. He cannot absorb the whole of the surplus, as there may be opposition from the consumers.
4. Helpful to policy makers
 - i) The policy makers can think of levying a tax or granting subsidies based on the level of consumer's surplus.

Ordinal Approach

Indifference Curve

The indifference curve analysis was developed by Slutsky (1815 A.D.) F.Y. Edgeworth (1831 A.D.), Irving Fisher (1892 A.D.) and Vilfredo Pareto (1905 A.D.). But it was J.R. Hicks and R.G.D Allen in 1934 gave scientific explanation to indifference curve analysis. This analysis is popularly known as substitution analysis.

Indifference curve is defined as the locus of points denoting various combinations of two commodities, which yield the same level of satisfaction so that the consumer is indifferent to any particular combination.



Indifference Schedule

The above indifference schedule shows various combinations of two commodities. All the combinations yield same level of satisfaction to the consumer. So the consumer is indifferent to any particular combination since all of them give same level satisfaction.

Combinations	Banana (X_1)	Biscuits (X_2)
1.	1	20
2.	2	15
3.	3	12
4.	4	10
5.	5	9

We get the indifference curve when we present the data in the indifference schedule in a graph.

Mathematically indifference curve can be denoted as

$$U = f(X_1, X_2, \dots, X_n) K$$

Where, K is a constant.

An indifference map can be derived by assuming every possible value to K.

Indifference map shows all the indifference curves, which rank the preferences of the consumer. Combination of good situated on an IC yield same level of satisfaction. IC3 yield higher level of satisfaction than IC1 and IC2.

Properties of Indifference Curve

1. IC has negative slope
 - i) Which denotes that if quantity of one commodity decreases, the quantity of the other must increase, for the consumer to remain at the same level of satisfaction.
2. IC's which lie farther away from the origin denote higher level of satisfaction
 - i) Though, IC1 and IC2 have same quantity of X_2 , IC2 has more X_1 than IC1. Hence IC2 will give higher satisfaction.
3. IC's do not intersect
 - i) If they intersect, the point of intersection will denote same level of satisfaction for two IC's, which is against the definition of IC. At point C. Both IC1 and IC2 have same combination of X_1 and X_2 and hence same level of satisfaction.
 - ii) But according to property two above, higher IC should have higher level of satisfaction. So intersection of IC's is not theoretically correct.
4. IC's are convex to the origin.
 - i) It means slope of IC decreases when we move from left downwards to right i.e. diminishing MRS of commodities.
5. IC for perfect substitutes is a downward sloping straight line.

Marginal Rate of Substitution (MRS)

MRS is defined as the number of units of Y, that must be given up in exchange for an extra unit of X so that the consumer maintains the same level of satisfaction.

$$MRS_{XY} = \frac{RS}{ST} = \frac{\Delta X}{\Delta Y}$$

$$MRS_{XY} = \frac{ST}{RS} = \frac{\Delta X}{\Delta Y}$$

We can relate MRS and MU, by realizing the fact that all combinations of X and Y on an IC give same level of total utility and MRS is nothing but the rate of substitution between X and Y relationship between MRS and MU is:

$$MRS_{XY} = \frac{MU_X}{MU_Y} \quad \text{and} \quad MRS_{YX} = \frac{MU_Y}{MU_X}$$

i.e. MRS between two commodities is equal to the ratio of MU's of two goods.

Even though MRS can be found out using marginal utilities, in IC analysis MU concept is not used. In IC, MRS is found out by directly asking how much one commodity

will be given up in exchange of the other, so that consumers maintain the same level of satisfaction.

Consumer Equilibrium under IC Approach

The consumer is in equilibrium when he maximizes his utility, given his income and market prices. This he achieves when he reaches the highest possible IC, given his budget line. The necessary and sufficient conditions to achieve the above said equilibrium of the consumer are;

1. The necessary condition (or First order condition) is MRS be equal to price ratio

$$MRS_{xy} = P_x / P_y$$

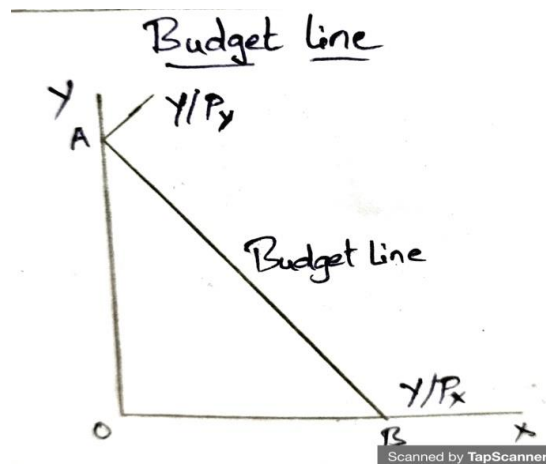
2. The sufficient condition (or second order condition) is IC be convex to the origin. The condition is fulfilled by the assumption of diminishing MRS_{xy} (i.e. slope of IC decreases as we move left to the right downwards).

When the consumption of X is increased, there will be decrease in consumption of Y. Increase in consumption of X results in a gain of MU_x . $x = MU_x$. y. Decrease in utility and loss in utility must be equal, so that the consumer will remain in the same level of utility.

$$MU_x \cdot x = MU_y \cdot y$$

Therefore, $MU_x / MU_y = \Delta y / \Delta x = MRS_{xy}$

Budget Line



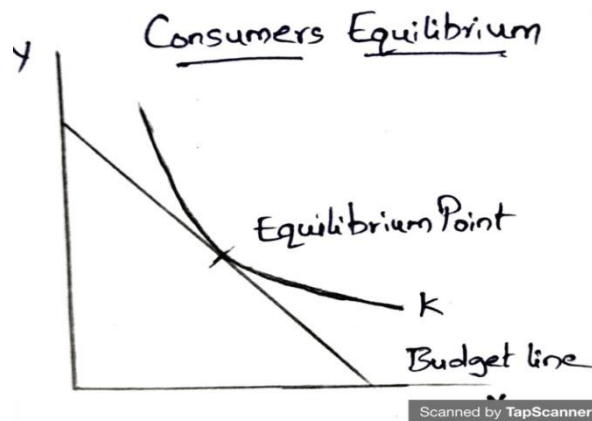
Consider the income as Y and commodity prices as P_x and P_y . If the consumer spent all his incomes on commodity Y he can buy Y/P_y units of Y. If consumer spent all his incomes on commodity X he can buy Y/P_x units of X. Point A and B denotes the above points. Joining these points give Budget line. Budget line is the Income constraint for maximizing utility.

Slope of Budget line is = OA/OB

$$= \frac{Y/P_Y}{Y/P_X} = \frac{P_X}{P_Y}$$

Graphical Presentation of Equilibrium

Equilibrium of the consumer is defined by the point of tangency of the budget line with IC. At the point slope of the budget line (P_X/P_Y) and slope of IC ($MRS_{xy} = Y/X$) are equal.



The first order condition is denoted by the tangency of IC and budget line. Second order condition is satisfied by convex slope of IC. Although measurement or MU is not required in the IC approach, MU is implicit in the definition of the slope.

Elasticity of Demand

Alfred Marshall developed the concept of elasticity of demand which measures the responsiveness of quantity demanded to changes in price. Elasticity of demand indicates the degree of relationship between quantity demanded and price. In fact elasticity of demand is the rate at which quantity demanded changes because of change in price. To be more precise, elasticity of demand is defined as “the relative change in the quantity demanded to the relative change in the price”.

Types of Elasticity of Demand

There are three types of elasticity of demand viz., i) Price elasticity, ii) Income elasticity, and iii) Cross elasticity.

1) Price Elasticity of Demand (E_d)

This shows the responsiveness of quantity demanded of a commodity, when price of that commodity changes, with other factors being constant.

$$\text{Price Elasticity of Demand } (E_d) = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

2) *Income Elasticity of Demand (E_I)*

It measures the responsiveness of demand due to changes in the income of the consumers in terms of percentage, when other factors influencing demand viz., price of the commodity, price of substitutes, tastes, preferences, etc., are kept at constant level.

$$\text{Income Elasticity of Demand } (E_I) = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in income}}$$

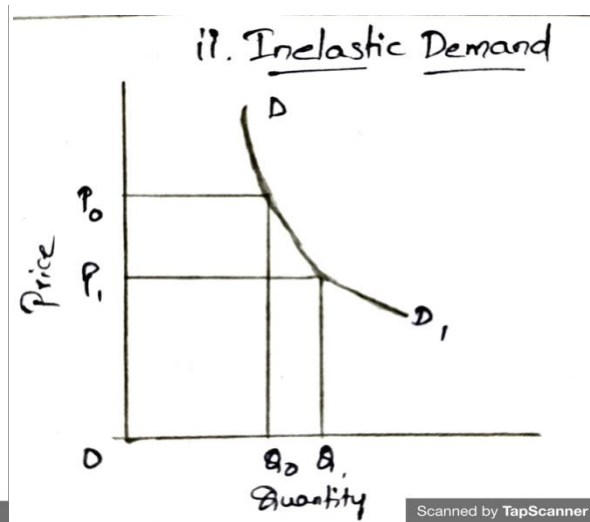
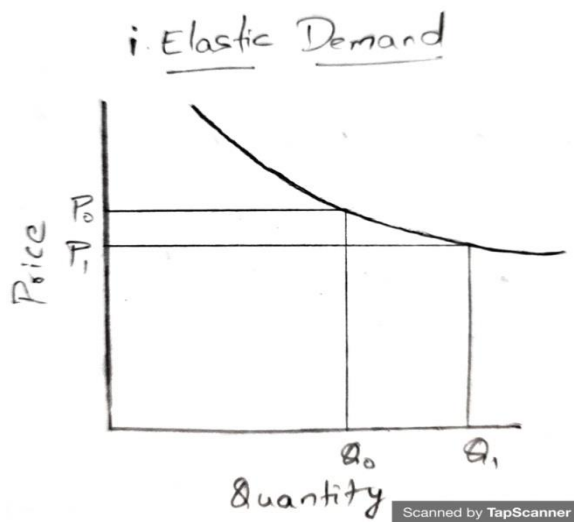
3) *Cross Elasticity of Demand (E_{xy})*

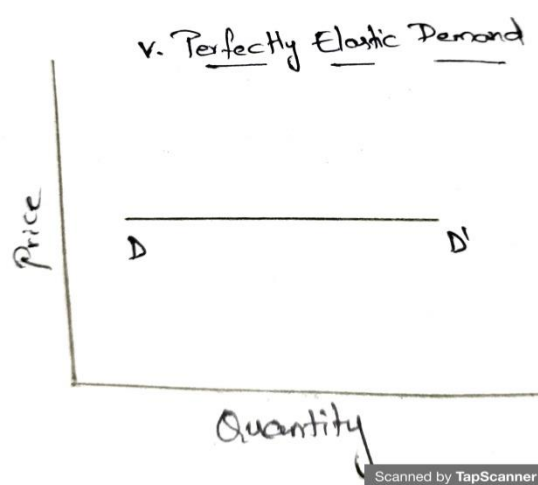
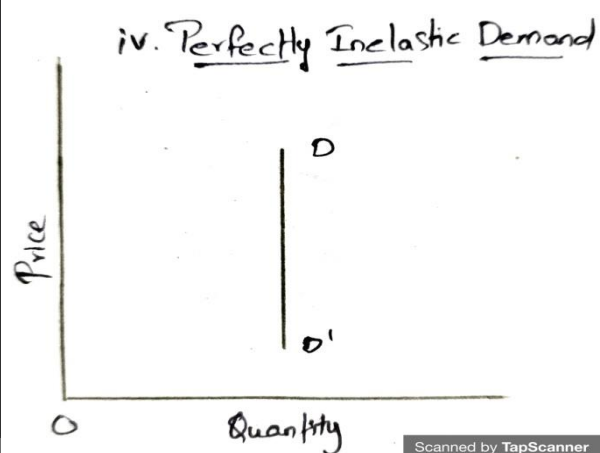
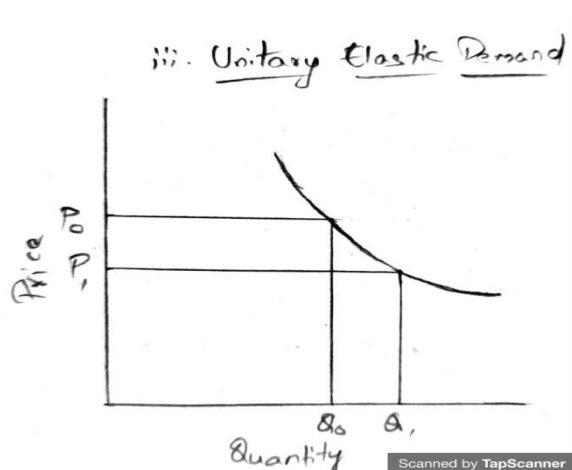
Demand for one good (X) is also influenced by the price of other related good (Y). These may be substitutes or complements. It is the ratio of percentage change in quantity demanded of commodity (X) and percentage change in price of related commodity (Y).

$$\text{Cross Elasticity of Demand } (E_{xy}) = \frac{\text{Proportionate change in quantity demanded of commodity (X)}}{\text{Proportionate change in price of related commodity (Y)}}$$

Degrees of Elasticity of Demand

Based on the magnitudes of the elasticity of demand, it can be categorized into five degrees, viz., elastic demand, inelastic demand, unitary elastic demand, perfectly inelastic demand and perfectly elastic demand.





1. Elastic Demand

When the coefficient of elasticity of demand exceeds one ($E_d > 1$), the demand is called elastic. That is to say, larger proportionate change in quantity demanded accompanies lesser proportionate change in price.

2. Inelastic Demand

When the coefficient of elasticity is less than one ($E_d < 1$), the demand is called inelastic. That is to say, when quantity demanded changes less than proportionate to changes in price, then the demand is called inelastic.

3. Unitary Elastic Demand

When the coefficient of elasticity of demand is equal to one ($E_d = 1$), the demand is said to be unitary elastic. That is, when the quantity demanded changes in the same proportion as that of the price, then the demand is said to have unitary elastic.

4. *Perfectly Inelastic Demand*

When the coefficient of elasticity of demand is zero ($E_d = 0$), the demand is said to be perfectly inelastic. That is, when change in price does not result in change in quantity demanded, then the demand is said to be perfectly inelastic.

The demand curve is a vertical line parallel to the price axis indicating that the same quantity is demanded whatever be the price.

5. *Perfectly Elastic Demand*

When the coefficient of elasticity of demand is infinite ($E_d = \infty$), the demand is said to be perfectly elastic. That is, when a small change in price induces a very great change in quantity demanded, then the demand is said to be perfectly elastic.

The demand curve is a horizontal line parallel to quantity axis meaning that a small change in price would cause a change from zero to infinity in quantity demanded.

Production: process, creation of utility; factors of production, input output relationship, Laws of returns: Law of variable proportions and law of returns to scale.

Importance of Production

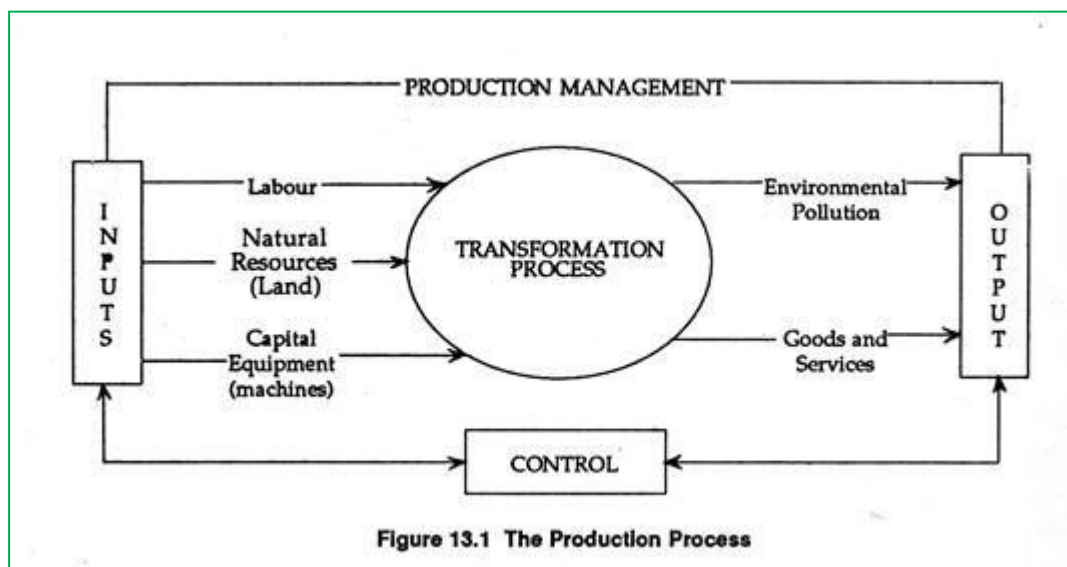
- Helps in creating value by applying labour on land and capital
- Improves welfare as more commodities mean more utility
- Generates employment and income, which develops the economy.
- Helps in understanding the relation between cost and output

Production Process:

Production is a process in which economic resources or inputs (composed of natural resources like land, labour and capital equipment) are combined by entrepreneurs to create economic goods and services (also referred to as outputs or products).

Inputs are the beginning of the production process and output is the end of the process. Below figure is a simple schematic presentation of the production process, which can be conceived of as transforming inputs into outputs.

It is to be noted at the outset that the process may produce as joint products both goods and services (which are desired by consumers) and commodities such as pollution (which is not desired by consumers).



In traditional economics, the term 'production' is used in a broad sense. It refers to the provision of goods and services for sale in the market with a view to satisfying human needs and wants.

In managerial economics, however, the term is used in a narrow sense to refer to the processes of physical transformation of resources, such as the transformation of iron ore into steel or the production and assembly of components into a finished car.

This definition surely includes other and equally vital forms of transformation such as that of location, whereby the finished car is moved from the factory to the showroom of the dealer from whom it can be purchased. Here we are concerned with production in the narrow sense of physical transformation, with particular reference to economic problems connected with production in the factory.

The production system can be seen as consisting of three elements – inputs, the production process and outputs. In reality, the outputs are the starting point of the operation inasmuch as they must be considered in the light of the market possibilities.

Inputs take the form of labour of all types, the required raw materials and sources of energy. All these involve cost outlays. Thus the theory of cost and theory of production are interrelated. In fact, the former is derived from the latter.

The production system can be shown as a continuous, smooth flow of resources through the process ending in an outflow of a homogeneous product or two or more products (in fixed or variable proportions).

Time also plays a very important role in the theory of production. We usually draw a distinction between the short run and the long-run. The distinction is not based on any time period but is made on the basis of the possibility of factor substitution.

In the short run, it is assumed that some factors (such as capital or plant size) remain fixed and others are variable. In the long run, it is assumed that all factors are variable. From this we derive the proposition that the short run costs are partly fixed and partly variable; in the long run all costs are variable.

Finally, in traditional economics it is assumed that the techniques of production are 'given'. But in managerial economics, however, it is assumed that there are usually various alternatives open to the manager from which one has to be selected.

Creation of Utility:

Utility is a term in economics that refers to the total satisfaction or benefit from consuming a good or service.

The utility of a commodity is always subjective because it depends upon the consumer as much as on commodity. It is the psychological satisfaction or feeling of the consumer. Hence, it is internal not external.

(i) Time Utility:

Utility of a commodity changes from time to time. For example, an umbrella has immense utility in rainy season, but has no utility or relative less utility during winter time.

(ii) Form Utility:

Utility of a commodity changes with the change in shape, size and formation. For instance, a piece of timber wood has very less utility for an individual, but its utility increases when it is transformed into nice looking furniture.

(iii) Place Utility:

It is added to a commodity by transporting it from the place where it is plenty to the place where it is scarce. For example, utility of coal increases when it is transported from coal mines to open market. Traders and merchants create place utility.

(iv) Possession Utility:

When the change in possession of a commodity increases utility, then it is known as possession utility. The utility of a match box is not so high for producers as it is for the households and smokers,

(v) Advertisement Utility:

Utility of a commodity also increases through continuous advertisement of that commodity. For example, utility of a particular health drink will increase i.e., consumers will increase the consumption of that commodity when advertisement increases. Consumers will get more knowledge of the product and hence utility boosts up.

Factors of Production

Factors of Production in Economics are the inputs that are used for producing the final output with the main aim of earning an economic profit.

Land, labour, capital and entrepreneur are the main factors of production. Each and every factor is important and plays a distinctive role in the organisation.

Factors of Production are:

1. Land
2. Labour
3. Capital
4. Entrepreneur

1. Land

Land is the gift of nature and includes the dry surface of the earth and the natural resources on or under the earth's surface, such as forests, rivers, sunlight, etc.

Land is utilised to produce income called rent. Land is available in fixed quantity; thus, does not have a supply price. This implies that the change in price of land does not affect its supply. The return for land is called rent.

Characteristics which would qualify a given factor to be called land.

- Land is a free gift of nature
- Land is a free gift of nature
- Land is permanent and has indestructible powers
- Land is a passive factor
- Land is immobile
- Land has multiple uses
- Land is heterogeneous

2. Labour

Labour is the physical and mental efforts of human beings that undertake the production process.

It includes unskilled, semi-skilled and highly skilled labour. The supply of labour is affected by the change in its prices. It increases with an increase in wages. The return for labour is called wages and salary.

Characteristics of labour:

- Human Effort
- Labour is perishable
- Labour is an active factor
- Labour is inseparable from the labourer
- Labour power differs from labourer to labourer
- All labour may not be productive
- Labour has poor bargaining power
- Labour is mobile
- There is no rapid adjustment of supply of labour to the demand for it
- Choice between hours of labour and hours of leisure

3. Capital

Capital is the wealth created by human beings. It is one of the important factor of production of any kind of goods and services, as production cannot take place without the involvement of capital.

Capital is an output of a production process that goes into another production process as an input. Capital as a factor of production is divided into two parts, namely, physical capital and human capital.

Physical capital includes tangible resources, such as buildings, machines, tools and equipment, etc.

Human capital includes knowledge and skills of human resource, which is gained by education, training and experience. Return for capital is termed as interest.

Types of Capital

- Fixed capital
- Circulating capital
- Real capital
- Human capital
- Tangible capital
- Individual capital
- Social Capital

4. Entrepreneur

Entrepreneurship consists of three major functions, viz., coordination, management and supervision. An entrepreneur is a person who creates an enterprise. The success or failure depends on the efficiency of the entrepreneur.

An enterprise is an organisation that undertakes commercial purposes or business ventures and focuses on providing goods and services. An enterprise is composed of individuals and physical assets with a common goal of generating profits.

Functions of an Entrepreneur

- Initiating business enterprise and resource co-ordination
- Risk bearing or uncertainty bearing
- Innovations

Laws of Returns

Production is the result of application of various input factors. In the process of production, the farmers combine the required input factors in various proportions. This type of usage of inputs by the farmers gives way for the operation of the laws of returns. In the production process, when a single input factor is varied keeping other required factors constant, the relationship that takes place between single variable input and the consequent output pertains to either one or a combination of the following relationships.

1. Law of increasing returns
2. Law of constant returns; and
3. Law of decreasing returns

1. Law of Increasing Returns: The addition of each successive unit of the variable factor to the fixed factors in the production processes, adds more to the total output than the previous unit i.e., each successive unit of variable factor adds more and more to the total output. The relevant data are presented in Table 17.1.

Input (X)	Total Output (Y)	ΔX	ΔY	Marginal Output $\frac{\Delta Y}{\Delta X}$
1	3	-	-	-
2	8	1	5	5
3	15	1	7	7
4	23	1	8	8
5	35	1	12	12

It is clear from the table that first unit of fertilizer results in three quintals of output, second unit adds five quintals and so on. When the data is graphed the resultant curve is convex to X-axis (Figure 17.1).

The relationship is algebraically shown below:

$$\frac{\Delta_1 Y_1}{\Delta_1 X_1} < \frac{\Delta_2 Y_2}{\Delta_2 X_2} < \dots < \frac{\Delta_n Y_n}{\Delta_n X_n}$$

2. Law of Constant Returns: The addition of each successive unit of the variable factor to the fixed factors adds the same to the output as observed for the previous unit i.e., each successive unit of variable factor results in an equal quantity of additional output. It is clear from Table 17.2 that each additional unit of fertilizer adds five quintals to the total output.

Input (X)	Total Output (Y)	ΔX	ΔY	Marginal Output $\frac{\Delta Y}{\Delta X}$
1	5	-	-	-
2	10	1	5	5
3	15	1	5	5
4	20	1	5	5
5	25	1	5	5

The production function is linear (straight line) (Figure 17.2).

The algebraic form is as follows:

$$\frac{\Delta_1 Y_1}{\Delta_1 X_1} = \frac{\Delta_2 Y_2}{\Delta_2 X_2} = \dots = \frac{\Delta_n Y_n}{\Delta_n X_n}$$

3. Law of Decreasing Returns

The addition of each successive unit of the variable factor to the fixed factors in the production process, adds less to the total output than the previous unit i.e., each successive unit of variable factor adds less and less to the total output. It is evident from the table that the first unit gives 15 units, second adds 12 units, third unit adds 8 units and so on as shown in Table 17.3.

Input (X)	Total Output (Q) (Y)	ΔX	ΔY	Marginal Output $\frac{\Delta Y}{\Delta X}$
1	15	-	-	-
2	27	1	12	12
3	35	1	8	8
4	41	1	6	56
5	45	1	4	4

The production function is concave to X-axis as shown in Figure 17.3.

The relationship is algebraically shown as follows:

$$\frac{\Delta_1 Y_1}{\Delta_1 X_1} > \frac{\Delta_2 Y_2}{\Delta_2 X_2} > \dots > \frac{\Delta_n Y_n}{\Delta_n X_n}$$

Law of Variable Proportions

Law of variable proportions occupies an important place in economic theory. This law examines the production function with one factor variable, keeping the quantities of other factors fixed. In other words, it refers to the input output relation when the output is increased by varying the quantity of one input. When the quantity of one factor is varied, keeping the quantity of the other factors constant, the proportion between the variable factor and the fixed factor is altered; the ratio of employment of the variable factor to that of the fixed factor goes on increasing as the quantity of the variable factor is increased. Since under this law we study the effects on output of variations in factor proportions, this is known as the law of variable proportions. The law of variable proportions is the new name for the famous “Law of Diminishing Returns” of classical economics. This law has played a vital role in the history of economic thought and occupies an equally important place in modern economic theory and has been supported by the empirical evidence about the real world. The law of variable proportions or diminishing returns has been stated by various economists in the following manner:

“As equal increments of one input are added; the inputs of other productive services being held constant, beyond a certain point the resulting increments of product will decrease, i.e. the marginal products will diminish” (G. Stigler).

“As the proportion of one factor in a combination of factors is increased, after a point, first the marginal and then the average product of that factor will diminish.” (F. Benham).

“An increase in some inputs relative to other fixed inputs will, in a given state of technology, cause output to increase; but after a point the extra output resulting from the same additions of extra inputs will become less and less.” (P.A. Samuelson). Marshall discussed the law of diminishing returns in relation to agriculture. He defines the law as follows;

“An increase in the capital and labour applied in the cultivation of land causes in general a less than proportionate increase in the amount of product raised unless it happen to coincide with an improvement the arts of agriculture”.

Assumptions of the Law of Variable Proportions:

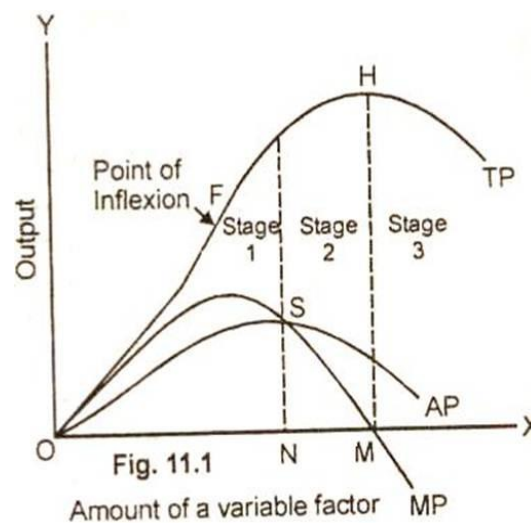
The law of variable proportions (or diminishing returns) as stated above holds good under the following conditions:

1. Firstly, the state of technology is assumed to be given and unchanged. If there is improvement in technology, then marginal and average product may rise instead of diminishing.
2. Secondly, there must be some inputs whose quantity is kept fixed. It is only in this way that we can alter the factor proportions and know its effects on output. This law does not apply in case all factors are proportionately varied. Behaviour of output as a result of the variations in all inputs is discussed under “returns to scale”.
3. Thirdly, the law is based upon the possibility of varying the proportions in which the various factors can be combined to produce a product. The law does not apply to those cases where the factors must be used in fixed proportions to yield a product. When the various factors are required to be used in rigidly fixed proportions, then the increase in one factor would not lead to any increase in output, that is, the marginal product of the factor will then be zero and not diminishing

Three Stages of the Law of Variable Proportions

The varying quantity of one factor combined with a fixed quantity of the other can be divided into three distinct stages. In order to understand these three stages it is better to graphically illustrate the production function with one factor variable. This is done in Fig.4. In this figure, on the X-axis is the quantity of the variable factor and on the Y axis are the

total, average and the marginal product. How the total product, average product and marginal product of the variable factor change as a result of the increase in its quantity, that is, by increasing the quantity of one factor to a fixed quantity of the others will be seen in Fig. 4. The total product curve TP goes on increasing to a point and after that it starts declining. Average and marginal product curves also rise and then decline; marginal product curve starts declining earlier than the average product curve. The behaviour of these total, average and marginal products of the variable factor consequent on the increase in its amount is generally divided into three stages which are explained below.



Returns to Scale

A change in the scale means all factors of production are increased or decreased in the same proportion.

Returns to Scale is different from laws of returns. The laws of returns are also known as law of variable proportions. In the law of returns only one factor of production is changed when other factors are assumed to be constant. But, in the returns to scale, all the factors of production will be changing in the same proportion.

Returns to scale can be of three forms:

1. Increasing returns to scale
2. Constant returns to scale
3. Diminishing returns to scale

If we increase all the factors in a given proportion and if output increases more than proportionately it is said to be **increasing returns to scale**.

If the factors are changed in some proportion and if output also changes in the same proportion, it is said to be **constant returns to scale**.

On the other hand, if a proportionate increase in all the factors leads to less than proportionate increase in output, it is said to be **diminishing returns to scale**.

Distinction between the Law of Variable Proportion and Returns to Scale

The Law of variable proportion is generally relevant for the short-run when all the factors cannot be varied because of limitations of time. According to this law, if increasing amounts of variable inputs are applied to a fixed input, there is some point beyond which additional units of the variable input will contribute less and less to the total product (i.e. marginal product will decline).

Since all inputs are variable in the long run, the relationship between inputs and output is dictated by the degree of returns to scale. (1) Increasing returns to scale-If all inputs are changed by some proportion, but output changes by more than the proportion (2) Decreasing returns to scale-if all inputs are changed by some proportion, but output changes by less than the proportion (3) Constant returns to scale-If all inputs are changed by some proportion and output also changes by the same proportion.

According to some economists, laws of returns to scale are a special case of law of variable proportions since the entrepreneur is a fixed factor of production and beyond a certain limit his entrepreneurial skills and resultant controls cannot be multiplied to an unlimited extent.

Cost: Cost concepts, short run and long run cost curves

Cost curves are broadly classified into Short-run cost curves and Long-run cost curves.

- Short-run is a period during which some factors are variable while others are fixed.
- Long-run is period over which all factors become variable

Short-run Cost Curves

(i) Fixed Costs or Total Fixed Costs (TFC)

- TFC denotes those costs, which do not vary with the level of production, and are incurred even when production is not undertaken. In other words, Fixed costs are independent of output, i.e., FC do not change as the quantity of output changes.
- Fixed costs are associated with fixed resources.
- TFC is a straight line parallel to X-axis, denoting the cost is fixed or same irrespective of the level of production.

Eg:- Land taxes, Insurance premium, depreciation etc.

(ii) Variable Costs or Total Variable Costs (TVC)

- TVC denotes those costs, which do vary with the level of production and incurred only when production is undertaken. In other words variable costs are dependant on output. Variable costs are associated with variable inputs or variable resources.
- TVC has an inverse-s shape. It reflects the law of variable proportions.

Eg:- Cost of fertilizer, labour cost etc.

(iii) Total Costs (TC)

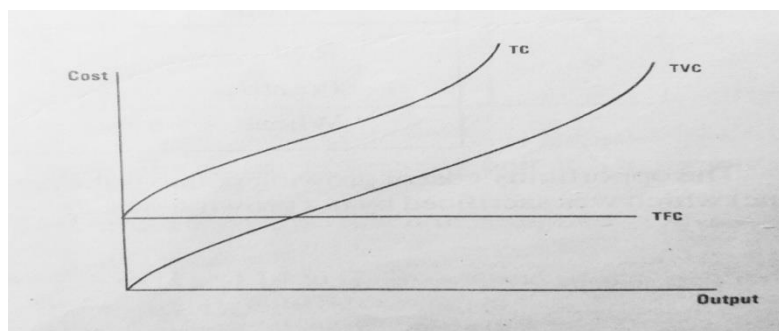
It is the sum of TFC and TVC, it has also got inverse s-shape, since TC is obtained by vertical summation of TFC and TVC.

$$\begin{aligned} \text{TC} &= \text{TFC} + \text{TVC} \\ &= \text{TFC} + \text{Px} \cdot \text{X} \end{aligned}$$

Where,

X = Variable Input

Px = Price of X



From the total cost, four costs are derived.

(iv) Average Fixed Cost (AFC)

AFC is computed by dividing TFC by the quantity of output. AFC varies for each level of output. When output increases, AFC decreases. This is called “Spreading fixed costs”, i.e., when production is increased cost per unit decreases.

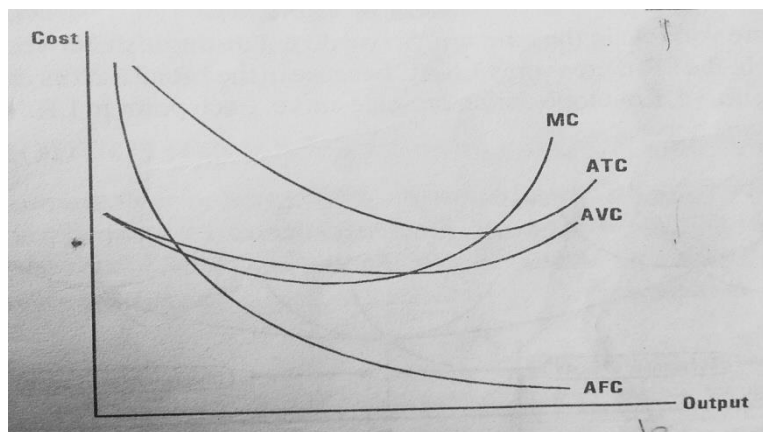
$$\text{AFC} = \text{TFC}/Y, \text{ where } Y = \text{Output}$$

Graphically AFC is a rectangular hyperbola.

(v) Average Variable Costs (AVC)

AVC is computed by dividing TVC by the quantity of output (Y). AVC varies with the level of output. It is the variable cost per unit.

$$\text{AVC} = \text{TVC}/Y \quad \text{or} \quad \text{AVC} = (\text{X} \cdot P_x)/Y$$



(vi) Average Total Costs (ATC)

ATC can be computed in two ways

(a) $\text{ATC} = \text{TC}/Y$, or

(b) $\text{ATC} = \text{AFC} + \text{AVC}$

- ATC decreases as output increases from zero, attain a minimum and increases thereafter.
- ATC reflects the unit cost of production.

(vii) Marginal Costs (MC)

MC is defined as the change in TC, for unit increase in output. In other words it is the cost of producing an additional unit of output.

$$\text{MC} = \Delta \text{TC} / \Delta Y$$

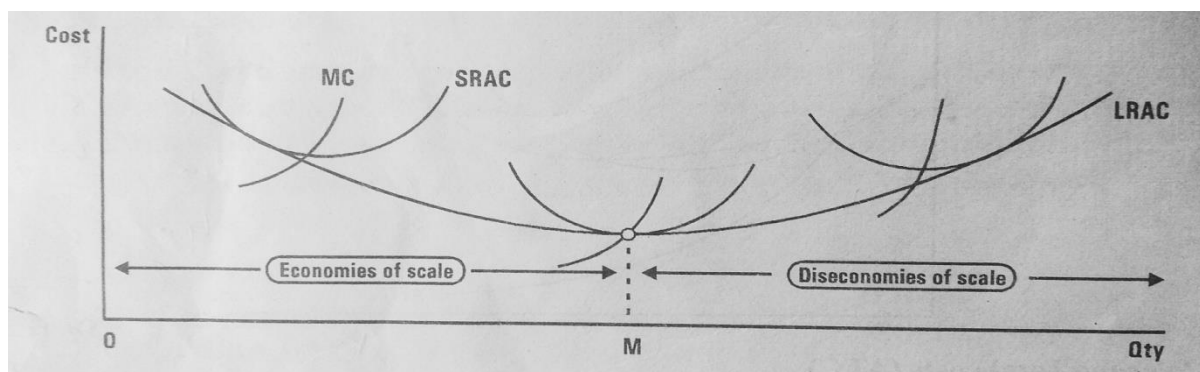
Graphically MC is the slope of TC curve.

Summary

- The AVC curve falls when MC curve is below and it rises when MC exceeds AVC. AVC is at its minimum when $AVC = MC$.
- Theory of short-run cost curves says AVC, ATC and MC are U-shaped which reflects the law of variable proportion. In short run these curves fall initially showing the increasing return of the variable factor. Then it reaches minimum showing optimum return to the variable factor and then increases showing decreasing return to the variable factors.
- The MC curve above AVC is referred to as the individual farmer's short-run supply curve for output. It shows different output levels that the individual farmer should be willing to produce at each level of price. The horizontal summation of the MC curves of individual farmers will give short-run supply curve for each individual commodity. It is called **Market Supply Curve**.

Long-run Cost Curve

- All costs are variable in long run. So we do not distinguish between AVC, AFC, and ATC as in the SR. In the LR there is only LRAC because in the LR all factors are variable. It is also called as Planning curve, Envelope curve, or Scale curve. Each point in LRAC corresponds to a point in short-run cost curve.
- LRAC is U shaped. The point corresponding to the output M is called Optimum plant size. The expansion of output from 0 to M results in reduction in cost per unit. In other words in this region the firm experiences Economies of scale or increasing returns
- At point M, LRAC reaches minimum and it is optimal level of production.
- The region beyond M, the firm will face increasing costs due to complexities in management. In other words this region corresponds to decreasing returns or Diseconomies of scale.



Cost Analysis

Input in units (X)	Output in units (Y)	TFC	TVC	TC	AFC	AVC	ATC	Δ TVC	Δ Y	MC
1	9	30	5	35	3.3	0.5	3.8	-	-	-
2	15	30	10	40	2	0.67	2.67	5	6	0.83
3	24	30	15	45	1.25	0.63	1.87	5	9	0.56
4	31	30	20	50	0.96	0.65	1.61	5	7	0.71
5	36	30	25	55	0.83	0.69	1.52	5	5	1
6	40	30	30	60	0.75	0.75	1.5	5	4	1.25
7	40	30	35	65	0.75	0.87	1.6	5	0	0
8	38	30	40	70	0.79	1.05	1.8	5	-2	-2.5
9	34	30	45	75	0.88	1.32	2.20	5	-4	-1.25
10	28	30	50	80	1.07	1.79	2.8	5	-6	-0.83

Supply: Meaning, law of supply, supply schedule, supply curve, determinants of supply, elasticity of supply

Supply

Supply refers to the quantity of goods or services offered for sale at a price for a given period at a place.

Law of Supply

The Law of Supply is based on the relationship between price and the supply of the commodity. The law states that with every increase in the price, there will be increase in the quantity supplied and with a fall in the price, there will be a fall in the quantity supplied.

If the price rises, supply also rises because it will be more profitable to produce and offer the quantities for sale. Similarly, with a fall in the price, supply also falls because profit will be less.

According to the Law of Supply, price and Quantity supplied move in the same direction indicating that they have positive relationship. The supply curve will be an upward sloping curve.

The above Said relationship can be seen very clear with help of a supply schedule and supply curve. The supply schedule is a tabular presentation depositing different prices and different quantity supplied at the respective prices. An illustrative supply schedule is given below.

Price (Rupees per metre)	Quantity Supplied (million metres) per month
1	0
2	7
3	12
4	16
5	18

The different value of price and quantity supplied when plotted in a graphical diagram, a supply curve is obtained as indicated below.

In this diagram it is seen that the supply curve is sloping upward from left to right indicating the positive relationship between price and quantity supplied.

In the given example, it is to be noted that when the price is Re.1, the quantity supplied is 0. The supplier is not ready to offer anything for sale for this price. This will happen when the price does not even cover the variable cost. A supplier will be expecting a minimum price, which will cover atleast the variable cost. A price, which is expected as

minimum is known as the reservation price. In the above said example, the reservation price is somewhere between R.1 and Rs.2.

Assumptions

1. The Law will be operating only when the other factors are assumed to be constant.
2. The determinants of demand do not change.
3. It is also assumed that sufficient time is allowed to the producer to adjust the supply.

It also implies that the availability of all factors of production is flexible and it can be adjusted very easily according to the need.

Determinants of Supply

Determinants of Supply are the factors that influence producer supply cause the market supply curve to shift.

Supply does not remain constant all the time in the market. There are many factors that influence the supply of a product. Generally, the supply of a product depends on its price and cost of production.

Thus, it can be said that supply is the function of **price and cost of production**. These factors that influence the supply are called the determinants of supply.

There are 9 determinants of supply discussed below:

1. Price of a product

The major determinant of the supply of a product is its price. An increase in the price of a product increases its supply and vice versa while other factors remain the same.

Producers increase the supply of the product at higher prices due to the expectation of receiving increased profits. Thus, price and supply have a direct relationship.

2. Cost of production

It is the cost incurred on the manufacturing of goods that are to be offered to consumers. Cost of production and supply are inversely proportional to each other.

This implies that suppliers do not supply products in the market when the cost of manufacturing is more than their market price. In this case, sellers would wait for a rise in price in the future.

The cost of production increases due to several factors, such as loss of fertility of land; high wage rates of labour; and increase in the prices of raw material, transportation cost, and tax rate.

3. Natural conditions

The supply of certain products is directly influenced by climatic conditions. For instance, the supply of agricultural products increases when the monsoon comes well on time.

On the contrary, the supply of these products decreases at the time of drought. Some of the crops are climate specific and their growth purely depends on climatic conditions.

For example, Kharif crops are well grown at the time of summer, while Rabi crops are produced well in the winter season.

4. Transportation conditions

Better transport facilities result in an increase in the supply of goods. Transport is always a constraint to the supply of goods. This is because goods are not available on time due to poor transport facilities.

Therefore, even if the price of a product increases, the supply would not increase.

5. Taxation policies

Government's tax policies also act as a regulating force in supply. If the rates of taxes levied on goods are high, the supply will decrease. This is because high tax rates increase overall productions costs, which will make it difficult for suppliers to offer products in the market.

Similarly, reduction in taxes on goods will lead to an increase in their supply in the market.

6. Production techniques

The supply of goods also depends on the type of techniques used for production. Obsolete techniques result in low production, which further decreases the supply of goods.

Over the years, there has been tremendous improvement in production techniques, which has led to increase in the supply of goods.

7. Factor prices and their availability

The production of goods is dependent on the factors of production, such as raw material, machines and equipment, and labour.

An increase in the prices of the factors of production increases the cost of production. This will make difficult for firms to supply large quantities in the market.

8. Price of related goods

The prices of substitutes and complementary goods also influence the supply of a product to a large extent.

For example, if the price of tea increases, farmers would tend to grow more tea than coffee. This would decrease the supply of tea in the market.

9. Industry structure

The supply of goods is also dependent on the structure of the industry in which a firm is operating. If there is monopoly in the industry, the manufacturer may restrict the supply of his/her goods with an aim to raise the prices of goods and increase profits.

On the other hand, in case of a perfectly competitive market structure, there would be a large number of sellers in the market. Consequently, the supply of a product would increase.

Elasticity of Supply

Elasticity of supply of a commodity is the responsiveness, or sensitiveness of supply to the changes in price. Supply is said to be elastic, if a small change in price causes considerable change in the quantity supplied. The supply is inelastic when a given change in price leads to little or less change or no change in the quantity supplied. In short, elasticity measures the adjustability of supply of a commodity to price. Elasticity of supply (price elasticity of supply) is expressed as the ratio of percentage change in the quantity of good supplied and percentage change in price of the good ceteris paribus.

$$\text{Elasticity of Supply (E}_s\text{)} = \frac{\text{Percentage change in quantity of good supplied}}{\text{Percentage change in price of good supplied}}$$

Algebraically elasticity of supply is expressed as,

$$\frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100} = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Degrees of Elasticity of Supply

There are five degrees of elasticity of supply. They are as follows:

1. Perfectly Elastic Supply

When the supply of commodity increases to infinite quantity or unlimited quantity, even though there is invisible rise or minute rise in the price, the elasticity of supply is said to be infinity ($E_s = \infty$).

2. Perfectly Inelastic Supply

It means that the quantity supplied is not responsive to change in prices. Elasticity of supply in this case is zero ($E_s = 0$).

3. Relatively Elastic Supply

Supply is referred as relatively elastic, when the percentage change in quantity supplied is more than the corresponding percentage change in price. It is also called elastic supply. Elasticity of supply is more than one ($E_s > 1$).

4. Relatively Inelastic Supply

Supply is said to be relatively inelastic, when the percentage change in quantity supplied is less than the corresponding percentage change in price. In this case the elasticity of supply is less than one ($E_s < 1$).

5. Unitary Elastic Supply

When percentage change in quantity supplied equals the percentage change in price, it is called unitary elastic supply. Here the elasticity of supply is equal to one ($E_s = 1$).

Factors Influencing Elasticity of Supply

1. *Availability of Inputs of Production:* If the needed inputs are available as per the requirement, the supply is elastic. If any one of the factors is not available which is absolutely necessary, supply would be inelastic.
2. *Length of Time Period:* It is the period of time required to adjust the supplies to the changes in prices. The biological characteristics of the product dictate the changes of responsiveness.
3. *Diversification of Production Activity:* When the producer is engaged in production of a number of products and facilities exist for shifting of production from one product to the other, in such a case for each product the supply is elastic.
4. *Availability of Alternative Markets:* Suppose there exists several markets for the producer to sell the goods, a fall in price in one market would prompt him to shift his goods to other markets and a rise in price in one market induces him to shift his goods to that market. In such a case the supply is elastic.
5. *Flexibility in Starting and Winding up the Business:* If a particular production activity is quickly taken up and quickly wound up, the supply of the goods is elastic.

Market structure: meaning and types of market, basic features of perfectly competitive and imperfect markets, Price determination under perfect competition, short run and long run equilibrium of firm and industry, shut down and break even points.

Market Structure – Meaning

The term *structure* refers to something that has organization and dimension – shape, size and design; and which is evolved for the purpose of performing a function. A function modifies the structure, and the nature of the existing structure limits the performance of functions. By the term market structure we refer to the size and design of the market. It also includes the manner of the operation of the market. Some of the expressions describing the market structure are:

1. Market structure refers to those organizational characteristics of a market which influence the nature of competition and pricing, and affect the conduct of business firms,
2. Market structure refers to those characteristics of the market which affect the traders' behaviour and their performances,
3. Market structure is the formal organization of the functional activity of a marketing institution.
4. An understanding and knowledge of the market structure is essential for identifying the imperfections in the performance of a market.

Components of Market Structure

The components of the market structure, which together determine the conduct and performance of the market, are:

1. Concentration of Market Power

The concentration of market power is an important element determining the nature of competition and consequently of market conduct and performance. This is measured by the number and size of firms existing in the market. The extent of concentration represents the control of an individual firm or a group of firms over the buying and selling of the produce. A high degree of market concentration restricts the movement of goods between buyers and sellers at fair and competitive prices, and creates an oligopoly or oligopsony situation in the market.

2. Degree of Product Differentiation

Homogeneous or other nature of the product affects the market structure. If products are homogeneous, the price variations in the market will not be wide. When products are

heterogeneous, firms have the tendency to charge different prices for their products. Everyone tries to prove that his product is superior to the products of others.

3. Conditions for entry of Firms in the Market

Another dimension of the market structure is the restriction, if any, on the entry of firms in the market. Sometimes, a few big firms do not allow new firms to enter the market or make their entry difficult by their dominance in the market. There may also be some government restrictions on the entry of firms.

4. Flow of Market Information

A well-organized market intelligence information system helps all the buyers and sellers to freely interact with one another in arriving at prices and striking deals.

5. Degree of Integration

The behaviour of an integrated market will be different from that of a market where there is no or less integration either among the firms or of their activities. Firms plan their strategies in respect of the methods to be employed in determining prices, increasing sales, coordinating with competing firms and adopting predatory practices against rivals or potential entrants. The structural characteristics of the market govern the behaviour of the firms in planning strategies for their selling and buying operations.

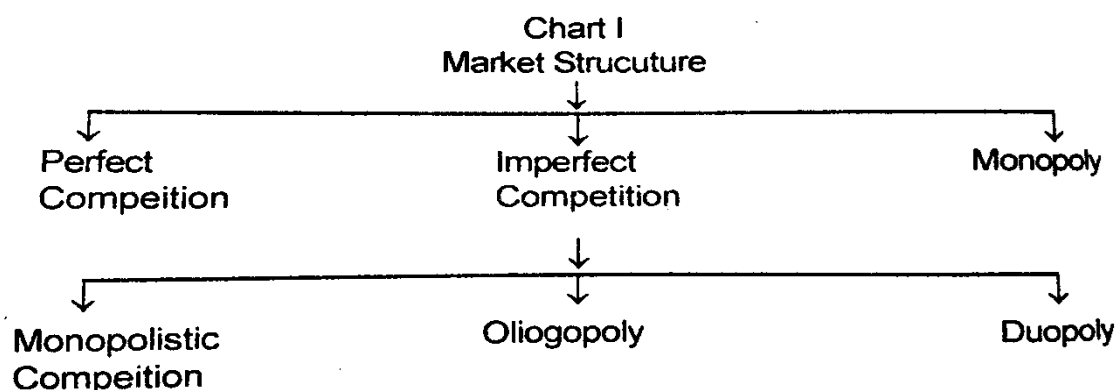
Types of Market Structures

The market structure depends upon the degree of competition prevailing in the market. How much is to be produced and at what price is to be sold are the two decisions taken by an individual firm or producer. Both of these are affected by the **market structure**.

The nature of the commodity determines the market structure. The commodity may be either homogeneous or identical and heterogeneous or differentiated.

Also, the number of buyers and sellers or few sellers and large buyers or mutual interdependence of buyers and seller also **determine the market structure**.

The Market Structure can be shown by the following chart:



Thus, there are two **extremes of market structure**. On the one hand, we have perfect competition or pure competition and monopoly on the other hand.

In between these two extremes have imperfect competition consisting of monopolistic competition, oligopoly, and duopoly.

The various forms of the market structure are discussed below:

1. Perfect Competition

- A market structure where a large number of buyers and sellers selling homogeneous product and the price is determined by the industry. All the times sell the product at one price.
- **Perfect competition** prevails when the demand for the output of each product is perfectly elastic.
- This entails first, that number of sellers is large, so that the output of any other seller is a negligible smaller portion of the total output of the commodity. **And second**, those buyers are all alike in respect of their choice between rival sellers so that the market is perfect.

Thus, we can say that perfect competition is characterized by a large number of buyers and sellers with identical product selling on the price with the perfect mobility of factors and perfect knowledge of market conditions not influenced by either individual seller or buyer in finalizing transactions.

The following are the salient features of the Perfect competition:

- Knowledge is 'complete' - producers and consumers have access to complete market knowledge
- There are no barriers to entry or exit
- There are infinite numbers of competitive firms
- Products are identical ('homogeneous')
- Firms are price takers, taking their price from the industry
- Super-normal profits are available in the short run, but not long run
- Firms are allocatively efficient in both the short and long run, but only productively efficient in the long run, and:
- Welfare is maximised

2. Monopolistic Competition

- It is one of the **forms/types in perfect competition**. There is neither perfect competition nor pure monopoly market structures in practice.

- Monopolistic competition is a market structure in between perfect competition and Monopoly.
- It has some of the characteristics of perfect competition and some of the characteristics of the monopoly.
- **Thus**, Monopolistic competition is a market situation in which there are many sellers of a particular product, but the product of each seller is in some way differentiated in the minds of consumers from the product of every other seller.
- Monopolistic competition is there market structure in which there is co-existence of competition and Monopoly to some degree.

Imperfect Competition

Another type of market structure based on competition is Imperfect competition.

There are a small number of firms selling differentiated products.

Imperfect competition in the stage between perfect competition and monopoly.

Competition is said to be Imperfect if the number of sellers is limited and there is product differentiation.

On the basis of definitions of Imperfect competition we can say that the following are the salient **features of imperfect competition**:

- A small number of buyers and sellers.
- Ignorance or laziness of buyers and sellers.
- Product differentiation.
- The difference in prices.
- Non-price competition or advertisement and sales promotion.
- Highly transport costs.
- Other factors prevailing in the market namely Trademark, the behavior of sellers, credit facility, home delivery and repair services, guarantee, samples, etc.

3. Oligopoly

- Oligopoly is also known as the competition among few. The word Oligopoly is made up of **Oligos** + **Pollen**. Oligos mean few and Pollen means to sell.
- **Thus**, when an **oligopoly** firm sells a homogeneous product it is called Homogeneous Oligopoly.
- Whereas when a firm of an Oligopoly industry sells differentiated the product, It is called Heterogeneous Oligopoly.
- It is also known as differentiated Oligopoly.

- **Oligopoly**, in which a market is run by a small number of firms that together control the majority of the market share.

4. Duopoly

- A market wherein there are two sellers or producers of a product is called do a Duopoly.
- They have a complete hold over the supply of that product. A product of both the sellers is Homogeneous and the prices are also the same.
- Both the firms are interdependent and they try to keep the same price.
- If a seller of the commodity lowers the price then the other seller is forced to reduce its price because customers will prefer to purchase the cheaper commodity.
- Both the sellers have to think about the possible impact when they are taking independent decisions relating to price and prediction.

In order to maximize the profits of each, they may form an association or can share the market and can charge high prices for the customers. It will lead to the exploitation of the customers.

5. Monopoly

When there is a single seller or producer of commodity or service the market structure is called a **monopoly market**.

Market structure is also based on the number of buyers. It may be of the following types:

Monopsony: A market where there is a single bar of a commodity or service is called Monopsony.

Duopsony: A market where there are two buyers of a commodity or product is called **Duopsony market**.

Oligopsony: A market structure in which there are few buyers of a product the market is called Oligopsony.

Price Determination under Perfect Competition

In a Perfectly competitive Market, several influential factors determine the Price of commodities. For example, if the demand is high and supply is low, then the Price will increase. During a storm or flood, you will notice that the Price of groceries rises tremendously. This is because the storm or flood has destroyed the crop, and hence the supply reduces. However, since the demand for groceries is still high, therefore, the Price automatically increases. On the other hand, if the supply is more than demand, then the Price

will drop. Equilibrium of both the industry and the firm is significant in Price Determination under a Perfect Competition Market. Here, we will discuss in detail how the Price is determined under Perfect Competition and both the factors of Equilibrium, holding enough importance in Price Determination.

A Market situation with many homogeneous product suppliers is called Perfect Competition. A single Company provides a small portion of total production and is not powerful enough to affect Market Prices.

However big the investor is, he cannot control the Market rates which are determined by the interaction of Market supply and demand forces in an extremely competitive field. Market demand represents the sum of the quantities required by individual buyers at different Prices. The Market supply is also the sum of the quantities offered by individual companies in the sector. All sellers and buyers accept fixed Prices. Therefore, the main issue for profit maximization companies in a Perfectly competitive Market is not to determine the Price of the product, but to adjust the production to the Market Price in order to maximize the profit.

Pricing under Perfect Competition will be considered in three different periods-

1. Market Period
2. Short Run
3. Long Run

1. Market Period

In a Market period, the time span is so Short that no one can increase its output. The Market period of the stock may be an hour, a day or a few days or even a few weeks depending upon the nature of the product.

For example, in the case of perishable stock such as vegetables, fruits, fish, eggs, baked goods the period may be limited by a day or two by quantity available or stock in a day that neither can be increased nor can be withdrawn for the next period, the entire stock must be sold away on the same day, whatever may be the Price.

2. Short Run

Short term means that amount of time is not enough to change the fixed input or the number of companies in the industry, but it is enough to change the output by changing the variable input.

In the Short term, there are two distinct costs: (i) fixed costs and (ii) variable costs.

Fixed costs in the form of fixed elements, i.e., Plants, machines, buildings, etc. do not change as the Company's production changes. When a company increases or decreases

production, changes are only made to the number of variable resources such as labour and raw materials.

In the Short term, the demand curve facing the Company is also horizontal. The number of companies in the industry remains the same since no new Company can enter nor can any Company leave. With Perfect Competition, the Company accepts the Prices of the products on the Market. The Company sells all products at current Market Prices.

3. Long Run

A Long term is a time period Long enough to allow you to change both variable and fixed factors. Therefore, in the Long run, all factors are variable and not fixed. Therefore, in the Long run, companies can change production by increasing fixed equipment. You can modify old plants, or replace them with new ones.

In addition, in the Long run, new companies can also enter the industry. Conversely, if needed, fixed equipment can be used up without replacement, in the Long run, allowing existing companies to leave the industry as well. So there is no stop to companies entering or leaving.

Conditions for Company Equilibrium

To achieve Equilibrium, a Company must meet two conditions:

You need to make sure that the marginal revenue is equal to the marginal cost ($MR = MC$).

1. If $MR > MC$, the Company has an incentive to expand production and sell additional units.
2. If $MR < MC$, the Company needs to reduce production because additional units generate more costs than revenue.

Only when $MR = MC$ does the Company achieve maximum profit.

Equilibrium of the Industry in a Perfectly Competitive Market

In Economics, the industry comprises several firms. Each of the firms consists of factories or mines, as per the requirement. If the total output of the industry equals the total demand, then the Equilibrium is created. In this situation, the ongoing Price of the good is noted to be its Equilibrium cost. While determining how Equilibrium Price is determined under Perfect Competition, we will need to discuss the following theory.

Equilibrium of the Firm in a Perfectly Competitive Market

When there is profit maximization, the firm is said to be in Equilibrium. The input that provides the highest output to that particular firm, is known as the Equilibrium output. In such a state, there are no factors to increase or reduce the output. The firm is the Price taker in a competitive Market. They produce homogenous commodities. Therefore, influencing the

pricing factors isn't on the will of the firms. They strictly follow the Price structure, as stated by the industry. This is how Price and output Determination under Perfect Competition is done. Now, we will explore more on the topic of how Prices are determined under Perfect Competition.

Price Determination in a Perfect Competition Market

In a Perfectly Competitive Market or industry, the Equilibrium Price is determined by the forces of demand and supply. Equilibrium signifies a state of balance where the two opposing forces operate subsequently. An Equilibrium is typically a state of rest from which there is no possibility to change the system. Market Equilibrium takes place when both the demand and supply balance each other, i.e., there's no difference between these opposing forces and are at rest. The following theory will explain how Equilibrium Price is determined under Perfect Competition.

Here are some amazing facts to know about Equilibrium Price Determination under Perfect Competition.

- The Perfectly competitive firm is noted to be the Price taker.
- The Perfect Competition takes place amidst many sellers and free entry and exit of the firms from the Market.
- When both the supply and demand increase, the Equilibrium amount purchased and sold will increase too.
- According to neoclassical economists, the concept of a Perfectly competitive Market is an abstract concept.

Break-even Point of Production

The break-even point can be defined as the production and sales levels of a given product at which the revenue generated from the sales is perfectly equal to the production cost. At this point, the company does not make any profit or loss; it breaks even.

The production cost of every product is divided into two components: the fixed cost components and the variable cost components.

Fixed Costs

Fixed costs are those costs that remain the same regardless of the level of production of any company. A good example is the cost incurred in setting up production facilities, e.g., rent, fixed interest charges, and depreciation.

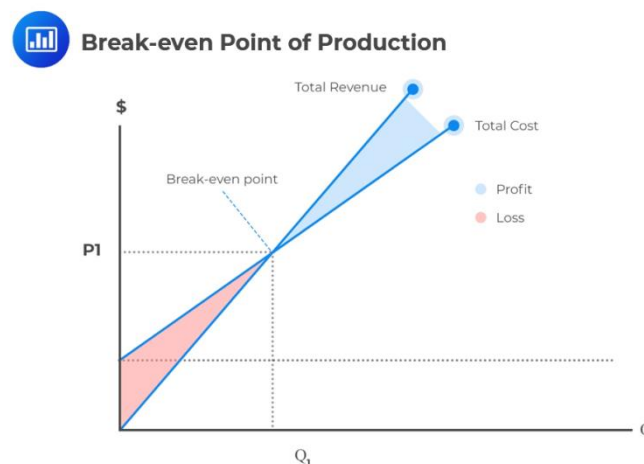
Variable Costs

Variable costs are directly proportional to the volume produced, and examples include raw materials, wages paid, and other incurred expenses.

A company must fix its selling price above the variable costs incurred per unit of production. The difference between the selling price and the variable costs is referred to as the contribution to fixed costs and profits.

An increase in sales causes a direct increase in contribution. At the break-even point of sales, the contribution is strictly equal to the fixed cost. Therefore, companies will report losses below this point and profits above this point.

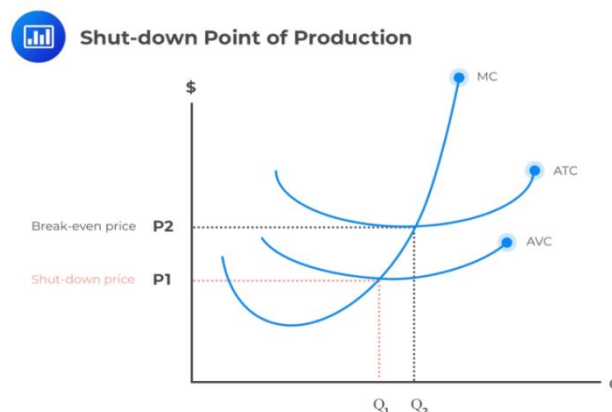
After identifying the types of production costs, it is now possible to calculate the break-even point of production because this is where you will either make a profit or a loss



Shut-down Point of Production

The shut-down point refers to the minimum price at companies prefer shutting down their operation instead of continuing to operate. In other words, it is the minimum price and quantity for keeping operations open.

The variable cost per unit (written as marginal cost, MC, on the following graph) falls with an increase in the number of units produced up to a certain point. After this point, the variable cost rises. Consequently, a U-shaped curve is realized when quantity is plotted on the x-axis against the average variable cost on the y-axis.



As seen previously, the break-even point is the point at which the marginal cost (MC) equals the average total cost (ATC). The shut-down point of production, on the other hand, is the price at which the marginal cost does not even cover the average variable cost (ATC). At this point, the company had better stop operations than keep on running at a loss.

Distribution theory: meaning, factor market and pricing of factors of production; Concepts of rent, wage, interest and profit

Meaning

The systematic attempt to account for the sharing of the national income among the owners of the factors of production i.e., land, labour and capital. Traditionally, economists have studied how the costs of these factors and the size of their return (rent, wages, interests, and profits) are fixed.

Factor Market

- Factors of production are bought and sold in factor markets.
- Prices of factors of production are known as factor prices.
- Factor markets work like goods and service markets in some ways:
 1. They can be analysed using supply and demand analysis.
 2. Factor prices allocate resources among producers.
- Factor markets are different from goods and service markets, because:
 1. Their demand is a derived demand- derived from firm's output choices and the demand for goods and services.
 2. Most of our income is received from them; factor markets determine distribution of income.

Factor Pricing

- The theory of factor pricing is concerned with the principles according to which the price of each factor of production is determined and distributed. The distribution of factors of production can be of two types, namely personal and functional.
- Personal distribution is concerned with the distribution of income among different individuals. It is associated with the amount of income generated not with the source of income. For example, an individual earns Rs. 20,000 per month; this income can be earned by him/her by wages, rents, or dividends.
- On the other hand, functional distribution is associated with the distribution of income among different factors of production as per their functions. It is concerned with the source of income, such as wages, rents, interests, and profits.

RENT

- Rent is the return for the fertility status of the land. In fact the land is defined in a broad sense. All the natural resources existing on the surface and beneath the surface of land like mines, rivers, etc., are also treated as land, from which rent is received.

- Some resources are publicly owned, while others are privately owned. Rent is almost zero for publicly owned resource because one cannot use it for one's own purpose. These are meant for public welfare. Rent is expressed in two forms i.e., one is Economic Rent and other is Contract Rent.
- **Economic Rent** is the minimum amount of money that an owner of land, labour or capital must receive in order to let someone else use that land, labour or capital.
- **Contract Rent** refers to that rent which is agreed upon between the landowner and the user of the land.
- **Quasi Rent:** The basis for evolving this rent is the short run fixity of man made assets of production like machines, buildings, etc. When in short run, the demand for these assets increases, consequently their income also increases. This results a surplus income due to increased demand. This surplus income of assets is called Quasi rent.
- **Scarcity Rent** is the rent which arises due to scarcity of land in relation to demand. Scarcity rent is due to inelastic supply of land. This is surplus rent over the market rent for land due to increased demand for land.

WAGES

- Wages are rewards paid for the labourers for sparing their productive services. It may be paid either in cash or kind or both.
- A wage may be defined as a sum of money paid under contract by an employer to worker for services rendered.

Methods of Wage Payment: Based on payments, wages are classified as,

- Cash wages and Kind wages
- Time wages
- Piece wages
- Task wages

1. Cash Wages and Kind Wages: Wages for the workers are paid in cash or kind or both. With the advent of currency, wages are paid in cash. However, kind pay ment is also in vogue along with the cash payment.

2. Time Wages: It is the wage per unit of time. It is the payment of wages on hourly, daily, weekly, fortnightly and monthly basis. In farming, casual labourers are paid on daily basis, workers for domestic services are paid on monthly basis and attached servants in farming are paid on half-yearly or yearly basis.

3. Piece Wages: It is based on the work performed by an individual in the production of goods and services. In the manufacturing process of a good, the entire production activity is divided into various sub-processes. An individual attending to a sub-process is paid according to the work he completes on a particular day.

4. Task Wages: Wages are paid for a given work after its completion, say in farming, paddy transplanting, weeding, harvesting, etc., are completed by a group of labourers. Wages are decided based on the work assigned to the group and it has nothing to do with the number of labourers in that group. The task is given to the group for completion of work in time according to agreed wages. They are also called as contract wages.

Types of Wages

- **Nominal Wage or Money Wage:** It is the wage paid in terms of money at current market prices.
- **Real Wage:** It indicates the purchasing power of money wage. Real wage of the worker is obtained by dividing nominal wage of the worker at different time periods by general price index. Real wage is measured by,

$$R = W/P$$

Where,

R= Real wage

W= Money wage

P= General Price Index

INTEREST

- Interest is the amount paid by the borrower to the lender for the use of capital.
- According to Marshall “The payment made by a borrower for the use of loan for, say a year, is expressed as the ratio which that payment bears to the loan” is called interest.
- The interest charged by a lender from the borrower is termed as gross interest. It is because lending activity is fraught with risk as well as inconvenience which are also considered. Taking these items into account the gross interest is considered under the following terms.
 - Net or Pure interest
 - Insurance against risk
 - Payment for inconvenience
 - Reward for management

- 1. Net or Pure interest:** This interest is the payment exclusively made for the loan amount.
- 2. Insurance against risk:** In the lending activity there is always the risk of not getting back the funds lent by the lender. The loan may turn out into a bad debt. This risk needs to be insured. For this purpose, some more interest is added to the net interest.
- 3. Payment for inconvenience:** Though the lending activity the lender gets interest but in the same process he is placed in inconvenience to get back his funds at the time he wants, because the funds are locked up for a certain period of time. Unless the loan period was over he cannot get back his funds. For this inconvenience, he charges some additional interest to the net interest.
- 4. Reward for management:** The business of lending requires perfect maintenance of the records to keep a close watch on the business performance. Apart from this, the borrowers are to be pursued for prompt repayment. This calls for efficient management of the business. Hence reward for management is included in gross interest.

PROFIT

- Profit is the reward for entrepreneurial function of decision-making and uncertainty bearing.
- Profit can be either positive or negative, since it is a residual income.
- Profit differs from rewards of other factors of production like rent, wages and interest on the point that these are all certain, while profit is tentative.
- These rewards are paid even before the ultimate product is obtained, while profit happens to be the surplus of returns over total costs, and it is obtained at the end of production activity.

Various Concepts of Profit

- Gross Profit
 - Remuneration for Entrepreneur Himself
 - Depreciation and Maintenance Charges
 - Extra Personal Profits
 - Net Profit

1. Gross Profit: It is the surplus of gross revenue over paid out costs (explicit costs) obtained in a production activity. Gross profit cannot be treated as ultimate profit, for it includes several items which are not actually profits as presented below:

Remuneration for Entrepreneur Himself: It is a practice for the entrepreneur to contribute his own capital in the business besides offering his services as a manager. In such a situation

the opportunity cost of owned capital and the services rendered in his own business are also included in the gross profit. These imputed costs are to be deducted from the gross profit to arrive at the net profit.

Depreciation and Maintenance Charges: When the plant is in operation there will be wear and tear (depreciation) on equipment and machinery which needs to be duly accounted for. In addition to this, interest on fixed capital and insurance premium are other fixed cost items that are incurred in a production activity. These cost items need to be deducted from the gross profit to arrive at net profit.

Extra Personal profit: These are the profits which accrue to a business unit not due to the managerial ability of the entrepreneur, but due to other factor, say the profits of monopoly. These are not due to the businessman's managerial abilities but for his position as monopolist. The monopoly profit needs to be deducted from gross profit to arrive at net profit. Another source of getting expected high profit is from windfall gains or chance profits. Any sudden happening, say outbreak of war, natural calamities in certain pockets of the country etc., lead to a rise in the product prices, resulting in abnormal profits for the entrepreneur. Such unexpected profit should be deducted from gross profit to find out the net profit.

2. Net Profit: The aforesaid three items viz., remuneration for entrepreneur himself, depreciation and maintenance charges and extra personal profits are to be deducted from gross profit to work out the net profit. It is the reward of the entrepreneur for coordination and risk-taking.

$$\text{Net profit} = \text{Gross income} - \text{Total cost}$$

National income: Meaning and importance, circular flow, concepts of national income accounting and approaches to measurement, difficulties in measurement

Meaning:

National Income is one of the important subject matter of macro economics. The total income of the nation is called national income. In real terms, national income is the flow of goods and services produced in an economy during a year.

Importance of National Income

For the Economy: National Income data is important for the economy of a country. In present times, the national income data are regarded as accounts of the economy, which are known as 'Social Accounts'. It tells us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade.

National Policies: National income data forms the basis of national policies such as employment policy, industrial policy, agricultural policy, etc. National income also helps to generate economic models like growth models, investment models, etc. Thus, proper measures can be adopted to bring the economy to the right path.

Economic Planning: For economic planning, data pertaining to national income is very essential. It includes data related to a country's gross income, output, savings, investment and consumption which can be obtained from different sources.

Economic Research: national Income data is also used by the research scholars of economics. They make use of various data of the country's input, output, income, savings, consumption, investment employment, etc., which are obtained from social accounts.

Comparison of Standard of Living: National income data helps us to compare the standards of living of people in different countries as well as of people living in the same country at different times.

Distribution of Income: National income statistics enable us to understand the distribution of income in the country from the data related to wages, rent, interest and profits. We understand the disparities in the income of different sections of society,

Circular Flow of Income

In every Economy there are households on the one hand and productive enterprises or firms on the other.

Households:

The function of households is to consume goods and services for the satisfaction of their wants. Thus the household is the basic consuming unit in the economy.

Productive Enterprises (Firms):

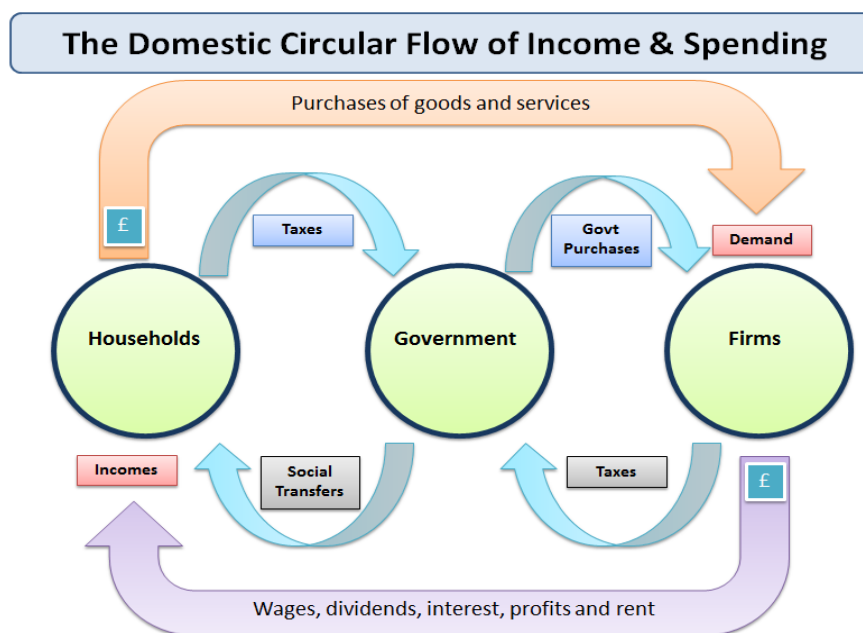
The function of productive enterprise is to produce goods and services for the satisfaction of the wants of households and thus the firm or productive enterprise is the basic producing unit in the Economy.

- The household here may be the family unit while producing unit (firm) may be the grocery shop, factory etc..

Government:

Besides, Government is another sector which occupies an important position. It is like households, purchases goods and services and since it runs many public enterprises it acts, producing unit.

- Thus households, firms and government are the main components of the entire economic organization of a country which is known as economy.
- Economy is the sum total of the operations of the households, firms and government.



- In every economy there is always a circular flow (movement) of resources services (i.e. services of land, labour, capital and enterprise) from the household to firms and the reverse movement of goods and services from the firms to the households.
- The inner circuit shows the real flows would take place only in barter economy where goods and services are exchanged for goods and services.

- But in the modern economy where use of money as a medium of exchange is widely adopted.
- Households supply the resource services or factors to firms and receive in return payments in terms of money for goods and services they want.
- The firms sell goods and services for money and use the money so received to pay the households for their supply of resource services.
- Thus labour gets wages; capital gets interest; land gets rent and enterprise gets profits all in terms of money, this circular flow of money also known as Wheel of Wealth.
- This flow of money is not continuously at steady level. It may contract or expand when depression and prosperity occur, respectively in an economy.

Concepts of National Income

1. Gross Domestic Product(GDP)
2. Gross National Product (GNP)
3. Net National Product (NNP) at Market Prices
4. Net National Product (NNP) at Factor Cost or National Income
5. Personal Income
6. Disposal Income

Gross Domestic Product (GDP): is the total market value of all final goods and services currently produced within the domestic territory of a country in a year.

Gross National Product (GNP): is the total market value of all final goods and services produced in a year. GNP includes income from abroad whereas GDP does not.

$$\text{GNP} = \text{GDP} + \text{Net factor Income from abroad.}$$

Net factor income from abroad = Factor income received by Indian Nationals from abroad – factor income paid to foreign nationals working in India.

Net National Product (NNP) at Market Prices: NNP is the market value of all final goods and services after providing for depreciation. That is, when charges for depreciation are deducted from the GNP we get NNP at market price.

$$\text{NNP} = \text{GNP} - \text{Depreciation}$$

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

$$\text{NNP at Factor Cost} = \text{NNP at Market Price} - \text{Net Indirect tax.}$$

Personal income is the amount of money collectively received by the inhabitants of a country. Sources of **Personal income** include money earned from employment, dividends and distributions paid by investments, rents derived from property ownership, and profit sharing from businesses. **Personal income** is generally subject to taxation.

National Disposable Income gives us an idea of what is the maximum amount of goods and services the domestic economy has at its disposal.

The formula for **National Disposable Income** is,

$$\text{National Disposable Income} = \text{Net National Product at market prices} + \text{Other current transfers from the rest of the world.}$$

Difficulties in Measurement of National Income:

The following points highlight the eight major difficulties in the measurement of national income.

1. Prevalence of Non-Monetized Transactions:

There are certain transactions in India in which a considerable part of output does not come into the market at all.

For example: Agriculture in which a major part of output is consumed at the farm level itself. The national income statistician, therefore, has to face the problem of finding a suitable measure for this part of output.

2. Illiteracy:

The majority of people in India are illiterate and they do not keep any accounts about the production and sales of their products. Under the circumstances the estimates of production and earned incomes are simply guess work.

3. Occupational Specialisation is Still Incomplete and Lacking:

There is the lack of occupational specialisation in our country which makes the calculation of national income by product method difficult. Besides the crop, farmers are also engaged in supplementary occupations like—dairying, poultry, cloth-making etc. But income from such productive activities is not included in the national income estimates.

4. Lack of Availability of Adequate Statistical Data:

Adequate and correct production and cost data are not available in our country. For estimating national income data on unearned incomes and on persons employed in the service are not available. Moreover data on consumption and investment expenditures of the rural and urban population are not available for the estimation of national income. Moreover, there is no machinery for the collection of data in the country.

5. Value of Inventory Changes:

The value of all inventory changes (i.e., changes in stock etc.) which may be either positive or negative are added or subtracted from the current production of the firm. Remember, if in the change in inventories and not total inventories for the year that are taken into account in national income estimates.

6. The Calculation of Depreciation:

The calculation of depreciation on capital consumption presents another formidable difficulty. There are no accepted standard rates of depreciation applicable to the various categories of machine. Unless from the gross national income correct deductions are made for depreciation the estimate of net national income is bound to go wrong.

7. Difficulty of Avoiding the Double Counting System:

The very important difficulty which a calculator has to face in measurement is the difficulty of avoiding double counting.

For example: If the value of the output of sugar and sugar cane are counted separately, the value of the sugarcane utilised in the manufacture of sugar will have been counted twice, which is not proper. This must be avoided for a correct measurement.

8. Difficulty of Expenditure Method:

The application of expenditure method in the calculation of national income has become a difficult task and it is full of difficulties. Because in this method it is difficult to estimate all personal as well as investment expenditures.

Population: Importance, Malthusian and Optimum population theories, natural and socio-economic determinants, current policies and programmes on population control

Theories of Population

The quantitative aspect of labour deals with supply of labour, which is a matter of population. So rate at which the population of a country increases or decreases is of vital importance for labour supply. There are certain theories of population, which try to explain why and how population increases and also indicates the right level of population. The theories of population can be classified into two categories:

1. On the basis of food supply – Malthusian Theory;
2. On the basis of per capita output - Optimum theory.

Malthusian Theory of Population:

Thomas Robert Malthus an English clergy drew the attention of many by his thought provoking publication entitled, "An essay on the principle of population" as it affects the future improvement of society (1798). Malthus observed that, i) By nature human food increases in a slow arithmetic ratio, man himself increase in quick geometric ratio unless wants and vices stop him. ii) The increase in number is necessarily limited by means of subsistence. iii) Population invariably increases unless prevented by powerful and obvious checks.

The theory propounded by Malthus can be reduced to the following propositions:

- 1) Size of population is dependent on food supply.
- 2) **Growth rate of population:** Population tends to grow in Geometric Progression 1,2,4,8,16,32... etc. In short, Population gets doubled in 25 years.
- 3) **Growth rate of Food supply:** Food Production tends to grow in Arithmetic Progression viz., 1,2,3,4,5,6... etc. In short, there will be a constant addition to food supply.
- 4) **Over Population:** After a certain period, population would be in excess of the number, which could be maintained by available food supply. When this happens there could be over population in the country.
- 5) **Preventive checks:** Over population is highly dangerous. Realizing this people may tend to adopt measures to check the growth rate of population. Malthus called these measures by the name, Preventive checks. The forms of Preventive checks are (a) celibacy (unmarried state), (b) late marriage, (c) moral restraint and (d) self control in married life.
- 6) **Positive checks:** if people fail to adopt any preventive check, nature will apply certain checks to arrest the growth rate of population. Malthus called these checks as positive checks.

They are (a) war, (b) famine, (c) vices (a serious moral default), (d) epidemics (e) misery. It is to be noted that operation of positive checks will cause a rise in death rate in the country.

Criticism

The following are the criticisms against Malthusian theory of population:

- 1) In the history of world, we have not come across any country where population increased in geometric progression. That is, the mathematical formulae of Malthus are unrealistic and incorrect.
- 2) According to Malthus, the size of population in a country depends upon on food production, which is an erroneous view. By producing only manufactured goods and exporting to other countries the good requirements can be met by imports.
- 3) According to Malthus, increase in population means increase in the consumption of food grains in the country. But according to Cannan, a baby comes into the world not only with a mouth and stomach but also with a pair of hands.
- 4) Malthus failed to anticipate that with a rise in their standard of living, people tend to have a small size of family.

Optimum Theory of Population

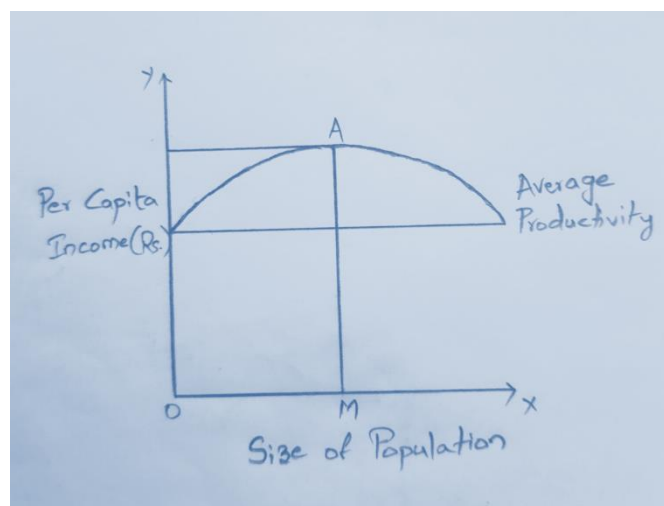
The modern economists, Cannan, Saunders and Dalton have evolved a new theory of population. It is popularly known as the optimum theory of population.

Meaning: If the number of people available in a country is just sufficient to use the available resources in the best possible manner there is said to be optimum population.

If the population of a country is below the optimum size, the country is said to be under-populated. The disadvantage of under population is under utilization of natural and capital resources of the country. When the population is in excess of optimum size, the country is said to be over populated. The disadvantages of over population are (i) the average productivity will decrease, (ii) per capita income will be very low and (iii) standard of living will fall.

Optimum population:

As the quantity of labour increases, greater degree of specialization and more efficient use of natural and capital resources of the country are possible. Hence, per capita income (average productivity) of labour (population) increase and thereafter it declines with increase in population.



In figure the size of population is measured on x-axis and per capita income on y-axis. It is evident from the figure that in the beginning as population increases per capita income also increases. At OM level of population, per capita income is at the highest level and is equal to OP. If population increases beyond OM, per capita income falls; therefore OM is the optimum population.

Professor Dalton has given a formula to find out whether the population is in deviation from its optimum size. It is given below.

$$M = (A - 0) / 0$$

Where, M = Small adjustment or degree of deviation from optimum

A = Actual population

0 = Optimum population

If M is positive, then there is over population and when M is negative, then there is under population.

Criticism:

Optimum size of population is not fixed one. Suppose there are changes in the methods of production and resource availability in the economy a given population can no longer be considered as optimum, then the optimum will be some other number.

Comparison of Optimum Theory and Malthusian theory of Population

- 1) Malthus focused his attention on food production whereas the optimum theory considers economic development in all its aspects.
- 2) Malthus thought of maximum number of people for a country which if exceeded would bring misery. According to the optimum population theory there is no fixed maximum number of people.

3) To Malthus, famine, war and diseases were the indices of over population. But the optimum population theory tells us that in the absence of such distressing phenomena, there can be over population and it can be shown that per capita income has gone down or that with a decrease in population per capita income will go up.

Is the Malthusian theory applicable to India?

Although India is self-sufficient in food production, population growth is higher than the growth rate of food production. Birth rate and death rate are high in many states of India and the standard of living is also very low. Poverty, frequent epidemics, famine and communal quarrels are common features in India. These facts support the applicability of Malthusian Theory of population.

Money: Barter system of exchange and its problems, evolution, meaning and functions of money; classification of money, money supply, general price index, inflation and deflation

Barter System: Direct exchange of goods against goods without use of money is called barter exchange.

Alternatively, economic exchanges without the medium of money are referred to as barter exchanges. An economy based on barter exchange (i.e., exchange of goods for goods) is called C.C. Economy, i.e., commodity for commodity exchange economy. In such an economy, a person gives his surplus good and gets in return the good he needs.

Problems of Barter Exchange:

1. Lack of double coincidence of wants:

Double coincidence of wants means what one person wants to sell and buy must coincide with what some other person wants to buy and sell. ‘Simultaneous fulfilment of mutual wants by buyers and sellers’ is known as double coincidence of wants.

There is lack of double coincidence in the wants of buyers and sellers in barter exchange. The producer of jute may want shoes in exchange for his jute. But he may find it difficult to get a shoe-maker who is also willing to exchange his shoes for Jute.

Thus, a seller has to find out a person who wants to buy seller’s good and at the same time who must have what the seller wants. This is called double coincidence of wants which is the main drawback of the barter exchange.

2. Lack of common measure of value:

In barter, there is no common measure (unit) of value. Even if buyer and seller of each other commodity happen to meet, the problem arises in what proportion the two goods are to be exchanged. Each article must have as many different values as there are other articles for which it is to be exchanged.

When thousands of articles are produced and exchanged, there will be unlimited number of exchange ratios. Absence of a common denominator in order to express exchange ratios creates many difficulties. Money obviates these difficulties and acts as a convenient unit of value and account.

3. Lack of standard of deferred payment:

There is problem of borrowing and lending. It is difficult to engage in contracts which involve future payments due to lack of any satisfactory unit. As a result, future payments are

to be stated in term of specific goods or services. But there could be disagreement about the quality of the good, specific type of the good and change in the value of the good.

4. Difficulty in storing wealth (or generalised purchasing power):

It is difficult for the people to store wealth or generalised purchasing power for future use in the form of goods like cattle, wheat, potatoes, etc. Holding of stocks of such goods involves costly storage and deterioration.

5. Indivisibility of goods:

How to exchange goods of unequal value? If a household wants to sell his cow and get in exchange cloth equal to the value of half of his cow, he cannot do so without killing his cow. Thus, lack of divisibility of goods makes barter exchange impossible.

In order to overcome the above disadvantages of the barter system, money was invented by the society.

Evolution of Money

Some of the major stages through which money has evolved are as follows: (i) Commodity Money (ii) Metallic Money (iii) Paper Money (iv) Credit Money (v) Plastic Money.

Money has evolved through different stages according to the time, place and circumstances.

(i) Commodity Money:

In the earliest period of human civilization, any commodity that was generally demanded and chosen by common consent was used as money.

Goods like furs, skins, salt, rice, wheat, utensils, weapons etc. were commonly used as money. Such exchange of goods for goods was known as 'Barter Exchange'.

(ii) Metallic Money:

With progress of human civilization, commodity money changed into metallic money. Metals like gold, silver, copper, etc. were used as they could be easily handled and their quantity can be easily ascertained. It was the main form of money throughout the major portion of recorded history.

(iii) Paper Money:

It was found inconvenient as well as dangerous to carry gold and silver coins from place to place. So, invention of paper money marked a very important stage in the development of money. Paper money is regulated and controlled by Central bank of the country (RBI in India). At present, a very large part of money consists mainly of currency notes or paper money issued by the central bank.

(iv) Credit Money:

Emergence of credit money took place almost side by side with that of paper money. People keep a part of their cash as deposits with banks, which they can withdraw at their convenience through cheques. The cheque (known as credit money or bank money), itself, is not money, but it performs the same functions as money.

(v) Plastic Money:

The latest type of money is plastic money in the form of Credit cards and Debit cards. They aim at removing the need for carrying cash to make transactions.

Money: The term 'Money', include "all media of exchange (gold, silver, copper, paper, money cheques) and payments, whose acceptance is required by law in discharge of debts. Money is anything generally accepted as a medium of exchange and express in terms National Unit of account.

Types of Money

Bank Money: consists of bank notes and deposits in a bank including over draft facilities.

Standard Money: is that with reference to which the value of all other forms of money are measured. A precious metal is often chosen for standard money.

Eg: Gold or Silver Coins.

Paper Money: it applies to bank notes and government notes which pass from hand to hand without difficulty and without any question.

Eg: Bill of Exchange and Cheques

Legal Tender Money: means the tender or payment of which constitutes by law sufficient for discharge of debt.

Eg: Credit card swipes

Token Money: is the one for which an official value is given and will be usually more than the value of its metallic content or face value.

Eg: All Currencies (Coins and Notes)

Functions of Money

Money performs five important functions. The first three functions are called as primary functions and the other two functions are called as secondary functions.

Primary Functions

- It serves as a medium of exchange, thereby solving all difficulties of barter system. It helps in trade.
- It is used as a store value, i.e. It helps a person to keep his assets liquid.

- It is a standard for measuring values. As a standard for measurement of value, it helps in arriving at relative value for different commodities.

Secondary Functions

- Money is a means of transferring value. It helps in transferring values from place to place and from time to time. i.e. one can sell all his properties in one place and buy it elsewhere by means of money.
- Money is a standard for deferred payment. It is not only used for present transactions but also for future transactions. It facilitates lending and borrowing and all types of credit transactions.

Classification of Money

Money is classified on the basis of the relationship between the value of money as a commodity and the value of money as money. It can be broadly classified as:

- Full-bodied Money
- Representative Full-bodied Money
- Credit Money

1. Full-Bodied Money

Full-bodied money refers to any unit of money, whose intrinsic value and face value are equal, i.e., **Commodity Value = Money Value**. **For example**, during the colonial period, 1 rupee coin was made of silver metal and its monetary value was equal to its commodity value.

2. Representative Full-bodied Money

The representative full-bodied money usually refers to money made of paper. The money value of representative full-bodied money is much higher than its commodity value, i.e., **Money Value > Commodity Value**. Such type of paper money is completely backed by a metallic reserve of gold or silver and can be redeemed by the holder's choice. **For example**, for convertible paper receipts, one can exchange the amount mentioned on the paper receipt for an equal value of gold or silver.

Representative Money can be of two types:

(i) **Convertible Paper Money:** The currency notes that can be freely converted into full-bodied money in the form of gold or silver, at any point of time at the will of the holder is known as **Convertible Paper Money**. It is not necessary to have 100% backing of gold or silver for the convertible paper money, as the notes in circulation are not presented for conversion at the same time.

(ii) **Inconvertible Paper Money:** The currency notes or paper money that cannot be converted into full-bodied money at the desire of the holder are known as **Inconvertible Paper Money**. This kind of representative full-bodied money circulates and commands value. It is because the issue of inconvertible paper money is regulated by the Government. Besides, it does not have any kind of backing of standard coins or bullion. **For example**, the Indian one-rupee note cannot be converted into full-bodied money and does not have a backing.

3. Credit Money

The money whose intrinsic value or commodity value is much lower than its face value is known as **Credit Money**, i.e., **Commodity Value < Money Value**. **For example**, the face value of a ₹200 note is Rs 200, but if we sell the note as a paper, we would get a much lower amount.

Various types of credit money are:

(i) **Token Coins:** These are the small coins of various values whose money value is greater than commodity value, i.e., **Money Value > Commodity Value**. Token coins are issued to facilitate the daily requirements of people. **For example**, 1, 2, 5, or 10 rupee coins are token coins, as their money value is more than their commodity value.

(ii) **Representative Token money:** Representative Token Money is the money that is fully backed and redeemable in gold or silver. It is generally in the form of paper whose actual offered market value is less than the value printed on paper notes.

(iii) **Circulating Promissory Notes issued by the Central Bank:** The currency notes issued by the central bank of India (RBI) are known as **Circulating Promissory Notes**. These include all currency notes of values, like ₹100, ₹200, ₹500, ₹2000, etc. Each circulating promissory note has the words, “**I promise to pay the bearer the sum of ₹**” printed on it with the signature of the **Governor of India**. Its money value is greater than the commodity value.

(iv) **Demand Deposits in Bank:** Deposits are claims of depositors against a bank. The demand deposits can be withdrawn from the bank or transferred to another person by issuing a cheque. Such deposits do not have any kind of backing (gold or silver). The money value of a cheque is much higher than its commodity value. With demand deposits, the risk of carrying a large amount of cash is removed, which makes the transactions convenient and safe.

Money Supply

The total money held by the public of a country at a specific point of time is known as **Money Supply**. It consists of both cash and deposits that can be easily used as cash. The money supply of a country has a major impact on its economy. If there is a rise in the money supply of an economy, it will be shown as a decline in interest rates and the price of goods and services. However, if there is a decline in the money supply of an economy, it will be shown as a rise in the interest rates and price of goods and services, along with an increase in the bank reserves.

Features of Money Supply

1. Money supply includes the money held by the public in an economy only. Here, 'public' means that sector of the country, which is money-using, i.e., firms and individuals. However, it does not include the money-creating sector of a country, as the amount of money or cash held by them does not mean the actual circulation of money in the country. The money-creating sector of a country includes the Banking system and Government.
2. Money Supply is a **Stock Concept**. It means that the money supply is concerned with a particular point of time.

*The money produced by the Reserve Bank of India (RBI) and the Government is known as **High-powered Money (H)**. It includes Currency held by the public and Cash reserves with the banks. High-powered Money is different from Money (M), as Money includes currency and demand deposits of an economy; however, High-powered Money includes cash reserves with banks and the currency of an economy. H is high-powered than Money (M) because cash reserves with the banks serve as an actual base for demand deposit generation of an economy.*

Measures of Money Supply

Till 1967-68, only the narrow measure of the money supply was used by the Reserve Bank of India (RBI). However, since 1977, four measures of money supply have evolved in the economy, i.e., M_1 , M_2 , M_3 , and M_4 .

1. M_1

The first and basic measure of the money supply is M_1 , which is also known as **Transaction Money**. It is called transaction money because this measure can be directly used to make transactions. The three different components of M_1 are Currency and coins with public, Demand deposits of Commercial Banks, and Other deposits with RBI. All of these components can be easily used as a medium of exchange; therefore, it is the most liquid measure of the money supply.

M_1 = Currency and coins with public + Demand deposits of commercial banks + Other deposits with Reserve Bank of India

Components of M_1

i. Currency and Coins with Public: The first component of transaction money includes coins and paper notes held by the public of a country. It means that any money in the form of coins and paper notes, held by the Government and Banking Sector is not included in transaction money. This component includes coins of denominations of ₹1, ₹2, ₹5, ₹10, ₹20, etc., and paper notes of denominations of ₹10, ₹20, ₹50, ₹100, ₹500, etc. Currency money is also known as **Fiat Money**, which means the money that must be accepted for all of the debts under law. In other words, fiat money is the money that is under the order or fiat from the government to act as money. Another name for currency and coins with public component of M_1 is **Legal Tender Money**. It is because the money can be used legally for the payment of debts and other obligations.

ii. Demand Deposits of Commercial Banks: The second component of M_1 includes the demand deposits of the public with the commercial banks. The account holder of demand deposits can encash them anytime by the issue of cheques. As the demand deposits are readily accepted as a means of payment, they are treated as the currency held. However, only net demand deposits are included in M_1 . It means that all inter-bank deposits are excluded from this component. Inter-bank deposits are the deposits that are held by the banks on the behalf of other banks. As these kinds of deposits do not include money held by the public, they are not included in the money supply.

iii. Other Deposits with Reserve Bank of India: The last component of M_1 includes the deposits held by the Reserve Bank of India on behalf of foreign governments and banks, IMF, World Bank, Public Financial Institutions, etc. However, the deposits of commercial banks and the Indian Government with the Reserve Bank of India are not included in this component. ‘Other deposits with RBI’ do not play a significant role in the formation of the monetary policy of India because it constitutes a small part of M_1 .

2. M_2

The second measure of the money supply is M_2 , and is a broader concept as compared to M_1 . It includes M_1 and savings deposits with the post office savings bank. One cannot withdraw Savings Deposits with Post Office Saving Bank through cheque; therefore, it cannot be included in demand deposits with the bank, resulting in the evolution of M_2 .

$M_2 = M_1 + \text{Savings Deposits with Post Office Saving Bank}$

3. M₃

The third measure of the money supply is M₃ and is a broader concept as compared to M₁. It includes M₁ and Net Time Deposits with Bank.

$$M_3 = M_1 + \text{Net Time Deposits with Banks}$$

4. M₄

The last measure of the money supply is M₄, and is a broader concept as compared to M₁ and M₃. It includes M₃ and Total Deposits with Post Office Saving Bank, but does not include NSC (National Saving Certificate).

$$M_4 = M_3 + \text{Total Deposits with Post Office Saving Bank}$$

Important Facts related to the Measures of Money Supply

1. All four measures of money supply represent a different level or degree of liquidity. M₁ is the most liquid measure of supply, and M₄ is the least liquid measure of supply.
2. M₃ is also known as **Aggregate Monetary Resources of the Society** and is widely used as a measure of supply.
3. M₁ and M₂ are usually known as **Narrow Money Supply Concepts**; however, M₃ and M₄ are known as **Broad Money Supply Concepts**.

Inflation: Inflation simply means process of rising prices. Inflation may be defined as a persistence and appreciable rise in the general price level.

Types of Inflation:

Creeping Inflation: When the rise in prices is very slow (less than 3% per annum) like that of a snail or creeper, it is called creeping inflation. Such an increase in prices is regarded safe and essential for economic growth.

Walking or Trotting Inflation: When prices rise moderately and the annual inflation rate is a single digit (3%-10%), it is called walking or trotting inflation. Inflation at this rate is a warning signal for the government to control it before it turns into running inflation.

Running Inflation: When prices rise rapidly like the running of a horse at a rate of speed of 10%-20% per annum, it is called running Inflation. Its control requires strong monetary and fiscal measures, otherwise it leads to hyperinflation.

Galloping or Hyperinflation: When price rises between 20% to 100% per annum or even more, it is called galloping or hyperinflation. Such a situation brings a total collapse of the monetary system because of the continuous fall in the purchasing power of money.

Causes of Inflation

Cost-push Inflation: This theory explains a situation of rising prices even though there is no increase in aggregate demand. This is because of rising costs particularly wage cost.

Industries and firms faced with rising production costs push the prices up abnormally. Cost-push starts from increase in wage-cost, which would increase the production cost.

Demand pull inflation: This type of inflation results when the economy has reached its maximum productive capacity (i.e. economy is operating at full employment equilibrium) and there is increased in demand. Since economy is already at its maximum productive capacity. The reasons for demand-pull inflation are: 1) Cheap money policy 2) Deficit financing and 3) Excessive foreign investment.

Imported Inflation: Higher import prices or higher export prices or both may generate inflation in the economy.

Measure of Inflation: The most widely used measure of inflation is Consumer Price Index (CPI). It measures the cost of a basket of goods and services. A price index is a weighted average of prices of number of commodities. Weights are assigned to the price of each commodity according to the importance of the commodity.

Deflation

Definition: When the overall price level decreases so that inflation rate becomes negative, it is called deflation. It is the opposite of the often-encountered inflation.

- A reduction in money supply or credit availability is the reason for deflation in most cases. Reduced investment spending by government or individuals may also lead to this situation. Deflation leads to a problem of increased unemployment due to slack in demand.
- Central banks aim to keep the overall price level stable by avoiding situations of severe deflation/inflation. They may infuse a higher money supply into the economy to counter- balance the deflationary impact. In most cases, a depression occurs when the supply of goods is more than that of money.
- Deflation is different from disinflation as the latter implies decrease in the level of inflation whereas on the other hand deflation implies negative inflation.

Banking: Role in modern economy, types of banks, functions of commercial and central bank; credit creation policy

Role of Banks in Modern Economy

The banking system plays an important role in the modern economic world. Banks collect the savings of the individuals and lend them out to business-people and manufacturers. Bank loans facilitate commerce.

Manufacturers borrow from banks the money needed for the purchase of raw materials and to meet other requirements such as working capital. It is safe to keep money in banks. Interest is also earned thereby. Thus, the desire to save is stimulated and the volume of savings increases. The savings can be utilised to produce new capital assets. Thus, the banks play an important role in the creation of new capital (or capital formation) in a country and thus help the growth process.

Banks arrange for the sale of shares and debentures. Thus, business houses and manufacturers can get fixed capital with the aid of banks. There are banks known as industrial banks, which assist the formation of new companies and new industrial enterprises and give long-term loans to manufacturers.

The banking system can create money. When business expands, more money is needed for exchange transactions. The legal tender money of a country cannot usually be expanded quickly. Bank money can be increased quickly and used when there is need of more money. In a developing economy (like that of India) banks play an important part as supplier of money.

The banking system facilitates internal and international trade. A large part of trade is done on credit. Banks provide references and guarantees, on behalf of their customers, on the basis of which sellers can supply goods on credit. This is particularly important in international trade when the parties reside in different countries and are very often unknown to one another.

Trade is also assisted by the grant of loans by discounting bills of exchange and in other ways. Foreign exchange transactions (the exchange of one currency for another) are also done through banks.

Finally, banks act as advisers, counsellors and agents of business and industrial organisations. They help the development of trade and industry.

Conclusion:

There are special types of banks which provide facilities to different kinds of economic activities. Now-a-days in every country there is a central bank which controls the activities of all other banks, endeavours to keep the price level steady, and controls the rates of foreign exchange.

BANK: Banks are financial institutions that perform deposit and lending functions. There are various types of banks in India and each is responsible to perform different functions.

The bank takes deposit at a much lower rate from the public called the deposit rate and lends money at a much higher rate called the lending rate.

Banks can be classified into various types. Given below are the bank types in India:-

- Central Bank
- Cooperative Banks
- Commercial Banks
- Regional Rural Banks (RRB)
- Local Area Banks (LAB)
- Specialized Banks
- Small Finance Banks
- Payments Banks

Functions of Banks

The major functions of banks are almost the same but the set of people each sector or type deals with may differ. Given below the functions of the banks in India:

1. Acceptance of deposits from the public
2. Provide demand withdrawal facility
3. Lending facility
4. Transfer of funds
5. Issue of drafts
6. Provide customers with locker facilities
7. Dealing with foreign exchange

CENTRAL BANK

Central bank is regarded as an apex financial institution in the banking system. It is considered as an integral part of the economic and financial system of a nation. The central bank functions as an independent authority and is responsible for controlling, regulating and stabilising the monetary and banking structure of the country.

In India, the Reserve Bank of India is regarded as the central bank. It was set up in 1935. Central banks are responsible for maintaining the financial stability and economic sovereignty of the country.

The functions of a central bank can be discussed as follows:

- Currency regulator or bank of issue
- Bank to the government
- Custodian of Cash reserves
- Custodian of International currency
- Lender of last resort
- Clearing house for transfer and settlement
- Controller of credit
- Protecting depositor's interests

The above mentioned functions will be discussed in detail in the following lines.

Currency regulator or bank of issue: Central banks possess the exclusive right to manufacture notes in an economy. All the central banks across the world are involved in issuing notes to the economy.

This is one of the most important functions of the central bank in an economy and due to this the central bank is also known as the bank of issue.

Earlier all the banks were allowed to publish their own notes which resulted in a disorganised economy. To avoid this situation the government around the world authorised the central banks to function as the issuer of currency, which resulted in uniformity in circulation and balanced supply of money in the economy.

Bank to the government: One of the important functions of the central bank is to act as the bank to the government. The central bank accepts deposits and issues funds to the government. It is also involved in making and receiving payments for the government. Central banks also offer short term loans to the government in order to recover from bad phases in the economy.

In addition to being the bank to the government, it acts as an advisor and agent of the government by providing advice to the government in areas of economic policy, capital market, money market and loans from the government.

In addition to that, the central bank is instrumental in formulation of monetary and fiscal policies that help in regulation of money in the market and controlling inflation.

Custodian of Cash reserves: It is a practice of the commercial banks of a country to keep a part of their cash balances in the form of deposits with the central bank. The commercial banks can draw that balance when the requirement for cash is high and pay back the same when there is less requirement of cash.

It is for this reason that the central bank is regarded as the banker's bank. Central bank also plays an important role in the credit creation policy of commercial banks.

Custodian of International currency: An important function of the central bank is to maintain a minimum balance of foreign currency. The purpose of maintaining such a balance is to manage sudden or emergency requirements of foreign reserves and also to overcome any adverse deficits of balance of payments.

Lender of last resort: The central bank acts as a lender of last resort by providing money to its member banks in times of cash crunch. It performs this function by providing loans against securities, treasury bills and also by rediscounting bills.

This is regarded as one of the most crucial functions of the central bank wherein it helps in protecting the financial structure of the economy from collapsing.

Clearing house for transfer and settlement: Central bank acts as a clearing house of the commercial banks and helps in settling of mutual indebtedness of the commercial banks. In a clearing house, the representatives of different banks meet and settle the interbank payments.

Controller of credit: Central banks also function as the controller of credit in the economy. It happens that commercial banks create a lot of credit in the economy that increases the inflation.

The central bank controls the way credit creation by commercial banks is done by engaging in open market operations or bringing about a change in the CRR to control the process of credit creation by commercial banks.

Protecting depositor's interests: Central bank also needs to keep an eye on the functioning of the commercial banks in order to protect the interests of depositors.

In other words, the central bank of the country may also be known as the banker's bank as it provides assistance to the other banks of the country and manages the financial system of the country, under the supervision of the Government.

COOPERATIVE BANKS

These banks are organised under the state government's act. They give short term loans to the agriculture sector and other allied activities.

The main goal of Cooperative Banks is to promote social welfare by providing concessional loans.

They are organised in the 3 tier structure

- **Tier 1 (State Level)** – State Cooperative Banks (regulated by RBI, State Govt, NABARD)
 - Funded by RBI, government, NABARD. Money is then distributed to the public
 - Concessional CRR (Cash Reserve Ratio), SLR (Statutory Liquid Ratio) applies to these banks. (CRR- 3%, SLR- 25%)
 - Owned by the state government and top management is elected by members
- **Tier 2 (District Level)** – Central/District Cooperative Banks
- **Tier 3 (Village Level)** – Primary Agriculture Cooperative Banks

COMMERCIAL BANKS

Commercial banks are organised under the Banking Companies Act, 1956. A commercial bank is a kind of financial institution that carries all the operations related to deposit and withdrawal of money for the general public, providing loans for investment, and other such activities. These banks are profit-making institutions and do business only to make a profit.

The two primary characteristics of a commercial bank are lending and borrowing. The bank receives the deposits and gives money to various projects to earn interest (profit). The rate of interest that a bank offers to the depositors is known as the borrowing rate, while the rate at which a bank lends money is known as the lending rate.

Function of Commercial Bank:

The functions of commercial banks are classified into two main divisions.

(a) Primary functions

Accepts deposit: The bank takes deposits in the form of saving, current, and fixed deposits. The surplus balances collected from the firm and individuals are lent to the temporary requirements of the commercial transactions.

Provides loan and advances: Another critical function of this bank is to offer loans and advances to the entrepreneurs and business people, and collect interest. For every bank, it is the primary source of making profits. In this process, a bank retains a small number of deposits as a reserve and offers (lends) the remaining amount to the borrowers in demand loans, overdraft, cash credit, short-run loans, and more such banks.

Credit cash: When a customer is provided with credit or loan, they are not provided with liquid cash. First, a bank account is opened for the customer and then the money is transferred to the account. This process allows the bank to create money.

(b) Secondary functions

Discounting bills of exchange: It is a written agreement acknowledging the amount of money to be paid against the goods purchased at a given point of time in the future. The amount can also be cleared before the quoted time through a discounting method of a commercial bank.

Overdraft facility: It is an advance given to a customer by keeping the current account to overdraw up to the given limit.

Purchasing and selling of the securities: The bank offers you with the facility of selling and buying the securities.

Locker facilities: A bank provides locker facilities to the customers to keep their valuables or documents safely. The banks charge a minimum of an annual fee for this service.

Paying and gathering the credit: It uses different instruments like a promissory note, cheques, and bill of exchange.

The commercial banks can be further divided into three categories:

1. **Public sector Banks** – A bank where the majority stakes are owned by the Government or the central bank of the country. For example, Bank of Baroda, State Bank of India (SBI), Dena Bank, Corporation Bank, and Punjab National Bank.
2. **Private sector Banks** – A bank where the majority stakes are owned by a private organization or an individual or a group of people. Such as Housing Development Finance Corporation (HDFC) Bank, Industrial Credit and Investment Corporation of India (ICICI) Bank, Yes Bank, and more such banks.
3. **Foreign Banks** – The banks with their headquarters in foreign countries and branches in our country, fall under this type of bank. For instance, American Express Bank, Hong Kong and Shanghai Banking Corporation (HSBC), Standard & Chartered Bank, Citibank, and more such banks.

REGIONAL RURAL BANKS (RRB)

- These are special types of commercial Banks that provide concessional credit to agriculture and rural sector.
- RRBs were established in 1975 and are registered under a Regional Rural Bank Act, 1976.

- RRBs are joint ventures between the Central government (50%), State government (15%), and a Commercial Bank (35%).
- 196 RRBs have been established from 1987 to 2005.
- From 2005 onwards government started merger of RRBs thus reducing the number of RRBs to 82
- One RRB cannot open its branches in more than 3 geographically connected districts.
- **Example:** Andhra Pradesh Grameena Vikas Bank and Bihar Grameena Bank

LOCAL AREA BANKS (LAB)

- Introduced in India in the year 1996
- These are organized by the private sector
- Earning profit is the main objective of Local Area Banks
- Local Area Banks are registered under Companies Act, 1956
- At present, there are only 4 Local Area Banks all which are located in South India
- **Example:** Coastal LAB Ltd, Capital LAB Ltd, Krishna Bhima Samruddhi LAB Ltd and Subhadra LAB Ltd.

SPECIALIZED BANKS

Certain banks are introduced for specific purposes only. Such banks are called specialized banks. These include:

- Small Industries Development Bank of India (SIDBI) – Loan for a small scale industry or business can be taken from SIDBI. Financing small industries with modern technology and equipments is done with the help of this bank
- EXIM Bank – EXIM Bank stands for Export and Import Bank. To get loans or other financial assistance with exporting or importing goods by foreign countries can be done through this type of bank
- National Bank for Agricultural & Rural Development (NABARD) – To get any kind of financial assistance for rural, handicraft, village, and agricultural development, people can turn to NABARD.

There are various other specialized banks and each possesses a different role in helping develop the country financially.

SMALL FINANCE BANKS

As the name suggests, this type of bank looks after the micro industries, small farmers, and the unorganized sector of the society by providing them, loans and financial assistance. These banks are governed by the central bank of the country.

Example: EASF Small Finance Bank, Equitas Small Finance Bank, Ujjivan Small Finance Bank and Jana Small Finance Bank.

PAYMENTS BANKS

A newly introduced form of banking, the payments banks have been conceptualized by the Reserve Bank of India. People with an account in the payments bank can only deposit an amount of up to Rs.1,00,000/- and cannot apply for loans or credit cards under this account.

Options for online banking, mobile banking, the issue of ATM, and debit card can be done through payments banks. Given below is a list of the few payments bank in our country:

- Airtel Payments Bank
- India Post Payments Bank
- Fino Payments Bank
- Jio Payments Bank
- Paytm Payments Bank
- NSDL Payments Bank

CREDIT CREATION POLICY

Credit creation separates a bank from other financial institutions. In simple terms, credit creation is the expansion of deposits. And, banks can expand their demand deposits as a multiple of their cash reserves because demand deposits serve as the principal medium of exchange.

Demand deposits are an important constituent of money supply and the expansion of demand deposits means the expansion of money supply. The entire structure of banking is based on credit. Credit basically means getting the purchasing power now and promising to pay at some time in the future. Bank credit means bank loans and advances.

A bank keeps a certain part of its deposits as a minimum reserve to meet the demands of its depositors and lends out the remaining to earn income. The loan is credited to the account of the borrower. Every bank loan creates an equivalent deposit in the bank. Therefore, credit creation means expansion of bank deposits.

The two most important aspects of credit creation are:

1. **Liquidity** – The bank must pay cash to its depositors when they exercise their right to demand cash against their deposits.
2. **Profitability** – Banks are profit-driven enterprises. Therefore, a bank must grant loans in a manner which earns higher interest than what it pays on its deposits.

The bank's credit creation process is based on the assumption that during any time interval, only a fraction of its customers genuinely need cash. Also, the bank assumes that all its customers would not turn up demanding cash against their deposits at one point in time.

Basic Concepts of Credit Creation

- *Bank as a business institution* – Bank is a business institution which tries to maximize profits through loans and advances from the deposits.
- *Bank Deposits* – Bank deposits form the basis for credit creation and are of two types:
 - *Primary Deposits* – A bank accepts cash from the customer and opens a deposit in his name. This is a primary deposit. This does not mean credit creation. These deposits simply convert currency money into deposit money. However, these deposits form the basis for the creation of credit.
 - *Secondary or Derivative Deposits* – A bank grants loans and advances and instead of giving cash to the borrower, opens a deposit account in his name. This is the secondary or derivative deposit. Every loan creates a deposit. The creation of a derivative deposit means the creation of credit.
- *Cash Reserve Ratio (CRR)* – Banks know that all depositors will not withdraw all deposits at the same time. Therefore, they keep a fraction of the total deposits for meeting the cash demand of the depositors and lend the remaining excess deposits. CRR is the percentage of total deposits which the banks must hold in cash reserves for meeting the depositors' demand for cash.
- *Excess Reserves* – The reserves over and above the cash reserves are the excess reserves. These reserves are used for loans and credit creation.
- *Credit Multiplier* – Given a certain amount of cash, a bank can create multiple times credit. In the process of multiple credit creation, the total amount of derivative deposits that a bank creates is a multiple of the initial cash reserves.

Agricultural and Public finance: meaning, micro v/s macro finance, need for agricultural finance, public revenue and public expenditure

Public Finance

- Public finance is the study of the role of the government in the economy.
- It is the branch that assesses the government revenue and the government expenditure of the public authorities and adjustment of one or the other to achieve desirable effects and avoid undesirable ones.

Agricultural Finance

- Agricultural finance is the study of financing and liquidity services credit provides to farm borrowers. It is also considered as the study of those financial intermediaries who provide loan funds to agriculture and the financial markets in which these intermediaries obtain their loanable funds”
- Agricultural finance can be dealt at both micro level and macro level.



Macro Finance: Macro finance deals with different sources of raising funds for agriculture as a whole in the economy. It is also concerned with the lending procedure, rules, regulations, monitoring and controlling of different agricultural credit institutions. Hence macro-finance is related to financing of agriculture at aggregate level.

Micro-finance: It refers to financial management of the individual farm business units. And it is concerned with the study as to how the individual farmer considers various sources of credit, quantum of credit to be borrowed from each source and how he allocates the same among the alternative uses within the farm. It is also concerned with the future use of funds.

Need for Agricultural Finance

- Agricultural influence on national income
- Agriculture plays vital role in generating employment
- Agriculture makes provision for food for the ever increasing population
- Contribution to capital formation
- Supply of raw material to agro-based industries
- Market for industrial products

- Influence on internal and external trade and commerce
- Contribution in government budget

Public Expenditure

- Public expenditure is the expenditure incurred by the government in the various sectors of economy viz., agricultural sector, industrial sector, infrastructural sector, export-import sector etc.

Need for Public Expenditure: In order to bring about desired and balanced growth between backward and developed regions in the country, we require huge amounts of public expenditure.

- Development of Agriculture
- Provision of Public Utilities
- Technological Changes
- Requirements of Employment

Public Revenue

- This is the revenue accrued to the government from different sources viz., direct taxes, indirect taxes, and non-tax revenue such as prices and other miscellaneous receipts.
- Thus the government would have two major sources of revenue i.e. taxes and prices.
- The minor sources are fee, special assessment, rates, fines, tributes and indemnities, grants, gifts and donations.

Tax: meaning, direct and indirect taxes, agricultural taxation, VAT and GST

Tax: A tax is a mandatory fee or financial charge by any government on an individual or an organization to collect revenue for public works providing the best facilities and infrastructure. The collected fund is then used to fund different public expenditure programs.

Taxes are classified as Proportional, Progressive, Regressive and Degressive.

- A **Proportional** tax is one in which same percentage is levied as tax irrespective of tax base or the size of the income. **Eg:** Sales tax, tithe
- A **Progressive** tax means the rate of tax increases as taxable income increases. Higher the income, greater would be tax amount. **Eg:** Income tax
- A tax is said to be **Regressive**, when it is affecting the poor rather the rich i.e., the burden of payment of tax would be more on the poor. It is just opposite to progressive tax. **Eg:** All commodity taxes.
- A tax is called **Degressive**, when the higher income groups do not make due sacrifice. This happens when a tax is mildly progressive, but not steep. A tax is progressive up to certain limit, after which a uniform tax is levied. This tax also affects the poor than the rich.

Taxes are also classified in to **Direct** and **Indirect** taxes.

- **Direct taxes** are the taxes directly paid by the persons. In other words, the person who pays the tax is also intended to bear it. **Eg:** Income Tax
- **Indirect taxes** are the commodity taxes. They are indirectly paid by the consumer through the dealers. **Eg:** Sales Tax

Canons of Taxation

Adam Smith, the father of economics, made significant contributions to the economics theory and particularly in the field of taxation. His statements are considered as Canons of taxation.

- **Canon of Equality:** This means equality of sacrifice. It implies equity and justice. Here equality implies that every tax payer should pay the same rate of taxation but not same amount. It is a sort of proportional tax.
- **Canons of Sacrifice:** The principle also means the equality of sacrifice. The amount of tax paid should be in proportion to the respective abilities of the tax payer. Here ability implies income levels. This clearly points to progressive taxation.
- **Canon of Certainty:** Certainty refers to the idea that taxes should be clear and transparent. That means everybody should know or quickly find out *how much* they

have to pay, *when* they have to pay, and *how* they have to pay their taxes. This is important because it allows taxpayers to consider their taxes when drawing up a budget. In addition to that, it has been shown that transparency increases public acceptance.

- **Canon of Convenience:** Convenience means that both the timing as well as the method of payment are convenient for the taxpayers. That means the system should be designed in a way that allows people to quickly file and pay their taxes when they're due. In that sense, the canon of convenience is sometimes also considered an extension of the canon of certainty that focuses more on the administrative process.
- **Canon of Economy:** In this context, economy refers to the idea that the cost of collecting taxes should be minimized. That means the government has to ensure that the collection of taxes only requires the least possible expenditure. The reasoning behind this is that most of the money collected through taxes should be used to fund projects that, in turn, benefit the taxpayers.

Value Added Tax (VAT):

Value-Added Tax (VAT), also known as a goods and services tax (GST) in some countries, it is a form of tax that is assessed incrementally. It is levied on the actual transaction value of a product or service at each stage of production, distribution, or sale to the end consumer.

VAT essentially compensates for the shared service and infrastructure provided in a certain locality by a state and funded by its taxpayers that were used in the creation of the said product and service. From a global perspective, although there isn't much difference between GST and VAT, in India the difference existed due to implementation. Hence to eliminate the cascading tax effect GST subsumed many indirect taxes including VAT.

Overview of Value Added Tax

The amount of VAT is decided by the end-market price. Its main purpose is to tax only the value added by a business on top of the services and goods it can purchase from the market.

At each stage of production, the product gets successively more valuable at each stage (e.g. chocolate bars starting as cocoa beans). When an end consumer makes a purchase, they are not only paying for the VAT of the entire product at hand (e.g., a cup of coffee) but for the entire process of production (Eg., the purchase of the cocoa beans, transportation, processing, etc.), since VAT is always included in the prices.

The value-added effect is achieved by prohibiting end-consumers from recovering VAT on purchases but permitting businesses to do so. The VAT collected by the state is computed as the difference between the VAT of sales earnings and the VAT of those goods and services upon which the product depends. The difference is the tax due to the value-added by the business. In this way, the total tax levied at each stage in the economic chain of supply is a constant fraction.

How is Value Added Tax different from Income Tax

The VAT is similar to the income tax as it is based on the value of a product or service at each stage of production. However, there are some important differences.

- A VAT is usually collected by the end retailer.
- A VAT is usually a flat tax
- For VAT purposes, an importer is assumed to have contributed 100% of the value of a product imported from outside of the VAT zone. The importer incurs VAT on the entire value of the product, and this cannot be refunded, even if the foreign manufacturer paid other forms of income tax.

Limitations of Value Added Tax

A VAT, like most taxes, distorts what would have happened without it. Because the price for someone rises, the number of goods traded decreases. That is, more is lost due to supply and demand shifts than the gains through tax. This is known as a deadweight loss. If the income lost by the economy is greater than the government's income; the tax is inefficient. VAT and a non-VAT have the same implications on the microeconomic model.

The entire amount of the government's income (the tax revenue) may not be a deadweight drag, if the tax revenue is used for productive spending or has positive externalities – in other words, governments may do more than simply consume the tax income. While distortions occur, consumption taxes like VAT are often considered superior because they distort incentives to invest, save and work less than most other types of taxation – in other words, a VAT discourages consumption rather than production.

Goods and Service Tax (GST)

Introduction

The Goods and Services Tax (GST) is a **value-added tax** levied on most goods and services sold for domestic consumption. The GST is paid by consumers, but it is remitted to the government by the businesses selling the goods and services.

Main Features of GST

- **Applicable On supply side:** GST is applicable on 'supply' of goods or services as against the old concept on the manufacture of goods or on sale of goods or on provision of services.
- **Destination based Taxation:** GST is based on the principle of destination-based consumption taxation as against the present principle of origin-based taxation.
- **Dual GST:** It is a dual GST with the Centre and the States simultaneously levying tax on a common base. GST to be levied by the Centre is called Central GST (CGST) and that to be levied by the States is called State GST (SGST).
 - Import of goods or services would be treated as inter-state supplies and would be subject to Integrated Goods & Services Tax (IGST) in addition to the applicable customs duties.
- **GST rates to be mutually decided:** CGST, SGST & IGST are levied at rates to be mutually agreed upon by the Centre and the States. The rates are notified on the recommendation of the GST Council.
- **Multiple Rates:** Initially GST was levied at four rates viz. 5%, 12%, 16% and 28%. The schedule or list of items that would fall under these multiple slabs are worked out by the GST council.

Legislative Basis of GST

- In India, GST Bill was first introduced in 2014 as The Constitution (122nd Amendment) Bill.
- This got an approval in 2016 and was renumbered in the statute by Rajya Sabha as The Constitution (101st Amendment) Act, 2016. Its provisions:
 - Central GST to cover Excise duty, Service tax etc, State GST to cover VAT, luxury tax etc.
 - Integrated GST to cover inter-state trade. IGST per se is not a tax but a system to coordinate state and union taxes.
 - **Article 246A** – States have power to tax goods and services.
- **GST Council**
 - Article 279A - **GST Council** to be formed by the President to administer & govern GST. It's Chairman is Union Finance Minister of India with ministers nominated by the state governments as its members.
 - The council is devised in such a way that the centre will have 1/3rd voting power and the states have 2/3rd.

- The decisions are taken by 3/4th majority.
- **Reforms Brought About by GST**
 - **Creation of common national market:** By amalgamating a large number of Central and State taxes into a single tax.
 - **Mitigation of cascading effect:** GST mitigated ill effects of cascading or double taxation in a major way and paved the way for a common national market.
 - **Reduction in Tax burden:** From the consumers' point of view, the biggest advantage would be in terms of reduction in the overall tax burden on goods.
 - **Making Indian products more competitive:** Introduction of GST is making Indian products more competitive in the domestic and international markets owing to the full neutralization of input taxes across the value chain of production.
 - **Easier to administer:** Because of the transparent and self-policing character of GST, it would be easier to administer.

Advantages of GST

For the Government

- **Create a unified common market:** Will help to create a unified common national market for India. It will also give a boost to foreign investment and “Make in India” campaign.
- **Streamline Taxation:** Through harmonization of laws, procedures and rates of tax between Centre and States and across States.
- **Increase tax Compliance:** Improved environment for compliance as all returns are to be filed online, input credits to be verified online, encouraging more paper trail of transactions at each level of supply chain;
- **Discourage Tax evasion:** Uniform SGST and IGST rates will reduce the incentive for evasion by eliminating rate arbitrage between neighbouring States and that between intra and inter-state sales.

For Overall Economy

- **Bring about certainty:** Common procedures for registration of taxpayers, refund of taxes, uniform formats of tax return, common tax base, common system of classification of goods and services will lend greater certainty to taxation system;
- **Reduce corruption:** Greater use of IT will reduce human interface between the taxpayer and the tax administration, which will go a long way in reducing corruption;

- **Boost secondary sector:** It will boost export and manufacturing activity, generate more employment and thus increase GDP with gainful employment leading to substantive economic growth;
- Ultimately it will help in poverty eradication by generating more employment and more financial resources.

For the Trade and Industry

- Simpler tax regime with fewer exemptions.
- Increased ease of doing business.
- Reduction in multiplicity of taxes.
- Elimination of double taxation on certain sectors.
- More efficient neutralization of taxes especially for exports
- Making our products more competitive in the international market.
- Simplified and automated procedures for registration, returns, refunds and tax payments.
- Decrease in average tax burden on supply of goods or services.

For Consumers

- **Transparent prices:** Final price of goods is expected to be transparent due to seamless flow of input tax credit between the manufacturer, retailer and service supplier.
- **Price reduction:** Reduction in prices of commodities and goods in long run due to reduction in cascading impact of taxation;
- **Poverty eradication:** By generating more employment and more financial resources.

For the States

- **Expansion of the tax base:** As states will be able to tax the entire supply chain from manufacturing to retail.
- **More economical empowerment:** Power to tax services, which was hitherto with the Central Government only, will boost revenue and give States access to the fastest growing sector of the economy.
- **Enhancing Investments:** GST being destination based consumption tax will favour consuming States. Improve the overall investment climate in the country which will naturally benefit the development in the States.

- **Increase Compliance:** Largely uniform SGST and IGST rates will reduce the incentive for evasion by eliminating rate arbitrage between neighbouring States and that between intra and inter-state sales

Exemptions under GST

- Custom duty will be still collected along with the levy of IGST on imported goods.
- Petroleum and tobacco products are currently exempted.
- Excise duty on liquor, stamp duty and electricity taxes are also exempted.

Challenges of GST

- SCGT and CGST input credit cannot be cross utilized.
- Manufacturing states lose revenue on a bigger scale.
- High rate to tax to compensate the revenue collected now from multiple taxes i.e High Revenue Neutral Rate.
- The reduction in the fiscal autonomy of the States.
- Concerns raised by banks and insurance companies over the need for multiple registrations under GST.
- The levy of additional cess.
- The capacity of State tax authorities, so far used to taxing goods and not services, to deal with the latter is an unknown quantity.
- The success of GST depends on political consensus, technology and the capacity of tax officials to adapt to the new requirements.

Conclusion

Thus GST is a positive step towards shifting Indian economy from the informal to formal economy. It is important to utilise experiences from global economies that have implemented GST before us, to overcome the impending challenges.

Economic systems: Concepts of economy and its functions, important features of capitalistic

Introduction to Economic System and its Relationship with Scarcity:

An *economic system* is the way a nation has organized its economic activities to solve the issue of scarcity and the basic economic problems of what to produce, how to produce and for whom to produce. Although every economy is faced with scarcity of resources, different economic systems develop and adopt different methods to overcome scarcity and maximize the economic welfare of the society. **There are following two main types of economic systems are exists:**

- **Market Economy.**
- **Centrally Planned Economy.**

These are theoretical models. In reality, most economic systems are **mixed economic systems**, displaying some of the characteristics of both market and centrally planned economies.

Since the 1980s many former centrally planned economies have adopted a more market-oriented structure as a result of disappointing economic performance. These are known as **emerging market economies**.

Economic systems are distinguished from each other according to their methods of organizing economic activities, the extent of government intervention into the economy, the ownership of the factors of production or economic resources, and the means of allocating goods and services throughout the economy.

Why Scarcity is common to all Economic Systems?

Every economy faces the problem of scarcity of resources (factors of production). Despite the limited amounts of resources available, our wants are unlimited and so we must make a choice about which needs and wants will be satisfied and how we go about this. The methods of solving the basic economic problems create an **economic system**.

Every *economic system* attempts to operate on the production possibility frontier to maximize the output and welfare of the economy. Moreover, economic systems are attempting to extend the production possibility frontier in order to increase the welfare of the society. Any economic decision imposes an opportunity cost. Any attempt to produce more of one commodity can only be gained by producing less of another.

The choices that are made and how they are made is the essence that distinguishes economic systems. Economic decision-making attempts to promote economic welfare and wellbeing. How is this best achieved?

(i) **Supporters of a market economic system** believe it is best achieved by maximizing individual liberty and economic freedom. It is a system that emphasizes efficiency over equity and rewards individual effort.

(ii) **Supporters of a centrally planned economy** believe it is best achieved through the active economic intervention of the benevolent state. In the trade-off between efficiency of the system and equitable distribution and consumption of goods and services, equity prevails.

The choice of an economic system is as much political as economic. It is an expression of society's values. Which system is better? The answer rests on your values and what you think is important.

Functions of an Economic System

1. What and How much is to be Produced?

The most **important function of an economy** is to decide what goods and services are to be produced. As we know in a society wants are unlimited and resources are scarce and they have alternative uses.

Thus, all wants cannot be satisfied with the given resources and society is faced with the problem of choice.

The given resources are to be put to the production of different goods and services in such a way that the maximum wants of the consumer can be satisfied.

The society has to make a choice between consumer goods and capital goods. Even in the case of consumer goods, the choice has to be made between goods of general consumption and goods of luxury.

In a capitalist system, these decisions are made through price mechanism while in the socialist system these decisions are taken by the public authorities

2. How to Produce?

Another function of an economy is to decide how to produce which deals with the organization of production.

For this function, the following points are considered:

- The way of allocating resources to those industries whose products are most liked by the consumers.

- Which goods are to be produced in the public sector and which are in the private sector.
- Which firms will work in which industries and how the resources will be allocated to them.
- Which techniques of production will be used for optimum production?

The society should choose such type of organization of production which can satisfy the maximum wants of people effectively and efficiently.

3. How is Production Distributed?

Another important function of an economic system is the distribution of production in society.

The production is the result of the collective efforts of all the factors of production. Equitable and efficient distribution of production is essential for which the following points are to be considered.

- How the distribution production is carried on among families, and government.
- The distribution of production should be based on the principles of equality and efficiency.

In a capitalist economy, this function of distribution operation is carried on through price mechanism and considerably is creates inequalities.

But in a socialist economy, it is done by the public authorities and consequently, equality is maintained.

4. Rationing of Goods and Services

The function of an economy is to distribute the supply of goods and services so that it is adjusted to its demand.

The allocation should be done in such a way that all sections of society get the goods at a reasonable price and if these goods are in short supply during a very short period the rationing system should be introduced.

This function is performed in different ways in different economic systems. In a capitalism system, it is done through price mechanism while in socialist economy statutory rationing, price and distribution controls are used for this purpose.

5. Economic Maintenance and Progress

In recent years it is expected from every economic system that the products and efficiency will not be adversely affected.

The efficiency will be maintained and efforts will be made to increase it.

Economic maintenance and progress can be attained only when the following points are taken into consideration:

- The production capacity of the economy is maintained with an increasing population.
- Depreciation of capital stock is done away with, and.
- Production Technology and growth prospects are to be improved.

All these above factors are maintained in a capitalist economy through the price mechanism.

Depreciation of capital assets is compensated by charging the high price for the product.

The efficiency and productivity of labor are enhanced through financial and nonfinancial incentives and using the latest technology.

In a socialist economy, all these are based on social priorities and investments.

Capitalistic System

Meaning of Capitalistic System

Capitalism stands for an economic order in which the instruments of production (Land, Labour, Capital and Organization) are owned and controlled privately and production takes place for profit. In a capitalistic economy, the means of production are owned by private individuals or organizations and they are free to make use of them in any manner with a view to making profit.

Free Enterprise is supposed to be the keel of capitalistic system of the pure type. Hence pure capitalism is also called '**free enterprise economy**' or laissez faire economy. The Government is not supposed to interfere or control such an economy and profit is the driving force behind all economic activities.

The capitalism, like other economic systems, is an evolving one and the process is still going. The capitalism of the present day is entirely different from what it was or expected to be during the days of Adam Smith. The features of capitalism have changed a lot and in spite of these changes within, there are certain basic characteristic features which distinguish it from other economic systems.

Important Features of Capitalistic Economy

1. System of Private Property

Capitalistic system allows and recognizes the institution of private property. Material means of production or capital assets are allowed to be owned and managed by private individuals, groups, associations and companies. The right of ownership carries with the right

to determine its use also; of course subject to the prevailing laws of the land. A farmer can make use of his land in any manner he likes for growing paddy or sugarcane or for grazing cattle. He may use the land himself or hire out getting rent or construct a building. The state can place some minimum restrictions on the use of the property.

Private property under capitalism may take various shapes such as consumption goods, production materials and even intangible things like ‘trademark’ and ‘goodwill’. However, it is only the private ownership of **‘factors of production’** which plays a dominant role in capitalism distinguishing it from other economic systems. The ownership of means of production in capitalism combined with free enterprise by private individuals enables them to channelize the flow of economic resources in such manner as they like.

The system of private property encourages savings and accumulation of capital for the future. “The magic of private property turns sand into gold” is a dictum more appropriate in capitalistic economies. Within the laws of the land, everyone will try to accumulate property and build up his fortune by working hard, by turning even a desert into a bower. Related to the institution of private property is the right of inheritance of property. This right in capitalistic system adds greater significance to private property. The desire to build up a fortune for the family becomes an added incentive to his work and accumulation of wealth.

2. Profit Motive

The important characteristic feature of capitalism is the profit motive behind all economic activities. Earning more than what is spent is the impelling force and everyone is guided by the same consideration. As profit becomes the driving force for individuals, partnership and joint-stock companies, under capitalism, more productive activity, larger enterprise and greater risks are undertaken. This is the reason for tremendous increase in production and capitalism has the capacity to cope with any amount of increase in production. This profit motive channelizes the resources, determines the character of business and also leads to variations in production with improved and increased technology.

The entrepreneur is always on the alert, takes up large risks in the hope of amassing huge ‘pure profits’. Strictly speaking ‘pure profits’ act as a driving force in a capitalistic system. Profit motive, private property, and personal initiative under capitalism are inter-related and inter-dependent, as one will have no meaning and significance without the other.

3. Economic freedom

The capitalistic system is based on the structure of free enterprise giving economic freedom in all economic activities. Consumers are free to buy what they like and producers are free to produce to get maximum profit; workers are free to take employment wherever

they get higher wages and investors are free to invest wherever they get higher money returns. The state is not expected to interfere and curtail the economic freedom of the interacting units in the economy.

Of course, profit motive and private property can have full meaning only if everyone has the freedom to make use of his property and to take such economic activities that bring him maximum return or profit. But in practice, however, even in the so called '**free economies**', there is interference by the State reducing the freedom of the individual. This is done in the interest of public health, public morality and social justice.

4. Perfect Competition

This is a natural corollary from the aforesaid features. If every one is free to take up any activity of his choice in the economic front, many people would compete with each other in the performance of the same or alternative activities. Producers would compete with each other in producing the same or different products to get profits. Workers would compete with each other to get employment and better remuneration. There will be competition among sellers, buyers, and investors. This form of striving by all groups without any restriction or hindrance would manifest into what may be called '**Perfect Competition**'.

Because of free and perfect competition, production tends to conform to the demands of the Consumer. Further it leads to maximum efficiency. Perfect competition, theoretically, is the essence of free capitalism and competition has a special role to perform in capitalistic society. The larger the competition the lesser will be the profits and all excess profits, will be wiped off when competition is keener. Only normal profits which are considered as remuneration for managerial labour would exist. From the consumers' point of view that serves as a regulator in prices keeping the prices at the lowest possible level. From the economic point of view, it drives everyone to be efficient and economic, avoiding wastage.

Perfect competition is indispensable for the efficient working of the free economy which is unplanned and uncontrolled.

But in practice, free and perfect competition may not exist. It will be mostly imperfect competition, if not complete monopoly in many spheres of economic activities.

5. Consumer's Sovereignty

Utilization of resources, technique of production, output in a capitalistic economy depend on the impersonal force of consumer's demand. Hence a consumer is considered a King under capitalism. This sovereign extends his survey in all economic activities by exercising his choice. Though a consumer is a sovereign he has many limitations and consumer's sovereignty has become a controversial topic.

6. Role of Price Mechanism

Under capitalism the price mechanism makes an automatic adjustment and it directs consumption, production and distribution and investing, saving, etc., without any central planning and control. All activities revolve round price mechanism. It is the pricing process which controls and directs the economy solving all of its problems.

7. The Role of the Government

In the capitalism of the pure or classical type, the role of the government is not only minimum, but also neutral. The Government is not expected to interfere with the market mechanism nor take any steps to curb the economic freedom.

The Government is expected to confine to its minimum legislative, executive and judicial functions, maintaining law and order in the country and protecting it from internal rebellion and external aggression. The Government will have to protect the interest of the individual and create a framework in which the individual could function efficiently with the system of uniform coinage, currency, weights and measures.

The State operates only in the field where private enterprise will not be forthcoming or inadequate as in the case of educational facilities, medical facilities and public health. The state should resolve conflicts by protecting the weak from the strong.

8. Prevalence of two classes

In capitalism the society is divided into two classes, viz., the capitalists and the working class. The former owns the factors of production while the latter earns a living through their labour. The capitalists not only, utilize their capital but also hire labour. Hence in addition to commodity market there is 'labour market' in capitalism. Labour becomes a commodity and is sold just like any other commodity.

Thus capitalism has many characteristic features. But capitalism of the pure type does not exist anywhere in the world. There are many variations with imposed limitations and the concept of the 20th century capitalism is entirely different.

Agricultural prices and policy: Meaning and functions of price, administered prices, need for agricultural price policy

Meaning of Agricultural Prices

- Consumers go to the market in order to purchase the required commodities.
- In the process of purchasing, consumers pay for the value of the commodity in terms of currency units of the nation.
- Price of the commodity refers to the value of the goods in terms of money units.
- Prior to evolution of money, goods were exchanged, one for the other depending on the needs of the people. This process of marketing is known as barter system. Barter system was replaced with the advent of money.

Functions of Prices

1. What and How Much to Produce

- In the competitive economic system prices of the commodities give signals to the producers regarding the type and quantity of commodity to be produced in particular place at a particular point of time.
- Consumers are guided by the prices of the commodities and plan their purchases from the given income, so as to maintain their desired levels of living. Thus, the directions given by the prices vary according to various groups of consumers and producers.
- For example, in a situation of inflation, producers would get higher incentives to produce the required quantities at higher magnitude. On the contrary, consumers with fixed income have to cut down the consumption levels because of high prices. The reverse situation would result in the periods of deflation i.e., falling prices.

2. How to Produce

- Prices play an important role in deciding methods of production. Every producer aims at producing a commodity, with efficient methods of production.
- A process of production is efficient when a given amount of output is produced with minimum cost. The choice of resources depends on their relative prices. Producer uses more expensive resources in smaller quantities and less expensive resources in larger amounts.
- If labour is cheap, adoption of labour-intensive technology contributes to the least cost production. On the other hand, adoption of capital-intensive technology results in minimization, when it is available in abundant quantities. The producers who fail to adopt least cost methods of production find it difficult to survive in the business.

3. Prices Serve Basis for Allocation of Resources in the Production Process

- Employment of scarce resources viz., land, labour, capital, water, etc., are to be directed for producing the commodities, which are having higher price. If this is not followed it results in losses in the production, particularly when the economy is in inflation. This is to say that high value commodities should be produced so as to sustain in the process of production.

4. Prices Help to Strike a Balance between Demand and Supply

- This means when the demand is more than the supply, prices would give incentives to the producers. Similarly when the supply is more than the demand prices are brought down to lower level.

5. Prices Help the Consumers to Allocate their Income in the Purchase of Goods and Services

- In purchasing the commodities consumers seek to maximize satisfaction from the given level of income. The low income consumers spend higher proportion of their income on necessities i.e., food, clothing, etc., and they spend relatively less income on luxuries or manufactured goods like transistors, TVs, etc.
- But at higher level of their income, the proportion of income spent on necessities decreases. This is the Engel's law of family consumption.
- Similarly, when relative prices of commodities are changing, low-income groups prefer low priced goods. Only high-income groups do have a preference to luxuries. Thus, the relative prices of the commodity help to allocate the consumers' income on different goods, which are having varying relative prices. Prices affect the transfer of income from the farm sector to non-farm sector through terms of trade."

6. Distribution of Income among Different Groups of Farmers

- Marketable surplus would be high with the large farmers relative to small farmers. If there is a price rise for agricultural commodities, large farmers with substantial marketable surplus would be more benefited by the price rise of the commodity compared to small farmers with low marketable surplus.

7. Movement of Commodities over Time and Place

- Transportation of commodities from one area to another area i.e., from surplus area to deficit area takes place due to changes in the price. As commodities are produced based on agro climatic characteristics and seasons, there is a great need for marketing of the commodities over space and time due to price differential and consumption needs. This is to say that commodities are transported to deficit areas and the

movement and magnitude of goods is regulated by the price differentials and transport costs.

8. Capital Formation in Agriculture

- Prices affect capital formation in agriculture, industries and allied sectors. They also affect the production potential of these goods in the long run.
- Higher prices for farm products lead to increased value of farm output. Consequently farm investment increases and with the increased investment, there will be further increase in the value of farm output and this further leads to higher consumption and standard of living.
- Thus, capital formation takes place through accelerator and multiplier effect. Farm workers demand higher wages when prices are increased. This in turn squeezes farm profit and lowers the incentives to the farmers.
- On the other hand, the increased value of farm output would lead to investment in the non-farm sector partly. Thus capital formation would also take place in the non-farm sector.

9. High Prices and Inflation

- If the prices are persistently increasing, it leads to inflationary trends in the economy. As a result, a large number of economic variables like per capita income, per capita consumption, employment, real wages, interest rate policies, etc., are very much affected by the price rise.

10. Monetary and Fiscal Policies

- When prices are changing we require appropriate monetary and fiscal policies to be formulated in the economy. The policies related to money supply, interest rates, deficit financing, direct and indirect taxes, subsidies, levies, quotas, etc., are to be regulated when prices are fluctuating widely in the economy.

Administered Prices

- An Administered Price is the price of a good or service as dictated by a government or centralized authority, as opposed to market forces of supply and demand.
- The concept of Administered Price was first introduced by famous British Economist, John Maynard Keynes for the prices charged by a monopolist. A monopolist can be a price maker and he consciously administered the price of his product irrespective of the cost of production.
- However, in India the meaning of Administered Price has been quite different. In India, Administered Prices refer to prices which are fixed and enforced by the

Government. They acquire a statutory nature. They are the outcome of the price policy of the Government. The Government interferes in the price mechanism and fixes minimum and maximum prices of various commodities in the agricultural and non- agricultural sectors.

Procurement Price

- It is the price at which the Government procures commodities from farmers/ processors to feed public distribution system and maintain buffer stocks. However, the Government through the policy instrument of procurement prices is imposing an element of compulsion on the farmers to sell part of their produce to the Government at the announced procurement price.

Ceiling Price

- Ceiling price is an upper price level of a commodity fixed by the Government to protect the consumers from unwarranted price rise. By fixing ceiling price Government checks the traders in charging a higher price than the maximum price. It does not apply to the farmers.

Minimum Support Price (MSP)

- It is fixed based on average cost of production. This is mainly aimed at protecting the farmers against the price fall during surplus production or market glut conditions.
- MSP is announced by the Government of India ahead of the agricultural seasons every year.
- The minimum support price is the price at which the Government of India makes a commitment to purchase all the quantities offered by the farmers. But in reality MSP is always lower than the market price for foodgrains, as such the farmers are not obliged to sell their products to the Government.

Issue Prices

The price at which government makes food grains available to people through Public Distribution System (PDS) is known as Issue Prices.

Market Intervention Scheme (MIS)

- MIS is an ad-hoc scheme under which are included horticultural commodities and other agricultural commodities which are perishable in nature and which are not covered under the Minimum Support Price (MSP) Scheme.
- In order to protect the growers of these commodities from making distress sale in the event of bumper crop during the peak arrival period when prices fall to very low level,

government implements MIS for a particular commodity on the request of a State government concerned. Losses suffered are shared on 50:50 basis between Central government and State government.

Need for Agricultural Price Policy

- The basic aim of agricultural price policy is the intervention in the agricultural produce markets to influence the price levels and their fluctuations, particularly from farm gate to retail level.
- Price policy is directed to bring about growth and equity in the country, therefore it is occupying a prime place in economic and political debate it involves conflicting objectives.

Agricultural Prices Commission (APC) was set up in January 1965 with a broad framework of price policies. It was renamed as Commission for Agricultural Costs and Prices (CACP) in the year 1985. The need for agricultural price policy was clearly identified due to the following factors.

- Agricultural prices fluctuate more violently than the prices of industrial products.
- Price fluctuations bring disaster to producers as well as consumers. Middlemen take undue advantage and exploit the rest of the population through speculation.
- Price fluctuations retard economic development of the nation.
- Price fluctuations affect the welfare of the consumers.
- During inflation the low-income group of consumers will be very much affected because most goods will not be within the accessible reach of the consumers because of high prices.

Trade: Concept of International Trade and its need, theories of absolute and comparative advantage; Present status and prospects of international trade in agri-commodities; GATT and WTO; Agreement on Agriculture (AoA) and its implications on Indian agriculture; IPR.

Concept of International Trade

International trade, in its simplest sense, is the exchange of goods and services between countries. In other words, international trade is exchange of capital, goods, and services across international borders or territories. In most countries, it represents a significant share of gross domestic product (GDP). While international trade has been present throughout much of history, its economic, social, and political importance has been on the rise in recent centuries. Industrialization, advanced transportation, globalization, multinational corporations, and outsourcing are all having a major impact on the international trade system. International trade is also a branch of economics, which, together with international finance, forms the larger branch of international economics. International trade gives rise to a world economy, in which prices, or supply and demand, affect and are affected by global events. For example, political change in Asia could result in an increase in the cost of labor, thereby increasing the manufacturing costs for an American shoe company based in India, which would then result in an increase in its price.

Thus, international trade is the economic interaction among different nations involving the exchange of goods and services, that is, exports and imports. The guiding principle of international trade is comparative advantage, which indicates that every country, no matter their level of development, can find something that it can produce cheaper than another country. International finance, the study of payments between nations, is a related area of international economics.

International trade is in principle not different from domestic trade as the motivation and the behavior of parties involved in a trade does not change fundamentally depending on whether trade is across a border or not. The main difference is that international trade is typically more costly than domestic trade. The reason is that a border typically imposes additional costs such as tariffs, time costs due to border delays and costs associated with country differences such as language, the legal system or a different culture. Another difference between domestic and international trade is that factors of production such as capital and labor are typically more mobile within a country than across countries. Thus

international trade is mostly restricted to trade in goods and services, and only to a lesser extent to trade in capital, labor or other factors of production.

Need for International Trade:

In today's global economy, international trade is at the heart of development. Nations—developed or underdeveloped—trade with each other because trade is mutually beneficial. In other words, the basic motivation of trade is the gain or benefit that accrues to nations.

In a state of autarky or isolation, benefits of international division of labour do not flow between nations. It is advantageous for all the countries of the world to engage in international trade. However, the gains from trade can never be the same for all the trading nations. Thus, benefits or gains from trade may be inequitable; but what is true is that **“some trade is better than no trade”**.

Theories of Absolute and Comparative Advantage

It is true that many crops and livestock enterprises can be raised over diversified soil types and climatic conditions, but with differences in yields, costs and returns. This difference in yields, costs and returns leads to specialization in the production of farm commodities by individual farmers or regions. We observe that wheat farming is predominant in Uttar Pradesh, Punjab and Haryana, rice farming in Andhra Pradesh, West Bengal, Tamil Nadu and Assam, cotton farming in Maharashtra and Tamil Nadu, sericulture in Karnataka, apple cultivation in Himachal Pradesh, sheep farming in Rajasthan, Poultry farming in Andhra Pradesh and Orissa. Thus, regional specialization in the production of crops and livestock enterprises is better explained by the principle of comparative advantage. The relative yields, costs and returns are to be considered as the criteria for explaining the principle.

In the production of farm commodities there are two kinds of economic advantage

- 1) Absolute advantage
- 2) Relative advantage or comparative advantage

The size of the margin between costs and returns from using the productive inputs represents the absolute advantage. If this margin is larger for one farm commodity in one region compared to another, we say that the first region has an absolute advantage in producing that commodity. This is illustrated with an example in below table.

Absolute Advantage

Particulars	Region A		Region B	
	Groundnut	Sunflower	Groundnut	Sunflower
Gross income (Rs./acre)	5,000	5,010	7,300	2,500
Total costs (Rs./acre)	4,700	4,320	6,500	2,450
Net income (Rs./acre)	300	690	800	50
Returns per rupee of investment	1.06	1.16	1.12	1.02

Suppose farmers in region 'A' and region 'B' are producing two farm commodities viz., groundnut and sunflower. The gross income per acre of groundnut in region 'A' is Rs.5000 while costs are Rs.4700. In region 'B', the gross income from the cultivation of groundnut per acre is Rs.7300 and expenses are Rs.6500. The net income per acre for groundnut is Rs.300 in region 'A' and Rs.800 in region 'B', with a return of Rs.1.06 in region 'A' and Rs.1.12 in region 'B' per rupee of investment. On the other hand sunflower could earn a gross income of Rs.5010 in region 'A' with a cost of cultivation of Rs. 4320. The net income and returns per rupee of investment from sunflower in region 'A' are Rs.690 and Rs.1.16 respectively. In region 'B', the gross income from sunflower per acre is Rs.2500, while the cost of cultivation is Rs.2450. The net income per acre is Rs.50 and the return per rupee of investment is Rs.1.02. Region 'A' has an absolute advantage in sunflower because the size of the margin between costs and returns is greater than that for region 'B'. Region 'B' has an absolute advantage in groundnut production for the same reason.

To explain the relative or comparative advantage, let us compare region 'B' with region 'C'. In both the region, farmers are growing redgram and groundnut.

Relative Advantage

Particulars	Region A		Region B	
	Redgram	Groundnut	Redgram	Groundnut
Gross income (Rs./acre)	5,600	7,300	2,300	3,300
Total costs (Rs./acre)	5,200	6,500	2,000	3,100
Net income (Rs./acre)	400	800	300	200
Returns per rupee of investment	1.08	1.12	1.15	1.06

From the figures furnished in above table, it is seen that region 'B' has a greater absolute advantage in growing both redgram and groundnut than region 'C' because, the net incomes per acre Rs.400 and Rs.800 respectively. In other words respective incomes are 108 per cent and 112 per cent higher than the costs. Farmers in region 'B' can earn profits by growing both crops. But in order to earn maximum profits, farmers in region 'B' should allocate larger acreage under groundnut alone as it is related to comparative advantage. Similarly, farmers in region 'C' can make profits by growing both the crops but they have

relative advantage in growing redgram. The farmers can make greatest profits by cultivating redgram as, the percentage of returns over the cost of cultivation being 115 per cent for redgram and 106 per cent for groundnut.

World Trade Organization (WTO)

The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments.

The WTO has 164 members (including European Union) and 23 observer governments (like Iran, Iraq, Bhutan, Libya etc).

Goals of WTO

- The WTO's global system lowers trade barriers through negotiation and operates under the principle of non-discrimination.
 - The result is reduced costs of production (because imports used in production are cheaper), reduced prices of finished goods and services, more choice and ultimately a lower cost of living.
- The WTO's system deals with these in two ways.
 - One is by talking: countries negotiate rules that are acceptable to all.
 - The other is by settling disputes about whether countries are playing by those agreed rules.
- The WTO can stimulate economic growth and employment.
- The WTO can cut the cost of doing business internationally.
- The WTO can encourage good governance. Transparency — shared information and knowledge — levels the playing field.
 - Rules reduce arbitrariness and opportunities for corruption.
- **The WTO can help countries develop:** Underlying the WTO's trading system is the fact that more open trade can boost economic growth and help countries develop.
 - In that sense, commerce and development are good for each other.
 - In addition, the WTO agreements are full of provisions that take into account the interests of developing countries.
- **The WTO can give the weak a stronger voice:** Small countries would be weaker without the WTO. Differences in bargaining power are narrowed by agreed rules, consensus decision-making and coalition building.
 - Coalitions give developing countries a stronger voice in negotiations.

- The resulting agreements mean that all countries, including the most powerful, have to play by the rules. The rule of law replaces might-makes-right.
- **The WTO can support the environment and health:** The trade is nothing more than a means to an end. The WTO agreements try to make trade support the things we really want, including a clean and safe environment, and to prevent governments using these objectives as an excuse for introducing protectionist measures.
- **The WTO can contribute to peace and stability:** When the world economy is in turmoil, the multilateral trading system can contribute to stability.
 - **Trade rules stabilize the world economy** by discouraging sharp backward steps in policy and by making policy more predictable. They deter protectionism and increase certainty. They are confidence-builders.

Functions of the World Trade Organization (WTO)

The WTO's overriding objective is to help trade flow smoothly, freely, fairly, and predictably. It does this by:

- Administering WTO trade agreements
- Conducting forum for trade negotiations
- Handling trade disputes
- Monitoring national trade policies
- Providing technical assistance and training for developing countries
- Cooperation with other international organizations

History

From the early days of the Silk Road to the creation of the General Agreement on Tariffs and Trade (GATT) and the birth of the WTO, trade has played an important role in supporting economic development and promoting peaceful relations among nations.

- The General Agreement on Tariffs and Trade (GATT) traces its origins to the **1944 Bretton Woods Conference**, which laid the foundations for the post-World War II financial system and established two key institutions, the **International Monetary Fund (IMF)** and the **World Bank**.
 - The conference delegates **also recommended the establishment of a complementary institution** to be known as **the International Trade Organization (ITO)**, which they envisioned as the third leg of the system.
 - In Havana in 1948, the **UN Conference on Trade and Employment** concluded a **draft charter for the ITO**, known as the **Havana Charter**, which would have

created extensive rules governing trade, investment, services, and business and employment practices.

- The Havana Charter never entered into force, primarily because the U.S. Senate failed to ratify it. As a result, the ITO was stillborn.
 - Meanwhile, an agreement as the **GATT signed by 23 countries** in Geneva in 1947 came into force on Jan 1, 1948 with the following purposes:
 - (1) to phase out the use of import quotas
 - (2) and to reduce tariffs on merchandise trade,
- The **GATT became the only multilateral instrument** (not an institution) governing international trade from 1948 until the WTO was established in 1995.
- Despite its institutional deficiencies, the **GATT managed to function** as a de facto international organization, **sponsoring eight rounds** (A round is a series of multilateral negotiations) **of multilateral trade negotiations.**

Year	Place/name	Notable Outcomes	Countries
1947	Geneva	45,000 tariff cuts - average 35% cut	23
1949	Annecy	Tariff reductions	13
1951	Torquay	Tariff reductions	38
1956	Geneva	Tariff reductions	26
1960-1961	Geneva Dillon Round	Tariff reductions	26
1964-1967	Geneva Kennedy Round	35% average cut on industrial goods Tariff; Commitments on use of anti-dumping laws	62
1973-1979	Geneva Tokyo Round	34% average cut on industrial goods; commitments on non-tariff measures	102
1986-1994	Geneva Uruguay Round	services trade and intellectual property included; "built-in-agenda" on agriculture, WTO institution created.	123

- So, the GATT became the only multilateral instrument governing international trade from 1948 until the WTO was established in 1995.

- **The Uruguay Round**, conducted from **1987 to 1994**, culminated in the **Marrakesh Agreement**, which established the World Trade Organization (WTO).
- The WTO **incorporates the principles of the GATT** and provides a **more enduring institutional framework** for implementing and extending them.
- The GATT was concluded in 1947 and is now referred to as the GATT 1947. **The GATT 1947 was terminated in 1996** and WTO integrated its provisions into **GATT 1994**.
- **The GATT 1994** is an international treaty binding upon all WTO Members. It is only concerned with trade in goods.

Why WTO replaced the GATT

- The GATT was only a set of rules and multilateral agreements and **lacked institutional structure**.
 - The GATT 1947 was terminated and WTO preserved its provisions in form of GATT 1994 and continues to govern trade in goods.
- The trade in services and intellectual property rights were **not covered by regular GATT rules**.
- The GATT provided for consultations and dispute resolution, allowing a GATT Party to invoke **GATT dispute settlement articles** if it believes that another Party's measure caused it trade injury.
 - The GATT did not set out a dispute procedure with great specificity resulting in lack of deadlines, laxity in the establishment of a dispute panel and the adoption of a panel report by the GATT Parties.
 - It made the GATT as a weak Dispute Settlement mechanism

Agreement on Agriculture

The Agreement on Agriculture (AoA) is a WTO treaty that was negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) and formally ratified in 1994 at Marrakesh, Morocco. The AoA came into effect in 1995. It focuses on reducing the agricultural support and subsidies given to domestic producers by countries. It is one of the most contentious agreements within the WTO.

- According to its provisions, developing countries were to complete their reduction commitments by 2000 and developed countries by 2004.
- The Least Developed Countries were not required to make any reductions.
- The Agreement covers products that are normally considered part of agriculture but excludes forestry and fishery products and also rubber, sisal, jute, coir and abaca.

- The focus of the AoA is the elimination of what are called “trade distorting” agricultural subsidies.
- According to the WTO, the overall aim of the Agreement is *“to establish a fairer trading system that will increase market access and improve the livelihoods of farmers around the world.”*

Features of WTO Agreement on Agriculture

The provisions of the WTO Agreement on Agriculture relate mainly to three broad categories of agriculture and trade policy, which are discussed below.

- **Market Access** includes
 - i) Tariffication – implies all non-tariff barriers to be abolished and converted to tariffs. Non-tariff barriers include variable levies, minimum import prices, quotas, state trading measures, discretionary licensing, etc.
 - ii) Tariff reduction – Developing countries were obligated to reduce tariffs by 24% in 10 years and 36% in 6 years for developed countries.
 - iii) Access opportunities – Minimum access equal to 3% of domestic consumption in 1986-88 will have to be established for the year 1995 rising to 5% at the end of the implementation period.
 - iv) This head includes improving access to markets by removing trade barriers.

Domestic Support

- This concerns the policy support and subsidies given by countries to enhance domestic production. WTO has classified agricultural subsidies and policies into different boxes, which are explained in a section below in detail.

Concept of Domestic Support

Amber Box: For Agriculture, all domestic support measures considered to distort production and trade.

Green Box: In order to qualify for the ‘Green Box’, a subsidy must not distort trade, or at most cause minimal distortion. These subsidies have to be government funded and must not involve price support.

Blue Box: The Blue Box is an exemption from the general rule that all subsidies linked to production must be reduced or kept within defined minimal levels.

It covers payments directly linked to acreage or animal numbers, but under schemes which also limit production by imposing production quotas or requiring farmers to set aside part of their land.

Export Subsidies

- Here, there are provisions related to member countries' commitments to reduce export subsidies.
- Developed countries are mandated to reduce their export subsidy volume by 21% and expenditure by 36% in 6 years, in equal installment (from 1986 –1990 levels).
- Developing countries need to reduce export subsidy volume by 14% and expenditure by 24% over ten years in equal installments.

Agreement on Agriculture Criticism

Opponents of the Agreement say that it reduces tariff protection for small farmers, which is a major income source in developing countries, while at the same time, it allows rich countries to continue subsidising their farmers.

- Through clever classification of the subsidies into trade-distorting (amber box) and non-trade distorting (green box), developed countries manage to heavily subsidize agriculture in their countries while targeting developing countries including India of indulging in trade-distorting practices.
- A collaborative India-China study has shown that developed countries such as the United States, Canada and countries of the EU give out several times higher subsidies to their farmers than the rest of the world.
- Developed countries continue to provide trade-distorting subsidies without attracting any penalties under the WTO.
- Under the Amber Box, developed countries were given the choice of either accepting a product-specific ceiling of 5 per cent, or an overall cap. By choosing the latter option, most developed countries have been able to better target sops for specific crops.
- Even with low subsidies, India should be worried of breaching the 10% limit on subsidies.
- The developed countries constantly take developing countries to task on policies like the Minimum Support Price (MSP) while they continue to support their farmers and also make barriers for trade and market entry.
- The WTO's push towards globalisation threatens three dimensions of a sustainable and equitable agricultural policy, namely, ecological security, livelihood security and food security. Globalisation will adversely affect producers with low or no capital and investment.

Intellectual Property Rights (IPR)

Intellectual property refers to the creations of the mind, like inventions, artistic and literary works; designs; and images, symbols and names used in commerce. Recent advancement in science and technology, especially in biotechnology, nanotechnology and information and communications technologies (ICTs) further leads to the development of IP protection.

Developed countries show early trends of intellectual property which has been important for the promotion of invention in industrial development. Recognition of patent system started from the 1980s in Petroleum, Pharmaceutical and chemical industries and recently in biotechnology and copyrights.

Intellectual Property Rights which was first recognized in 1883 as **Paris Convention for the Protection of Industrial Property** and then after in 1886 of Berne Convention. Both these treaties are currently administered under a specialized body of United Nation i.e., **WIPO (World Intellectual Property Organization)**. It is a global forum for Intellectual Property (IP) services, policy, information and cooperation. WIPO works for the development of a balanced and effective international IP system that enables innovation and creativity benefits to all.

India as a member of World Trade Organization (WTO), which set down minimum rules for different forms of intellectual property (IP) directives as applied to the nationals of other WTO Members and became a signatory of the TRIPS (Trade-Related Aspects of Intellectual Property Rights) in the year 1995 which is an international agreement between all the member nations of the WTO. TRIPS sets down minimum standards for the regulation of many forms of Intellectual Property by the national governments.

Types of Intellectual Property:

1. **Copyright:** Copyright is a legal term that is used to describe the rights that creators have over their creative and literary works. Works covered by copyright range from paintings, books, music, sculptures and films, to computer programs, databases, advertisements, maps and technical drawings. Copyrights Act, 1957 is the governing rule.
2. **Patents:** A patent is an exclusive legal right recognized for an invention. A patent right provides the patent owner with the right to decide whether or how- the invention can be used by others. In exchange for this patent right, the patent owner makes technical information about the invention publicly available in the published patent document. It is governed in India by the Patents Act 1970 and Patent Rules 2003.

3. **Trademarks:** A trademark is a sign or a symbol capable of differentiating the goods or services of one venture from those of other enterprises. Trademarks had been used from the ancient times when artisans used to put their signature or "mark" on their products. It is governed in India through Trademarks Act 1999 and Trademarks Rules 2002.
4. **Industrial designs:** An industrial design comprises of the ornamental or aesthetic aspect of an article. A design may consist of two-dimensional features, such as the shape or surface of an article, or of three-dimensional features, such as patterns, lines or colour. Design Act 2000 and Rules 2001 is the governing law.
5. **Geographical Indication:** Geographical indications means any indication of origin that is used on goods that have a certain geographical origin and possess qualities, a reputation or traits that are essentially traceable to that place of origin. Mostly, a geographical indication includes the name of the place or specific identity of the origin of the goods. The Geographical Indications of Goods (Registration & Protection) Rules 2002 and The Geographical Indications of Goods (Registration & Protection) Act 1999, is the governing rule.
6. **Trade secrets:** Trade secrets are Intellectual Property rights on confidential information which can be sold or licensed. The unauthorized accession, use or disclosure of such secret information in a manner contrary to honest commercial practices by others is regarded as an unfair practice and a violation of the trade secret protection.
7. **Plant Breeders' Rights:** Plant breeders' rights (PBRs) are granted for new and distinct varieties of plant. When PBR is granted, the breeder gets especial rights in relation to transmitting material of their new plant variety.

Issues of Intellectual Property Rights in India:

IPR-related issues in India like copyrights, trademarks, patents, geographical indications and design are governed by the Patents Rules 2003 and Patent Act 1970, Trademarks Rules 2002 and the Trademarks Act 1999, Design Act 2000 and Rules 2001, Indian Copyrights Act, 1957, and The Geographical Indications of Goods (Registration & Protection) Rules, 2002 and The Geographical Indications of Goods (Registration & Protection) Act 1999, respectively. Some of these Acts/Regulations are more than decades-old and outdated. As there are a lot of loopholes and some of them are still vague. However, there are several more issues like:

- The process to Product Patents:- The Fundamental difference lies in the fact that the former provides protection to the processes only while the latter to the products. It becomes difficult when it comes to getting IP rights on pharmaceuticals and food products. India has a mixed development model of the economy where this approach is taken to safeguard the interest of the domestic company
- Compulsory licensing:- Under this government can compel the owner company or other companies to mass-produce some products irrespective of who got the patent.
- Drug price control order:-Under these provision companies cannot charge unfair prices for drugs or generic medicine, As companies does to safeguard investment.
- Indian Patent Act:- Section 3(d) of the Indian Patent Act prevents multinational companies from evergreening their patents just by making minor changes.
- IPR regime in India consists of robust IP laws, it lacks effective enforcement, for which “least priority given to adjudication of IP matters”.
- The key challenge is to sensitize the judiciary and the enforcement officials and to take up IP matters, at par with the other economic offences, by bringing them under their policy radar.
- The challenges also lie due to the lack of an IP fund, which can be used for further boosting the IP culture in the country.
- IPR provides exclusive rights over assets, it's a major challenge for the country to balance the interests of the inventors and the interests of the society at large.
- Lack of efficient control of these regulations or a think- tank body especially for IPRs.
- Recent changes in IP laws, various IP related issues have sprung up, which are highly complex in nature.

India and IPR related issues at the Global level:

India and the United States of America are continuously on rift over all aspects of Intellectual Property Rights ranging from Patents, Copyrights, Trademarks and Geographical Indicators. India still continues to remain on the US ‘Priority Watch List’. United States Trade Representatives (USTR) publishes the report on Priority Watch List those who violate IPR rules of WIPO. The main issues between both countries are:

- The most controversial issue is Section 3 and Section 84 of the Indian Patent Act 1970. In which former consists of Ever greening that means Patent for new forms of existing medicines and later for Compulsory licensing.
- Getting difficulty in patent rights and maintaining these innovators.
- Restriction over the transparency of information.

- Outdated and insufficient trade secrets legal framework, the system for protecting against unfair commercial use.
- Criteria for compulsory licensing which provide an advantage to domestic companies.
- Distribution of royalties to the rights holder.
- Copyright policies do not provide incentive and commercialization of the content.
- Unauthorised disclosure to obtain market approval for pharmaceutical and agricultural chemical products.
- Issues of copyrights in the entertainment industries.

International Agreements on IPR:

India is a signatory to the following international IP agreements:

Paris Convention – It is primarily for the protection of industrial property. Under Paris Convention, any person or company from a signatory state can apply for a patent or trademark in any other signatory state, and it will be given the same enforcement rights and status.

Berne Convention – are for the protection of Literary and artistic works. Under this convention, each member state recognises the copyright of authors from other member states which are signatory, in the same way as the copyright of its own nationals.

Madrid Protocol – Under this convention, any person can register his trademarks in multiple countries by filing one international application. It enables to manage and renew trademarks through one centralized system.

Patent Cooperation Treaty (PCT) – Under this treaty, any person can seek patent protection in multiple countries by filing one application. PCT provides a strong basis for patenting decisions. It is used by the world's major corporations, research institutions and universities.

India is not a signatory to the Hague Agreement, which allows registering an industrial design in many countries with a minimum of formalities and expenses.

Recent Initiative by the Government:

The DIPP (Department of Industrial Policy and Promotion) is responsible for the matters concerning the specialised UN agency on IPRs, the World Intellectual Property Organisation (WIPO), including coordination with other concerned Ministries or Departments.

- **National IPR Policy:** National IPR Policy for India adopted by the Govt in 2016. This policy laid down the future roadmap of IPRs in India. CIPAM (Cell for IPR

Promotion and Management) has been set up to coordinate the implementation of the National IPR Policy. Major objectives of the policy are:

- **IPR Awareness:** Outreach and Promotion - Objective is to create awareness among people about the social, social and economic benefits of IPRs among all sections of society
 - **Legal and Legislative Framework** - Objective is to have effective and strong IPR laws that balance the interests of rights owners with the larger public interest
 - **Generation of IPRs** -Objective is to stimulate the generation of IPR
 - **Administration and Management** - Objective is to modernize and strengthen service-oriented IPR administration
 - **Commercialization of IPR** - Get proper value for IPRs through commercialization
 - **Enforcement and Adjudication** - Objective is to strengthen the enforcement as well as adjudicatory mechanisms for combating IPR infringements
 - **Human Capital Development** - Objective is strengthening and expanding human resources, institutions and capacities for teaching, research, training and skill-building in IPRs.
- **IP awareness** Programmes have also been undertaken in academic institutions, at both school and college level, as also for industry. Scheme for IPR Awareness – ‘Creative India; Innovative India’ conducted by CIPAM. The scheme targets to conduct IP awareness workshops/seminars in collaboration with industry organizations, academic institutions and other stakeholders across the country.
 - **Clearing Backlog/ Reducing Pendency:** Steps were undertaken by the Government of India, including augmentation of technical manpower, have resulted in a greater reduction in pendency of IP applications. Automatic issuance of electronically generated trademark and patent trademark certificates has been introduced.
 - **IP Process Re-engineering:** An amendment to Patent Rules, 2003 has been made to streamline processes and make them more user-friendly. India has acceded to the WIPO Performances and Phonograms Treaty (WPPT) ND WIPO Copyright Treaty (WCT), which extend the coverage of copyright to the internet and digital environment.
 - **Technology and Innovation Support Centres (TISCs):** In collaboration with WIPO, 6 TISCs have been established in various institutions across different states.

- **IPR Enforcement Toolkit for Police:** An IPR Enforcement Toolkit has been prepared to assist police officials in dealing with IP crimes, in particular, Copyright piracy and Trademark counterfeiting.
- To streamline the whole process of IP applications, IP procedures have been made simpler and user-friendly by amending Patents Rules in 2016 and Trademarks Rules in 2017.
- Under the Finance Act, 2017, the Copyright Board has also been merged in the Intellectual Property Appellate Board.

Steps taken to enable and assist start-ups for filing of patents:

- As per the amended Patents Rules, 80% patent fee has been reduced for Start-ups as compared to larger companies.
- Under the SIPP (Scheme for Facilitating Start-ups Intellectual Property Protection), 208 Patent Agents have been empanelled for assistance by the Controller General of Patents, Designs and Trademarks, to provide assistance to Start-ups in the filing and preparation of their patent applications and, subsequently, during the stage of prosecution of applications before the Patent Office. Facilitator's fees are paid by the Government as per the norms of the scheme.
- Start-ups are also eligible for getting the processing of their patent applications expedited

Conclusion

In a globalized world economy, a robust Intellectual Property Right is needed. A global system of IPR must be there to fulfil the aspirations of both developed and developing countries. Indian government consistently working towards awareness, creation, protection and enforcement of IPR as a recent Global Innovation Index (GII) Report issued by WIPO has improved from 57th in 2018 to 52nd in 2019.