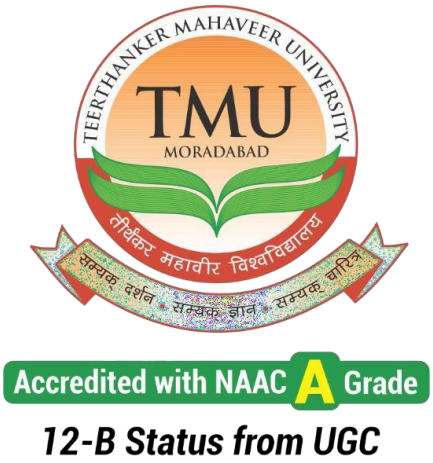
TEERTHANKER MAHAVEER UNIVERSITY
MORADABAD, INDIA

CENTRE FOR ONLINE & DISTANCE LEARNING



Programme: Bachelor of Commerce

Course: Principles of Economics

Course Code: BCPCC103

Semester-I

Principles of Economics

Objectives-

1. To familiarize the students with the basic concepts of economics such as Demand, Supply, Goods, Utility etc.
2. To enable the students to understand basic theories, Principles and laws relating to Consumption, Production and Distribution.

UNIT-I: Introduction to Economic

1) Definition of Economics - Wealth definition, Welfare, Scarcity and Growth Oriented definition

2) Basic concepts – Consumption – Good, Want, utility, Demand, Assumptions, Economic Laws, Micro and Macro Economics

3) Production-Supply, Land, Labour, Capital, Organization, Firm, Industry, Rent, Wages, Interest, Profit

4) Economic Systems-Capitalism, Socialism, Mixed Economy.

5) Cost – Total Cost, Fixed cost, Variable cost, Average Cost, Mixed Cost, Opportunity Cost.

6) Revenue- Total Revenue, Average, Revenue, Marginal Revenue.

UNIT-II: Theories of Consumption

i. Utility – Forms, Total Utility, Marginal Utility, Law of Diminishing Marginal Utility

ii. Law of Equi- Marginal Utility

iii. Consumer Surplus

iv. Properties of Indifference Curves

v. Consumer Equilibrium under Indifference Curve Analysis.

vi. Law of Demand

UNIT-III: Production

1. Production Function
2. Law of Variable Proportions
3. Economies of Scale
4. Properties of Land, Labour, Capital and Organisation

UNIT-IV: Markets

i) Features of Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly.

ii) Price Discrimination- Meaning and Types.

iii) Pricing in Practice- Skimming and Penetration Pricing, Product Life cycle pricing

UNIT-V: Theories of Distribution

i) Marginal Productivity Theory of Distribution

ii) Rent: Ricardian Theory of Rent, Quasi- rent

iii) Wage: Real and Money wage, Minimum wage, Wage differentials.

iv) Interest: Loanable Funds Theory of Interest.

v) Profit; Innovation Theory of Profit

References

1. Koutsoyiannis A (1979) Modern Micro Economics, Macmillan Press, London.
2. Samuelson, Paul, Economics Tata Macgrow Hill Publishering Company limited, New Dehli, 2007.
3. Seth, M L., Principles of Economics, Lakshmi Narian Agarwal Educational Publisher, agara Thirty Fifith Edition, 2001.

4. Ahuja, H L Advanced Economic Theory; Micro Economics analysis, S Chand and Company Limited, New Delhi, 2007.
5. Chopra,P N Principles of Economics, Kalyani Publishers,Ludhiana,2006.
6. Stonier and Hague A Text book of Economic Theory
7. Samuleson and Nogardus A Text book of Economics
8. Jhon A Text Book of Economics
9. K K Dewwett, K P M Sundaram, Modern Economics.

Table of Content

UNIT-I: Introduction to Economic

Definition of Economics –

1. Wealth definition,
2. Welfare definition,
3. Scarcity definition and
4. Growth Oriented definition

Introduction to economics-

Economics is concerned with aspects of the production, exchange, distribution, and consumption of commodities, but this claim and the terms it contains are many times considered as vague. Economics is much wider than what it is said.

The conception of the economy as a distinct object of study dates back to the 18th century. Aristotle addresses some problems that most would recognize as pertaining to economics are mainly as problems concerning how to manage a household.

Philosophers addressed ethical questions concerning economic behavior, and they condemned the subject as it gives importance for money. With the increasing importance of trade and of nation-states in the early modern period, 'mercantilist' philosophers stressed on the balance of trade and the regulation of the currency.

Only in the eighteenth century, the physiocrats, David Hume and especially Adam Smith, came up with the thought that there is a need for laws to be discovered that govern the complex set of interactions that produce and distribute consumption goods and the resources and tools that produce them.

Adam Smith's insight and his contribution in his systematic *Inquiry into the Nature and Causes of the Wealth of Nations led to emergence of Economics as an independent subject.*

Thus economics emerged as an independent subject in 1776. Economics was known addressed by different names, and are -

Whatley called economics as Catallactics or the science of exchange.

Hearn addressed it as Plutology meaning science of wealth.

Ingram named it as Chrematistics or science of money making.

Economics was earlier known as Political economy, and was studied along with political science. The term Economics is derived from Greek words, ***Oikos meaning a house and nemein to manage***. Thus economics is art of managing a household with one's limited resources to satisfy one's wants/desires.

Wealth definition of Economics

Adam smith is a Scotland economist. He was born in 1723A.D and died in 1790A.D. He published a "An inquiry into the nature and causes of the wealth of nation" in 1776A.D. and with this publication economics got its independent identity. Adam smith is known as Father of economics.

According to him," Prosperity of the individuals constitute the prosperity of the nation. Gain of wealth or after acquiring, the man can achieve his satisfaction"

Thus Adam smith regarded economics as the science which studies the production and consumption of wealth.

J.B. Say- "Economics is the science which treats Wealth".

Walker- "Economics is the body of knowledge which relates to wealth".

Senior- "The subject Treated by political economics is not happiness but wealth".

J.S. Mill- "Economics is the practical science of production and distribution of wealth".

For Adam Smith economics looks into those factors that determine wealth of a country and its growth. He quotes in his book that without proper utilisation of a country's resources it cannot grow its wealth and riches.

Production and expansion of wealth were the subject matter of study of economics. Over the period, David Ricardo shifted the emphasis from the production of wealth to

distribution of wealth.

Critical evaluation-

1. Interpretation of term wealth- the term wealth has not been interpreted in broader sense. Term wealth interpreted in narrow sense was meant "riches" or abundance of wealth. Economists were to suggest ways and means to increase wealth of the society. Thus this definition was a subject to criticism.

2. Religious sentiments- 17th and 18th century marked an era of strong religious beliefs and sentiments in the minds of the people, and anything connected with wealth and riches were looked upon sordid and mean. Thus economics as study of wealth was criticized by many and dubbed as by different nomenclatures.Carlyle and Ruskin called economics as "Gospel of Mammon" i.e., a dark and dismal science.

   It was also called as bread-and-butter science, it was argued that economist ignored the values of life and man could resort any means to amass wealth. It was alleged that earlier economist ignored the higher values of life and are hankering after formulation of law which seek to "enrich both the people and the sovereign."

3. Subject matter of economics as a science was narrowed. Wealth was termed as goods and commodities required for provision of physical subsistence to men and raise their standard of living.

4. Wealth definition considered only productive contribution of labour in the process of production of material goods. It ignored contribution of immaterial labour in the production aspect.

5. The classical economist laid emphasis on wealth and laid man in secondary place. Adequate importance was not given to behavioral aspects of man in relation to wealth. Also was not clear on the ultimate objective of economics is either to promote individual human welfare or welfare of the society. They considered wealth as the only means to an end. Economics was considered as be-all and the end-all of economic science.

6. The study of wealth opened the question to acceptance and justification of property rights in various forms of wealth.

7. The wealth definition of economics restricted the scope of study of economics and thus paved the way for emergence of Welfare definition of economics.

Welfare definition of economics by Alfred Marshall

Brief introduction of Alfred Marshall=

He was born on 26th July, 1842 in London England He passed away on 13 July 1924 at the age of 81. He was British national from Cambridge, London.
Education-

Institution- St John's College, Cambridge
University College, Bristol
Balliol College, Oxford

He is known as father of neoclassical economic school.

Alfred Marshall, a pioneer neoclassical economist, reoriented Economics towards the study of mankind and provided economic science with a more comprehensive definition. Marshall, in his famous book '*Principle of Economics'* published in 1890, defines economics as follows:

"Political Economy or Economics is a study of mankind in the ordinary business of life. It examines that part of individual & social action which is most closely connected with the attainment & with the use of material requisites of well-being".

Marshall opined that for economics, wealth is not an end, but human welfare should be the end. Economics is on the one side a study of wealth and on the other and more important side "a part of the study of man". Thus this definition deals with-

1. It is study of human beings.

2. It makes studies on the economic aspects of human life; it deals with economic aspect of human life to material welfare of how man earns money and how he spends it.

3. It studies human welfare- only of economic or material welfare of human life.

Edwin Cannon defined – the aim of political economy is the explanation of the general causes on which the material welfare of human beings depend.

Prof A. C. Pigou- the range of our enquiry becomes restricted to that part of social welfare that can be brought directly or indirectly into relation with the measuring rod of money. Pigou's version of definition directly or indirectly speaks money as the measuring rod for determining economic welfare.

Critical evaluation-

Though it was an appreciated definition and improvised definition than wealth definition, is yet not free from criticisms. The criticisms are as follows:

1. Welfare definition includes only the material things in its purview. It excludes non material requisites which also contribute for the human welfare. In practical application, both material and non material requisites are mixed up with each other in such a way, that it is difficult to segregate both. Certain wants in life that satisfy the urgent needs are scarce in supply, like services of teachers, doctors etc, which also contribute to human welfare, and do possess a value. Marshall ignored these requisites of human necessities.

2. Welfare definition of economics claims that subject matter of economics is material welfare of human being, but unanimously adopted non material definition of productivity, as certain contribution of services by teachers, lawyers, doctors to the community are considered as being productive and part and parcel of the science of economics. Though the definition speaks about material welfare of human beings, but is inclusive of nonmaterial requisites of human beings in economics. In the definition of economics they rigidly rule out the consideration of non material objects, but later include both material and non material objects in the subject matter of economics.

3. Robbins criticized the welfare definition of economics and questioned the connectivity between economics and material welfare.

He argued economics is a science that studies several activities which are hardly conducive to welfare. Activities like manufacturing of alcohol, cigars etc., are certainly economic activities but are not conducive to human welfare. Yet they are studied by the economist, as these satisfy human wants and are concerned with production and distribution of scarce goods. Thus they conflict with the concept of welfare.

4. The concept of welfare is considered as illogical. Cannan argued that war is not conducive to material welfare and thus does not fit into the subject matter of economics.

But if the material welfare basis of economics is questioned, then Political Economy of War the latest addition to the theoretical apparatus of economics tells about how modern war can be successfully prosecuted financially. Thus material welfare basis of economics is self contradictory and shaky.

5. Material welfare cannot be quantitatively measured.

Prof Pigou regarded money as an instrument for the measurement of material welfare. But money as an instrument to measure material welfare was questioned, the reason being the satisfaction derived by utilizing money as a measuring rod for various transactions cannot derive the same level of satisfaction or happiness.

The reason quoted here was level of satisfaction derived by rich as well as poor using money for transaction cannot yield same level of satisfaction. Here the utilities or satisfaction which the two person derive from their purchase cannot be equal. Many a times level of satisfaction derived by poor may be much higher than a rich person. Thus money as an instrument to measure levels of utility was put into question.

6. Welfare definition makes economics a pure social science.

Here economics would be studying man as a social being as a part and parcel of society. Then economics would not deal with those individuals who are isolated from society. This definition would differentiate between people living in society and people living in

isolated locations. But in realty both are part of the fundamental laws of economics and are part of the community. Thus it was considered to treat economics as human science and not social science.

7. Welfare definition was criticized as classificatory rather than analytical in character.

Material welfare definition connects economics with certain group of activities rather than certain aspects of every activities. Economics deals only with the production and consumption of wealth. Robbins argued that division of human activities into economic and non economic is highly unscientific and illogical. Many times even economic activities may also have non economic aspect.

Thus Robbins rejected the material welfare definition of economics and laid stress on scarcity of means in relation to ends, and thus led to emergence of "scarcity of economics."

Scarcity definition of economics by Lionnel Robbins

Lord Robbins in 1932 in his book 'An Essay on the Nature and Significance of Economic Science' has given scarcity definition of economics. He defines economics as- "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses."

The study of economics is centered on 'means' and 'ends'. The three basic propositions around which the definition is derived are-

1. Ends
2. Scarce means and
3. Alternative applications.

1. Ends are referred to human wants. Human wants are unlimited and recurring in nature. As want are unlimited they have to choose wants based on the it's need, necessity and urgency.
2. Scarce means- the resources available for fulfillment of wants are limited. Thus scarcity of resources is the fundamental economic problem to any society or economic system. Thus scarcity of resources led to choice.
3. Alternative application- The 'means' have alternative uses, i.e., they can be used for different purposes. The scarcity of 'means' makes people to choose between different means with a view to adjust with the available means to the meet the desired ends.

Robbins with his scarcity definition put forth the concept of economic problems.

Robbins definition raises the fundamental problem of scarcity of means in relation to unlimited ends and the problem of choice. Problem of choice thus is the universal problem faced by an individual, house hold, a firm or an economic system. With this new dimension in understanding the economics, it expanded the scope of study of economics.

Critical evaluation

Many criticisms were leveled against Robbins for his scarcity definition of economics-

1. The concept of material welfare is implicit in the definition. According to thus definition the scarce means are to be adjusted to the multiple ends in such a manner as to secure the maximum satisfaction or material welfare.

2. The definition has restricted the scope of economics was the argument of Marshal's school of thought.

3. This definition converts economics to a pure science. As science is concerned with the formulation of economic generalization. Economics is to be subject that is not only a tool maker but also tool user.

4. Scarcity is not the only economic problem; abundance can also be an economic problem. This criticism emerged as this definition came in times of great depression, the global economic problem was abundance.

5. Many economists rejected the concept of ends and means. It was argued that the definition excludes the concept of purpose which is the fundamental to human action.

6. This definition has failed to address macro economics. It deals with micro analysis. It does not address the economic problems of a country.

7. Robbins definition does not speak about growth and stability, which is the important branch of economics.

8. It does not speak about problems associated with abundance of labour and problem of unemployment and under employment.

9. This study makes economics as positive science, but in reality economics is normative science.

10. It is static in nature and fails in giving clarity on the concepts of means and ends, thus suffered from inadequateness in explanation of scarcity problem.

Growth definition of Economics

Paul Samuelson was born in Gary, Indiana, in 1915. He received the degree of Bachelor of Arts from Chicago University in 1935 and the degrees of Master of Arts in 1936, and Doctor of Philosophy in 1941 from Harvard University. He was a Social Science Research Council predoctoral fellow from 1935-1937, a member of the Society of Fellows, Harvard University, 1937-1940, and a Ford Foundation Research Fellow from 1958-1959. He received honorary Doctor of Laws degrees from Chicago University and Oberlin College in 1961 and from Indiana University and East Anglia University (Eng.) in 1966.

He was awarded the David A. Wells Prize in 1941 by Harvard University and the John Bates Clark Medal by the American Economic Association in 1947, as the living economist under forty "who has made the most distinguished contribution to the main body of economic thought and knowledge."

Paul Samuelsson is the first American to win the Nobel Memorial Prize in Economics, which he received in 1970 for raising "the level of scientific analysis in economic theory." Samuelson's areas of research included modern welfare economics, linear programming, Keynesian economics, economic dynamics, international trade theory, logic choice and maximization.

Growth oriented definition is concerned with the effective allocation and use of resources so that economic growth can be increased. Economics is the study of how, in a civilized society, one obtains a share in what other people have produced, and of how the total product of society change and is determined.

Prof. Samuelson- Economics is the study of how people 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 persons and groups of society."

F. Benham-Economics is the study of the factors affecting the size, distribution and stability of a country's national income.

J.M Keynes – economics is defined as the study of scarce resources and the determinants of income and employment.

C. E. Ferguson-Economics is the study of the economic allocation of scarce physical and human means (resources) among competing ends, an allocation that achieves a stipulated optimizing or maximizing objectives.

The definition is very comprehensive and does not restrict to material well-being or money measure as a limiting factor but considers economic growth as an essential aspect for the betterment of an economic system.

The implications of the growth definition are-

1. Samuelson also stresses on problem of scarcity of means to unlimited ends which can be put to alternative uses.

2. According to Samuelson economics is a study of economic resources. These economic resources refer to natural, human and physical resources which satisfy human wants but are scarce and have alternative uses.

3. His definition is dynamic as it includes element of time. His definition got appreciation with the phrases "to produce various commodities over time" and "distribute them for consumption now and in the future", thus his definition holds strong as it deals with problem growth.

4. Definition is wider in scope- his definition is applicable to all economic systems including bartering economy. He says problem of choice is applicable to both monetary economies as well as barter economy. Scarcity of means in relation to ends is confronted to all economic systems and thus is a wider definition of economics.

5. This definition deals with the problem of choice in dynamic setting. It relates problem of choice not only to the present, but also to the future. Human wants are always bound by changes, as they change with time. Changes of wants or desires may be due to changes in tastes,

fashions, aptitudes. The multiplication of wants also leads to bringing changes in corresponding resources to keep in pace with the increasing wants or desires.

The economic system thus has to concentrate on increasing the resources, income, output and employment to cope up with the increasing and changing wants of society. Thus economics is considered as the study of the allocation of resources (in relation to unlimited ends)and of determinants of income, output, employment and economic growth. The most appreciated definition of economics presented by Samuelson is based on Robbins Scarcity definition, but is more dynamic and wider in scope as it deals problem of choice in relation to problem of income, output, employment and growth. It is applicable universally to all sorts of economies.

2. Basic concepts Consumption – Good, Want, utility.

All economic activities are directed towards the satisfaction of human wants. Wants are related to desire. But all desires cannot be wants. Wants are those desires for which the man has capacity and also willingness to fulfill those desire. In other words want is the effective desire for the satisfaction of which man has both capacity and willingness.

According to Penson—"Wants are defined as effective desire for particular things, which expresses itself in the effort or sacrifice necessary to obtain them."

Erich Roll has said—"Want is the expression of lack of satisfaction which leads to action designed to provide that satisfaction."

Features of Human Wants:

a. Wants are repetitive in nature here is never an end for human wants. Most of the human wants are of a recurring nature especially basic requisites like food, clothing.

b. Wants may differ with age as desires change with the composition of age.

c. Wants may differ with gender as they want are different.

d. Wants may differ with preferences the needs and desires differ from person to person

e. Wants are competitive in nature. The effort is to fulfill all the wants and thus wants race against each other.

f. Wants are unlimited. The fulfillment of one want will lead emergence of new wants, there is no limit for human wants.

g. Wants change into habits. If a particular want is regularly satisfied, a person becomes used to it and it grows into a habit. He must then use that particular commodity regularly.

Good

Goods are material things wanted by human beings. They can be seen or touched. Services are non-material things. These cannot be seen or touched only their effects are felt.

Classification of Goods and Services:

Goods and services are of many types. However, these can be classified into some broad groups.

Economic goods and non economic goods- Economic goods are the goods which have a price and their supply is less in relation to its demand. The production of such goods requires scarce resources having alternative uses. These economic goods relate to the problem of economizing scarce resources for the fulfillment of human wants.

Non economic goods are available free and are free gift of nature .they do not posses any price and are available in unlimited quantities. At times they also posses price like economic goods.

Consumers' Goods and Producers' goods: Consumers' goods are those final goods which directly satisfy the wants of consumers. Consumers' goods are further sub-divided into single-use consumers' goods and durable use consumers' goods.

Single-use Consumers' Goods: These are goods which are used up in a single act of consumption. Such goods are foodstuffs, cigarettes, matches, fuel, etc. They are the articles of direct consumption because they satisfy human want directly. Similarly, the services of all types such as those of doctors, actors, lawyers, waiters, etc. are included under single use goods.

Durable use consumer goods: These goods can be used for a considerable period of time. It is immaterial whether the period is short or long.

Capital goods or producer goods: Capital goods are those goods which help in the production of other goods that satisfy the wants of the consumers directly or indirectly, such as machines, plants, agricultural and industrial raw materials, etc. Producers' goods are also classified into single-use producers' goods and durable- use producers' goods.

Single-use Producers' Goods: Theses goods are used up in a single act of production. Such goods are raw cotton, coal used in factories, paper used for printing books, etc. When once used, these goods lose their original shape.

Durable-use Producers' Goods: These goods can be used time and again. They do not lose their usability through a single use but are used over a long period of time. Capital goods of all types such as machines, plants, factory buildings, tools, implements, tractors, etc. are examples of durable-use producers' goods.

Intermediate Goods: Goods sold by one firm to another for resale or for further production are called intermediate goods. They are single-use producers' goods that are transformed to manufacture final goods. Intermediate goods are also termed as inputs.

Final goods: goods sold not for resale or for further production but for personal consumption or for investment are called final goods. On the basis of this definition, a particular good or service may be classified intermediate good or final good.

Demand – meaning and Assumptions

Demand for a commodity is essentially consumer's attitude and reaction towards a commodity. This gives rise to actions in purchasing of units of a commodity at various given prices. The demand for a commodity is the amount of it a consumer will purchase or will be ready to take from the market at various given prices in a period of time.

Two important aspects of demand are-

a. Demand always refers to demand for a commodity at a given price.
b. It is per unit of time.

Demand in economics refers to desire to purchase and the ability to pay for the commodity backed by willingness to purchase.

The demand for a commodity is a schedule of the quantities that buyers would be willing to purchase at different prices at any one instant of time. The individual consumer's demand for a commodity refers to various quantities of it which he would buy at different prices at a particular time.

The Demand function-

The theory of consumption deals with the concepts and functions. Demand function is an important function in consumption analysis. In a given market at a given period of time, the demand for a commodity is the relation between the various quantities of the commodity that might be bought and the determinants of the quantities. They are as follows-

a. Prices of the commodities
b. Income
c. Taste and preferences
d. Prices of related goods.

Demand schedule

The demand concept can be understood easily with the construction of demand schedule for a commodity and depicting o a demand curve. A demand schedule for a commodity is the contribution of Alfred Marshall. It is the list of the various quantities of commodities which an consumer would be purchasing at different prices in the market. It states the relationship between

two variables, namely, price and quantity demanded. It only predicts what quantities could be bought at different possible prices.

An assumed demand schedule-

Demand Schedule

Price of the commodity	Quantity demanded of a commodity
5	**100**
4	**200**
3	**300**
2	**400**
1	**600**

On the basis of the above schedule, demand curve can be derived-

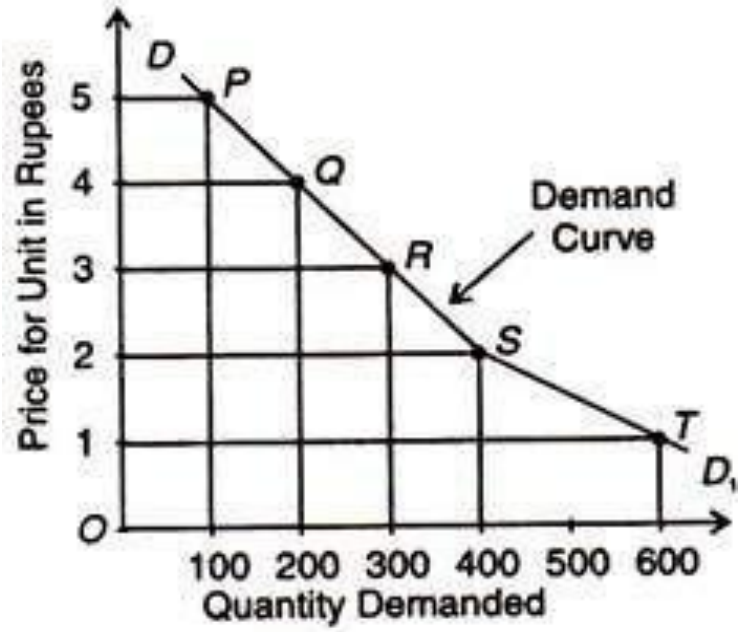


Fig. 7

The demand curve DD shows the relationship between price and quantity demanded for a commodity. Quantity demanded of a commodity is measured on OX axis and Price on OY axis. At price 5, the quantity demanded for a commodity is 100 units, as price decrease the quantity

demanded for a commodity increases. It is plotted by the points P,Q,R,S and T and the by connecting the points, demand curve is derived.

The market demand curve is derived by adding up the demand schedules of individuals. Then by taking these individual demand schedules and adding the number of consumers, market demand is derived.

Determinants of Demand-

The determinants of demand are as follows-

1. Taste and preferences of the consumer- An important factor that determines demand for a good is the tastes and preferences of the consumers for it. A good for which consumers' tastes and preferences are greater, its demand would be higher and its demand curve will lie at a higher level. With change in people's tastes and preferences goods, there will be change in demand. The changes in demand for various goods occur due to the changes in fashion and also due to the pressure of advertisements by the manufacturers and sellers of different products.

2. Income of the people- The demand for goods also depends upon incomes of the people. The greater the incomes of the people the greater will be their demand for goods and services. With every rise in incomes of the people, the purchasing power will increase and results in increase in demand and vice versa.

3. Changes in the prices of related goods- The demand for a good is also impacted by the prices of other goods, mainly goods that are related to it as substitutes or complements With every change in the prices of the related goods, substitutes or complements, there will be change in the demand curve; it will shift upward or downward as the case may be. When price of a substitute for a good falls, the demand for that good will decline and when the price of the substitute rises, the demand for that good will increase.

4. Number of consumers in the market- the greater the number of consumers for a good, greater will be the demand for such goods. If the seller succeeds in identifying the new

markets for his commodities, he will be successful in expanding his market. The important factor for that increases the number of consumers in the market is population growth.

5. Change in propensity to consume- People's propensity to consume also affects the demand for a commodity. With income of the people remaining constant, if their propensity to consume rises, then out of the given income they would spend a greater part of it, and would result in increase in demand for goods. On the other hand, if propensity to save of the people increases, it will lead to decline in propensity to consume, then the consumers would spend a smaller part of their income on goods with the result that the demand for goods will decrease.
6. Consumer's future expectations- it will influences the demand for goods. If consumers' expectations with regard to future prices of the goods would rise, then they would demand greater quantities of the goods at present so that in the future they would not pay higher prices. Similarly, when the consumers hope that in the future they will have good income, then in the present they will spend greater part of their incomes with the result that their present demand for goods will increase.
7. Income distribution- Distribution of income in a society will also affects the demand for goods. If distribution of income is more equal, then the propensity to consume of the society as a whole will be relatively high which means greater demand for goods. On the other hand, if distribution of income is more unequal, then propensity to consume of the society will be relatively less, for the propensity to consume of the rich people is less than that of the poor people.

Extension and contraction of Demand

The extension and contraction in demand are used when the quantity demanded rises or falls as a result of changes in price and we move along a given demand curve. When the quantity demanded of a good rises due to the fall in price, it is called extension of demand and when the quantity demanded falls due to the rise in price, it is called contraction of demand.

Extension and contraction in the demand takes place as a result of changes in the price alone when other determinants of demand such as tastes, income, propensity to consume and prices of

the related goods remain constant**.** The other factors remaining constant means that the demand curve remains the same, that is, it does not change its position; only the consumer moves downward or upward on it.

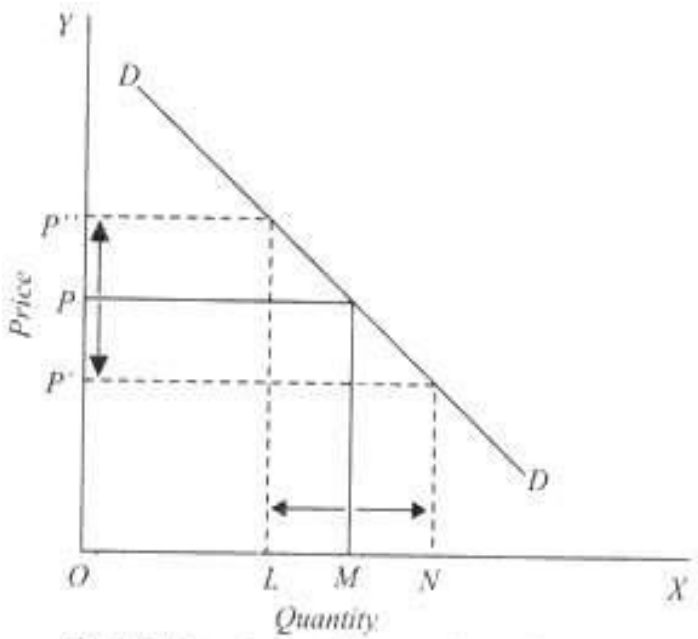


Fig. 7.3. *Extension and Contraction in Demand*

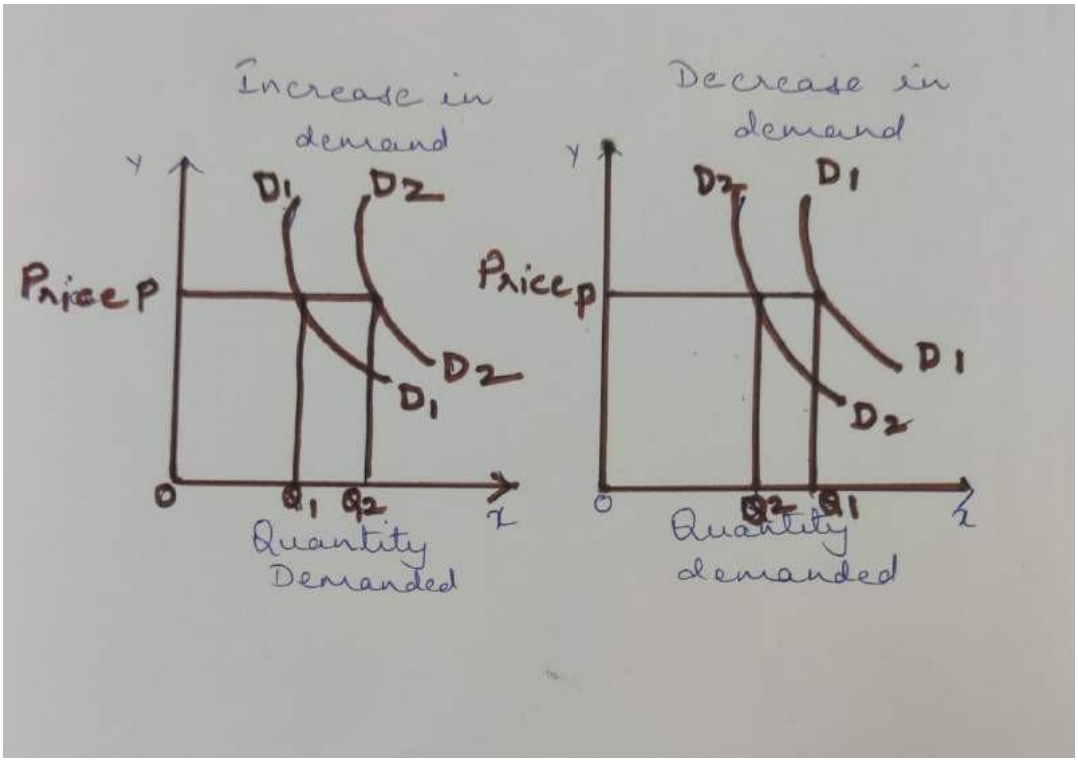
In the above diagram, Consumer is in equilibrium at OP price with quantity demanded for the commodity at OM, with fall in price to $OP^{1,}$ the quantity demanded for the commodity will increase to ON, this is called as extension of demand. When price increases to $OP^{2,}$ consumer's demand for the commodity will decrease to OL quantity, and is known as contraction of demand. As the change in price leads to change in quantity demanded of a commodity, the consumer will be moving along the same demand curve. This process is called as extension and contraction of demand.

Increase in Demand and Decrease in Demand

A change in demand or shift in the demand curve occurs due to change in any of the factors that were assumed constant under the law of demand. The change may be either an 'Increase in Demand' or 'Decrease in Demand'. When demand changes, without any change in price, but due

to change in other determinants is called as increase in demand or decrease in demand. Here consumer will shift to a new demand curve.

Diagram



Assuming that consumer's income increases, other factors remaining constant, the consumer will buy more quantity with increase in income and the curve will shift towards right. Before change in the income consumer was purchasing OQ_1 quantity of good at OP price on the demand curve D_1D_1. With the increase in income, he would purchase OQ_2 quantity of goods at same price. The demand curve shifts towards right as D_2D_2. Contrary with fall in income, consumer would purchase less at the same price and demand curve shifts towards left. Consumer was purchasing OQ_1 quantity of good at OP price on the demand curve D_1D_1. With fall in his income he would purchase OQ_2 quantity of goods at OP price on demand curve D_2D_2.

Thus when consumer buys more quantity it is called increase in demand and when less it is called decrease in demand, price remaining constant.

Economic laws

Economics is a science and like any other sciences it has its own laws."A law is the establishment of a general truth on the basis of particular observation or experiments which traces out a casual relationship between two or more phenomenon."

Economics as a subject has drawn its own set of generalizations which are called as economic laws. They are also known as generalisations, principles and uniformities. They help us to understand behavior of a man as a producer and as a consumer.

Marshall defines economic laws as – statements of economic tendencies, are those social laws which relate to branches of conduct in which the strength of the motives chiefly concerned can be measured by money price.

Thus economic laws are –

a. Statement of tendencies
b. Social laws
c. Deals with human behavior
d. Measures in terms of money.

Robbins defines – are statement of tendencies which govern human behavior concerning the utilisation of scarce resources for the achievement of unlimited wants. Both the definitions speak about statement of tendencies or uniformities relating to human behavior, these laws help us to understand how economic system works or operates.

Man in the process of his economic life is part of production of wealth, consumption of wealth and exchange of wealth. Thus these laws are framed to govern the process of production, distribution and consumption of wealth. Economic laws also help us in the determination of national product of a country and also the level of income and employment generated. Thus economic laws are framed in the areas of consumption, production, distribution, determination of level of income and employment, growth of an economy, foreign trade etc.

Nature of economic laws:

Economic laws are statement of tendencies- This has been the major controversy of economic laws. Thus economic laws were said to lack predictive values, as they were derived on the basis of certain conditions or assumptions. They normally start with the phrase “other things remaining the same”, based on which most of the economic theories are based or formulated. These phrases makes laws of economics conditional and are thus associated with number of qualifications to fulfill completion of a theory. In practicality, the phrase ‘other things the same’ does not hold good as the wants, desires, objectives are subject to constant changes. Hence economic laws become mere statement of tendencies of statistical probabilities.

Law of economics also are not as legal laws passed by the government, that are to be followed compulsorily and if violated are punishable from the government.

Economic laws are scientific in nature- All scientific laws establish cause and effect relationship. Economic laws also establish cause effect relationship between economic behavior of man and economic phenomenon. A continuous observation on the certain behavioral pattern of set of people by economist made them realise the struggle or efforts of man to fulfill his unlimited wants within the available limited resources.

Economists looking into such different behavioral aspects of man established certain generalisations or general principles which they called it as economic laws. These economic laws thus can be called as laws that connect with the economic behavior of man in his economic life. It deals with the efforts put by man to produce and consume wealth. It also deals with distribution and exchange of wealth. This cause and effect relation between man and economics led to emergence of various laws in consumption, distribution and exchange of wealth.

Economic laws are hypothetical and conditional- It is said so because economic laws are dependent upon the fulfillment of certain conditions and thus draw conclusion from certain hypothesis. It was argued that economic laws hold strong as all scientific laws are based on certain conditions. It can therefore be said that economic laws though are conditional and hypothetical in nature still do not destroy the scientific nature of economics.

Economic laws are less exact definite than scientific laws- Economic laws cannot be as exact and definite as scientific laws, as it deals with behavior of man which is bound to change with change in conditions. Economic behavior of man is influenced by various non economic factors also and thus cannot be predicted. So Marshall said that – laws of economics are to be compared with the laws of tides, rather than with the simple and exact laws of gravitation. Thus it can be said economic behavior of man is determined by external factors also and definiteness cannot be sorted. But economic laws are more exact as compared to other social sciences.

Micro and Macro economics

Modern economics is divided into micro and macro economics and constitutes the subject matter of economics. These terms were coined by Prof. Ragnar Frisch of Oslo University. The term micro economics is derived from Greek word ‘mikros’ meaning small. It means a millionth part. It deals with the small individual units of the economy such as individual consumers, individual firms.

Microeconomics can be defined as that branch of economic analysis which studies the economic behavior of the individual unit, may be a person, a particular household, or a particular unit rather all the units combined together. It studies the behavior of micro quantities or micro variables. It splits up the economic system into smaller parts for the purpose of intensive study and hence is referred as slicing method.

K.E Boulding defines: microeconomics is the study of particular firms, particular households, individual prices, wages, incomes, and individual industries, particular.

Prof McConnel- microeconomics is concerned with specific economic units and a detailed consideration of the behavior of these individual units.

It studies various units of the economy, its function and the process of reaching equilibrium. It studies the microscopic study of national economy. Dr. Marshall’s Principles of economics deal with the microeconomic concepts. The tool used in microeconomics for analyzing various concepts has been Marginal analysis.

Scope of microeconomics:

Types of microeconomics-.

Micro statics- It deals with the relationship between different micro variables at a given time under the conditions of equilibrium. It makes analysis of an equilibrium position at a given time where change does not occur. This concept does not deal with the process of changes that leads to equilibrium; it only depicts the position of equilibrium. It studies the relationship of micro variables as series of still pictures.

Comparative Micro statics- It makes comparison of equilibrium positions of the relations between micro variables at different points of time. It is a comparative study of different equilibrium at different point of time. It only makes a comparative analysis, but does not throw light on the transition of from one equilibrium point to another.

Micro dynamics – it explains the process of reaching from one equilibrium position to another. It gives information on the reasons of transition from one equilibrium position to another. It gives details on the factor that leads to this transition.

Importance of Microeconomic Studies.

It occupies an important place in economics and has both practical and theoretical application. It helps in the formulation of economic policies that promote economic welfare of people in society. But with the growth of Keynesian economics, macroeconomics gained importance, but microeconomics could retain its importance.

Prof. D S Watson says – Microeconomic theory explains the composition or allocation of total production, why more of some things are produced than of others. It has both theoretical and practical application.

1. It is helpful in the efficient allocation of resources as resources are limited in quantity, it helps in formulation of suitable policies that can be adopted by the government to promote economic efficiency.

2. It helps in understanding free enterprise economies without any central control. It helps in decision, making of both consumers as to what and how much to consume and producers to take decision of what to produce, how to produce and for whom to produce.

3. It is useful in understanding the development of International trade as it explains gains from trade, BOP disequilibrium and determination of foreign exchange rate.

4. Microeconomics is helpful in understanding the implication of taxation and its impact on the social welfare.

5. As emerged as basis for development of Welfare Economics as the whole concept of welfare economics is developed on price theory.

6. It provides tools for evaluating economic Policies of the states.

7. It has been helpful in developing economic models to understand the actual economic phenomenon.

8.It is basis for prediction of forthcoming economic changes.

9. Microeconomic studies help in construction of growth models and provides application for use of these models.

Limitations-

1. Certain variables that microeconomics deals may hold good for study of individual units, but not applicable for aggregates. Thus the results of microeconomic variables must be applied to microeconomic variables with caution.

2. The microeconomic theories are all based on assumption of full employment, which has made this concept unrealistic

3. It mainly concentrates on study of small segments of an economic system and thus fails to throw light on collective functioning.

4. The study does not provide solutions for all economic problems which cannot be analyzed with the help of microeconomic variables.

5. It lacks abstractness as it fails to explain the description of the actual world.

6. It is based on the assumption of Laissez faire policy or free enterprise economy which is assumption based and does not exists.

Macro Economics

The term Macro economics is derived from Greek word 'Macros' meaning large. Macroeconomics is that branch of economic analysis which studies the behavior of not one particular unit, but all the units combined together. It is the study of aggregates and is also called as aggregative economics. It studies economic system as a whole. It deals with total production, total consumption, total savings and total investments. It helps in understanding the economy as

whole.

Prof Kenneth E Boulding defines –Macroeconomics deals not with individual quantities as such, but with aggregates of these quantities, macroeconomics deals not with individual incomes but with National Incomes, not with individual price but with the overall price level, not individual outputs but with national output.

It studies the behavior of macro quantities or macro variables. It splits up the whole economic system into sectors or lumps and thus is also known as method of Lumping. Lumping method was given by J M Keynes in his work "General Theory of Employment, Interest, and Money."

Prof Gardner Ackley defines Macro economics is that science which concerns itself with such variables as the aggregates volume of output in an economy, with the extent to which its resources are employed, with the size of National Income with the general price level.

As it deals with the entire economic system as a whole, thus any economic changes in any of the sector or part of the system can bring changes everywhere. It explains the interdependence of the functioning of an economic system. Thus this concept can be better understood with the circular flow of the economy. It is also called as National Income theory or income and employment analysis.

Types of macro economics-

1. Macro statics – It explains certain aggregative relations in a stationary state. It deals with the equilibrium of a national economy at a particular point of time. It does light on the process why which determining factors the national economy reached equilibrium. It deals with the final equilibrium of an economy at a particular point of time. It makes an analysis of relation between macro variables in the final equilibrium position. It provides the still picture of an economy as a whole at a particular point of time.

$$Y=C+I$$

Here it only explains Y=C+I, not the path of reaching it.

2. Comparative Macro statics- it explains comparative study of different equilibrium attained by the economy. It does not explain the process of adjustment by which the economy moves from one equilibrium point to another equilibrium point. It does not explain the process of transitional period.

3. Macro Dynamics- Frisch, D H Robertson, J R Hicks, M Kalecki are the important contributors for the development and growth of macro dynamics. It is a very realistic method and is mathematical based economic. This concept explains attainment of equilibrium of an economy and also the consequential changes in the micro economic variables and aggregate that led to equilibrium. It gives details of various processes of adjustments that came into operation consequent upon the changes in macro variables. It provides highlights of the process of progressive growth of the whole economic system.

Importance of the study of macroeconomics-

1. The study helps in the formulation and implementation of governmental economic policies. Today's Governments depend on aggregate variables for formulation of sound economic policies, and macroeconomics provides the details of these variables.

2. Economic study will be complete only with the study of aggregates as it is difficult to study the individual terms or units. The decision making is based on averages and generalizations.

3. It helps in analyzing the behavioral pattern of aggregate variables by collecting studying the experiences of masses or individual behaviours.

4. It is an indispensable tool for growth of macroeconomics. It helps in government to achieve uninterrupted economic growth with the help of suitable policies.

Limitations

1. It has the danger of excessive generalization of from the individual experience to the system as a whole.

2. The aggregate concepts are not homogeneous, and may result in wrong analysis.

3. The aggregate tendencies may not influence all the sectors of the economy in the same manner as impact on all sectors will not be the same at all times. At times, policies framed on aggregate concepts may pose problem for the economic system.

Supply

Supply means the quantities that a seller is willing and able to sell at different prices. The supply refers to the schedule of the quantities of a good that the firms are able and willing to offer for sale at various prices. The amount of commodities that firms are able to supply depends upon on the availability of resources and the technology they employ to produce the goods. It is also determined by the willingness of the producer to supply the commodity at that price which determines his profit levels.

The term 'supply' refers to the entire relationship between the price of a commodity and the quantity supplied at various possible prices and can be illustrated by the supply curve or supply schedule. The supply of any good may then be defined "as a schedule of respective quantities of the good which people are ready to offer for sale at all possible prices."

Difference between Supply and stock

The terms 'supply' and 'stock' are often confused. A clear understanding of the difference between the two is essential. Stock is at the back of supply. It constitutes potential supply. Supply means the quantity actually offered for sale at a certain price, but stock means the total quantity which can be offered for sale if the conditions are favorable. The quantity that actually comes out is the supply. The stock will change into supply and vice versa according as the market price rises or falls.

Law of Supply

Law of supply expresses a relationship between the supply and price of a product. It states a direct relationship between the price of a product and its supply, while other factors are kept constant. "Other things remaining unchanged, the supply of a commodity rises i.e., expands with a rise in its price and falls i.e., contracts with a fall in its price.

In other words, it can be said that—"Higher the price higher the supply and lower the price lower the supply.

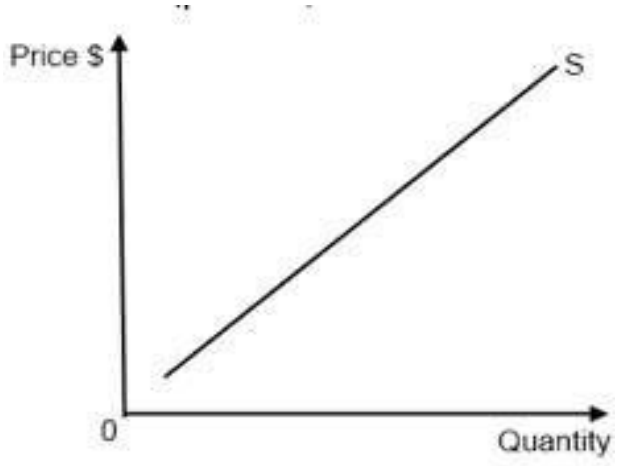
Assumptions of law of supply-

1. Though the price of a product changes, but there will be no change in the cost of production.
2. There is no change in the technique of production. This is because the advanced technique would reduce the cost of production and make the seller supply more at a lower price.
3. There is no change in the scale of production.
4. The policies of the government will remain constant.
5. The transportation cost remains the same.
6. There is no speculation about prices in future, which otherwise can affect the supply of a product.

The law of supply can be derived with the help of supply schedule and supply curve. Supply Schedule: Supply schedule shows a tabular representation of law of supply. It presents the different quantities of a product that a seller is willing to sell at different price levels of that product. Supply Curve: The graphical representation of supply schedule is called supply curve.

Price Per Quantity	Quantity Supplied (in quintals)
500	100
510	150
520	200
530	225
540	250
550	275

The diagram -



In a graph, price of a product is represented on Y-axis and quantity supplied is represented on X-axis. As the price of the commodity increases, the seller will supply more commodities in the market. According to the law of supply, the quantity supplied of a commodity is directly or positively related to price. It is due to this positive relationship between price of a commodity and its quantity supplied that the supply curve of a commodity slopes upward to right as seen from supply curve SS. As the price of Commodity A rises from 520 to 530 per quintal, the quantity supplied of wheat in the market increases from 200 quintals to 225 quintals per period. It will be seen from the above table that when price of wheat is 500 per quintal, the 100 quintals of wheat are supplied in the market. When price of wheat rises to 510 per quintal, 150 quintals of wheat are supplied. When price of wheat goes up to 550 per quintals, its quantity supplied in the market rises to 275 quintal. By plotting the above supply schedule of wheat on a graph paper we have obtained supply curve SS.

According to Law of Supply, other things remaining constant, an increase in price will increase the quantity supplied and vice versa. This relationship between price and quantity supplied under the given conditions is driven by profit motive of the producer /seller. The basic reason is that the cost chases as output expand as more is offered for sale. In this process, to produce moreof a commodity, the firm has to devote more of its resources and when firm expands its production with increase in resources, the law of diminishing returns occurs. Thus more commodity is produced at higher cost sometimes and thus to cover the increase in cost it is supplied at higher price.

Increase and Decrease in Supply

The supply of a commodity in economics means the entire schedule or curve depicting the relationship between price and quantity supplied of the commodity, given the other factors influencing supply. These other factors are the state of technology, prices of inputs prices of other related commodities, etc., which are assumed constant when the relationship between price and quantity supplied of a commodity is examined. It is the change in these factors other than price that cause a shift in the supply curve.

For example, when prices of inputs such as labour and raw materials used for the production of a commodity decline, this will result in lowering the cost of production which will induce the producers to produce and make available a greater quantity of the commodity in the market at each price. These increases in supply of a commodity due to the reduction in prices of inputs will cause the entire supply curve to shift to the right.

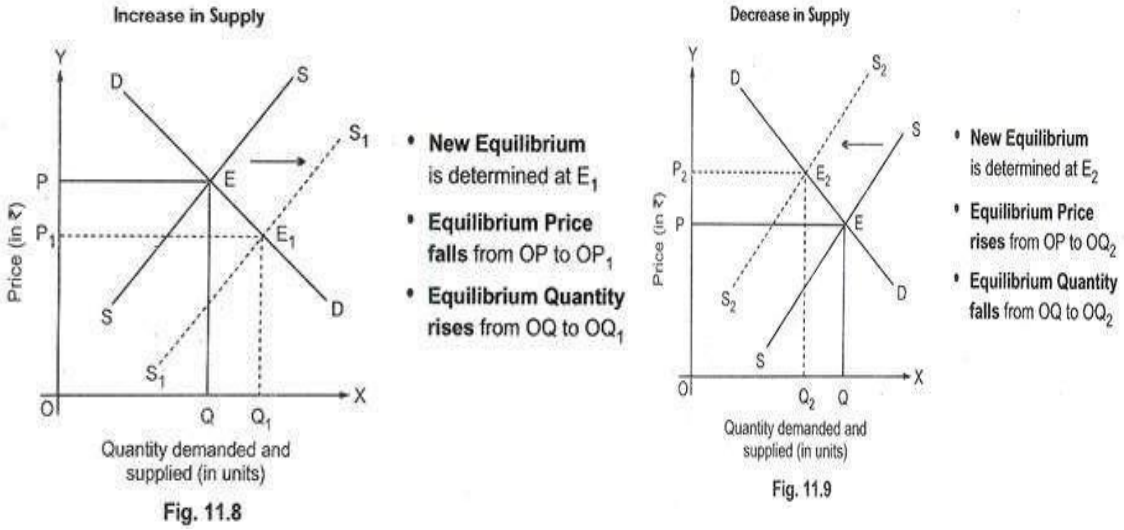


Fig. 11.8 Fig. 11.9

When there is an increase in supply, demand remaining unchanged, the supply curve shifts towards right from SS to S_1S_1. When supply increases to S_1S_1, it creates an excess supply at the old equilibrium price of OP. This leads to competition among sellers, which reduces the price. Decrease in price leads to rise in demand and fall in supply. These changes continue till the new

equilibrium is established at point E_1. Equilibrium price falls from OP to OP_1 and equilibrium quantity rises from OQ to OQ_1.

When the supply decreases, demand remaining unchanged, then supply curve shifts to the left from SS to S_2S_2. When supply decreases to S_2S_2, it creates an excess demand at the old equilibrium price of OP. This leads to competition among buyers, which raises the price.

Increase in price leads to rise in supply and fall in demand. These changes continue till the new equilibrium is established at point E_2. Equilibrium price rises from OP to OP_2 and equilibrium quantity falls from OQ to OQ_2.

Factors determining supply- Supply does not depend only on the price of a commodity, but also on several other factors-

1. Production Technology- any change in production technology can bring about change cost of production. Adopting updated technology can reduce the cost of production.

2. Prices of factor inputs, changes in the price of any product input will bring about change in production cost.

3. Prices of other factors-these changes will cause substitution of one product for the other.

4. Objectives of the firms- supply here is determined by the aims of the firms, as to maximize sales or earn more profits.

5. Number of producers will determine the competition and availability of goods to be supplied in the market. More the number of producers higher will be the supply.

6. Future price expectations of sellers will also determine the supply of goods in the market.

7. Taxes and Subsidies also influence the supply of a product.

Economic Systems

Capitalist Economic System

The term economic system refers to the mode of production and distribution of goods and services within which the economic activity takes place. It is also known as a system in which how different economic elements will solve their central economic problems of an economy of what, how and whom to produce.

Capitalism economic system is in which each individual in his capacity as a consumer, producer and resource owner engaged in economic activity with a large measure of economic freedom. An arrangement in which resources are privately owned and consumers and producing firms interact to determine the choices of production and distribution of goods is capitalism.

Prof. Loucks defines "Capitalism is a system of economic organization featured by the private ownership and the use for private profit of man-made and nature-made capital."

Ferguson and Kreps have defined that "in its own pure form, free enterprise capitalism is a system in which privately owned and economic decision are privately made".

In the words of Mc Connel "A free market" or capitalist economy may be characterised as an automatic self-regulating system motivated by the self interest of individuals and regulated by competition."

It can be said that a capitalist economic system is characterized by free markets and the absence of government intervention in the economy. It is the oldest form of economic system.

A feature of Capitalist economic system- The capitalistic economy has the following features:

1. Property rights- it is an important feature of capitalistic economy. Their property rights are governed by social institutions that govern the ownership, use and disposal of resources, goods and services. The owner is free here to sell or dispose of his property as per his will and wish.

This property acts as an incentive to investor in the process of decision making with regard to production and other economic activities. All economic activities is undertaken for their personal gain, that is to make profits.

2. Freedom of Private enterprise- Capitalism preaches the freedom of enterprise, which means that everybody is free to engage in whatever economic activity he likes. Trade, business and commerce are absolutely free from state intervention and control. Business decisions are made by the private owners, called capitalists. People have the choice to choose work in industry of his choice or like or adopt any occupation or trade he desires. Freedom of enterprises means that an entrepreneur is free to set up any firm or business unit to produce goods or make investments in shares or bands of corporate system.
3. Profit motives- the desire to earn profit is the most important inducement for economic activity. The main aim of entrepreneurs is to start those industries or occupations in which they can to earn the highest profit. Profit is such an inducement that the entrepreneur is prepared to undertake high risk or produce innovative goods, introduce new products and techniques of production. Therefore, it can be said that Profit Motive is the soul of capitalist economy.
4. Price Mechanism- Price mechanism means the free working of the supply and demand forces without any intervention. Producers are also helped by the price mechanism in-deciding what to produce, how much to produce, when to produce and where to produce. This mechanism brings about the adjustment of supply to demand. All economic processes of consumption, production, exchange, distribution, saving and investment work is according to its directions.
5. Freedom of Enterprise, Occupation and Control-People can follow occupations of their ability and taste. There is the freedom of entering into contract. Employers may contract with trade unions, suppliers with a firm and one firm with another.
6. Consumer's Sovereignty- In a capitalist economy a consumer is compared to a sovereign king. The whole production frame works according to his directions. Consumer's tastes govern the whole production line because entrepreneurs have to sell their production. If a particular type of production is to the liking of consumers, the producer gets high profits

Merits of Capitalism

The following are the arguments in favour of capitalism-

1. Increase in production- here every farmer, trader, industrialist try to produce goods according to the tastes and liking of the consumers. This leads to maximum satisfaction of the consumers as obtained from his expenditure on the needed goods.
2. Quality product at low costs- Competition is not only in price but also in the shape design, colours and packing of products. Consumers get a good deal of variety of the same product. They need not be given limited choice. It is said that variety is the spice of life. Free market economy offers variety of consumer goods.
3. Efficient Production of Goods and Services- Every entrepreneur tries to produce goods at the lowest cost and of a durable nature. Entrepreneurs also try to find out superior techniques of producing the goods consumers get the highest quality goods at the least possible cost because the producers are always busy in making their production methods more and more efficient.
4. Optimum Utilisation of Resources Available- The limited resources of the community are put to the most economical uses with as little waste as possible. There is keen competition among producers and entrepreneurs to produce and sell goods. Every producer and entrepreneur tries to use the productive resources at his disposal in the most economical manner in order to make maximum profit.
5. There is Complete Freedom of Choice in a Capitalist Economy- Economic freedom means the right to earn and retain property. It also means the freedom of enterprise and choice of occupation. This leads to the automatic channelization of the country's man power resources in different vocations. There is no need to direct people or force them. Further, there is the freedom of contract which ensures smooth and flexible functioning of different production units.
6. Higher Rate of Capital Formation and More Economic Growth- People under capitalism have the right to hold property and pass it on in inheritance to their heirs and successors. Owing to this right, people save a part of their income so that it can be invested to earn more income and leave larger property for their heirs. The rate of capital formation increases when savings are invested. This accelerates economic growth.

7. Provides a Good Deal of Flexibility- This type of economy can automatically change with the situations. During war time market regulations are adopted to provide for the war machine. As soon as there is peace, the economy reverts to the free functioning of markets.

Demerits-

1. Leads to monopoly- the very basis of capitalism contains within itself the tendency to destroy competition leading to emergence of monopoly. The profit motive under capitalism leads to cut throat competition with emergence of cartels, trusts and combinations. Small firms cannot withstand competition and are eliminated.
2. Inequalities- the institution of private property creates inequalities of income and wealth and widens the gap between rich and poor.
3. Consumer sovereignty is a myth- consumers have to buy only the goods that are manufactured and supplied by the producers in the market. The majorities of consumers are often ignorant and not very rational and get carried away by advertisements and propaganda.
4. Depression and unemployment- it is characterized by business fluctuations and unemployment. There is recurring business cycle. These alternating periods of recession and boom lead to a good deal of wastage of resources.
5. Inefficiency in production- fails to produce goods and services keeping in need the requisites of common people. It is marked by conspicuous consumption and production and there is wastage of country's resources.
6. Non utilization of resources- the system fails to employ the country's resources fully. It is marked by unhealthy competition, economic inequalities, and economic fluctuations.
7. Class conflict- the poor are exploited by the rich. There is a wide gap between haves and have nots.

Socialism

"Socialism refers to the government ownership of the means of production, planning by the government and income distribution"-Samuelson.

Socialist means the system under which economic system is controlled and regulated by the government so as to ensure welfare and equal opportunity to the people in a society. The idea of socialism is first introduced by Karl Marx and Fredric Engles in their book, 'The Communist Manifesto'. The word socialism means 'all things to all men'.

The word socialism has been defined as "such type of socialist economy under which economic system is not only regulated by the government to ensure, welfare equity of opportunity and social justice to the people."

Dickenson defines socialism as an economic organization of society in which the material means of production are owned by the whole community and operated by the organs representatives of and responsible to the community according to general plan, all members of community being entitled with the benefits from the results of such socialized planned production on the basis of equal rights.

Socialism implies social ownership of means of production. It implies equality of income and equality of opportunities for all. It stress on how state should control the economy for social benefit. It is a replacement for old capitalist structure of society to new economic system based on equality and social justice. It gives importance for ability to work and equal opportunities for all regardless of caste, creed colour and sex.

According to Mr. Webb: "A socialised industry is one in which the national instruments of production are owned by public authority or voluntary association and operated not with a view to profiting by sale to other people but for the direct service of those whom the authority or association represents."

Features – the main features of socialist economy are-

1. Collective ownership of resources- all the means of production are owned and operated by the state in the interest of society as a whole. This is to ensure equality of opportunity

to all the citizens with regard to earning of income. This is also aimed at full and efficient utilisation of the country's resources.

2. Central Planning-Under socialism, government fixes certain objectives. In order to achieve these objectives, government adopts economic planning. All types of decisions regarding the central problems of an economy are taken in the economic plans. There is a Central Planning Authority, who plans for the economy.
3. It has Definite Aims and Objectives- Socialist economy has specified aims or objectives. Generally, they are included in the constitution itself but these are given specific shape by the planners. As far as possible the objectives are clearly and quantitatively defined. The competitiveness on complementary among these objectives is explicitly noted. This is meant to bring planning nearer to reality.
4. Freedom of consumption- the production of goods and services are governed by the preferences of consumers. The availability of commodity and distribution to the consumers are at fixed prices through the state run departments. Consumer's sovereignty is confined to the choice of socially useful commodities.
5. Equality of income distribution- there is greater equality of income distribution compared to free market enterprise.
6. Work and Wages According to Ability and Needs- In socialistic economy, work is according to ability and wage according to need. It is said that under socialism "from each according to his ability to each according to his needs, is socialism." Wages are determined in accordance to the work performed and the ability of labour.
7. Maximum Social Welfare- The sole objective of socialism is the maximum social welfare of the society. It means that there is no scope of exploitation of labour class. Government keeps a close eye on the needs of the poor masses while formulating plans.

Merits-

a. Greater economic efficiency- the means of production are controlled and regulated by the central planning authority towards chosen ends. The resources are effectively utilized in producing socially useful goods and services which satisfy the wants of the people.

b. Greater welfare due to reduced inequality of Income- as there is absence of private ownership of the means of production, private capital etc, welfare of the state is the motive and resources are used for public welfare.

c. Social Justice is Assured- The chief merit of socialism is that it assures of social justice. Under socialism the inequalities of income are reduced to the minimum and the national income is more equitably and evenly distributed. The socialist principle provides for a fair share for all.. Every child whether he is born in a poor family or in a rich family is given an equal opportunity to develop his latent faculties through proper education and training.

d. Rapid Economic Development- A socialist economy is likely to grow much faster than a capitalist economy. The experience of the U.S.S.R. and other socialist countries amply proved this. The main factors making for the fast growth rate is the full use of resources, scientific planning and quick decisions.

e. It has Economic Stability- Another important merit is the economic stability which a socialist economy has. A socialist economy is able to control economic instability due to the planned nature of the economy. Pure changes are taken care of under a perspective plan. Private investment is given a minor role. Therefore, there are no economic fluctuations.

f. No Exploitation and Class Struggle- A socialist economy can also get rid of the basic maladies of the capitalist economy. There is no question of exploitation in as much as the state determines the distribution pattern of country's income. Further the whole society is the common aim of all planning. No sections are discriminated against.. Therefore, there is no scope for anything like the class struggle which is a characteristic of the capitalist economy.

Demerits- There is certain demerits of this system which are as follows:

a. Bureaucracy and red tapism- the administration is marked by inefficiency as there is no self interest. The bureaucracies in its process of decision making are stressed upon running the system without breakdown. There will be hesitancy in decision making as it is state controlled and has limited freedom.

b. Not success full in business- it does not permit for fast and quick decisions. The working conditions are not admissible and conducive and lack rewards. It does not encourage and motivate people with ability and give freedom for decision making.

c. Inefficient resources- government do not mobilize huge resources for expansion of economic activities and trade. Thus it slows down the growth process.

d. Misallocation of resources- as the whole process is through centrally planned system, there is no indicator for economic allocation of resources to all sectors and industries, it may lead to mal adjustment in demand and supply.

e. Loss of consumer sovereignty- the freedom to make choice is limited in this system as the consumer has to accept what is produced and supplied in the market.

f. Lack of incentives- there is no scope and encouragement for hard work and self improvement, it does not promote inventive abilities, enterprising spirit and creative work.

g. Loss of economic freedom and economic inequality- there is not much choice to choose occupation as all is state controlled. This system is also marked by existence of economic inequalities and gap between rich and poor is visible.

h. Concentration of power with state- the state is the political and economic controlling authority. All decisions are made by the state and may lead to mismanagement.

Mixed Economic system

Almost all economies in the world are mixed economic systems in which government plays a major important role in allocation of resources and distribution of income. Mixed Economy is neither pure capitalism nor pure socialism but a mixture of the two system. In this system characteristics of both capitalism and socialism are visible. Mixed economy is operated by both, private enterprise and public enterprise. A mixed economy has a combination of the features of a planned and a market economy.

There are two types of mixed economic systems-

Mixed Capitalist System- under this the means of production are in the ownership of private sector and the Government regulates and controls the activities of private enterprise through direct controls along with monetary and fiscal policies.

Mixed Socialist system- the Government not only regulates and controls the private enterprise through various types of direct controls and appropriate monetary and fiscal policies, it also directly participates in the production of various goods and services. In such a type of mixed economy, various basic industries and infrastructure industries are generally in the ownership of the public sector and it is the government which organises and runs them. The remaining industries are in the ownership of private enterprise and it is the private enterprise which is assigned the task of production in them. Here the government regulates and controls the private enterprise in such industries through direct control and appropriate monetary and fiscal measures.

Features of mixed Economic system

The following are the features of mixed economic system-

1. Co-existence of Private and Public Sector- Under this system there is co-existence of public and private sectors. In public sector, industries like defence, power, energy, basic industries etc., are set up. The private sector are entrusted with all the consumer goods

industries, agriculture, small-scale industries are developed. The government encourages both the sectors to develop simultaneously.

2. Joint Sector- A mixed economy also has a joint sector which is run jointly by the state and private enterprises. It is organised on the basis of a joint stock company where the majority shares are held by the state.
3. Freedom and Control- A mixed economy possesses the freedom to hold private property, to earn profit, to consume, produce and distribute, and to have any occupation. But if these freedoms adversely affect public welfare, they are regulated and controlled by the state.
4. Economic Planning- There is a central planning authority in a mixed economy. A mixed economy operates on the basis of some economic plan. All sectors of the economy function according to the objectives, priorities and targets laid down in the plan. In order to fulfill them, the state regulates the economy through various monetary, fiscal and direct control measures. The aim is to check the evils of the price mechanism.
5. Social Welfare- The principal aim of a mixed economy is to maximise social welfare. This feature incorporates the merits of socialism and avoids the demerits of capitalism. To remove inequalities of income and wealth, and unemployment and poverty, such socially useful measures as social security, public works, etc. are adopted to help the poor. On the other hand, restrictions are placed on the concentration of monopoly and economic power in the hands of the rich through various fiscal and direct control measures.

Merits of Mixed economy-

The merits of mixed economy are-

1. Best Allocation of Resources-A mixed economy incorporates the good features of both capitalism and socialism, the resources of the economy are utilised at its best possible manner. The price mechanism, the profit motive, and the freedoms of consumption, production, and occupation lead to the efficient allocation of resources within the economy. There can be a possibility of mal allocation of resources, but the state regulation and control can rectify it. Thus shortages are avoided, productive efficiency increases, and cyclical fluctuations are eliminated.
2. General Balance- A mixed economy maintains a general balance between the public sector and the private sector. There is competition as well as cooperation between the two

sectors which are conducive for achieving a high rate of capital accumulation and economic growth. The inconsistencies of the private enterprise economy and the 'paper guesses' of the planned economy are avoided in a mixed economy. By maintaining a higher level of production in the two sectors, the state is able to achieve the targets laid down in the plan.

3. Welfare State- A mixed economy contains all the features of a welfare state. There is no exploitation either by the capitalists as under a free enterprise economy or by the state as under a socialist economy. The workers are provided monetary incentives in the form of bonus and cash rewards for inventions. Labour laws are passed fixing minimum wages, hours of work, and laying down the working conditions of workers in factories and on farms. Social security is also provided to workers in the event of unemployment, disablement, death, illness, etc. Legislative measures are adopted to remove the concentration of economic power in the hands of the few rich, and to lessen inequalities of income and wealth.
4. Economic Development- this system promotes smooth economic development of the country as both the sectors work in coordination. The state owes the responsibility of socio economic welfare of the country.

Demerits-

Some of the demerits of mixed economic system are-

1. Non-Cooperation between the Two Sectors- The experience of the working of mixed economies reveals that the public sector and the private sector do not coordinate with each other. The private sector is restricted with imposition of certain controls by the state. The private sector is taxed heavily, while the public sector is given subsidies and preference over the former in the supplies of inputs. Thus a sense of bitterness and non-cooperation develops between the two sectors.

2. Inefficient Public Sector- The public sector of a mixed economy is a big burden on the economy because it works inefficiently. Bureaucratic control brings in inefficiency. There is over staffing of the personnel, red tapism, corruption and nepotism. As a result, production falls and losses emerge.

3. Economic Fluctuations- The experience of the working of the mixed economic system in the developed countries also reveals that they have not been able to remove economic fluctuations. This is because of the improper mixture of capitalism and socialism. The private sector is allowed to operate freely under a loose system of government regulations and controls. The public sector also does not operate under the rigid conditions which are laid down under a planned economy.

4. Corruption and Black Marketing: There is always corruption and black marketing in this system. Political parties and self interested people take undue advantages from public sector. Hence, this leads to emergence of several evils like black money, bribe, tax evasion and other illegal activities. All these ultimately bring red-tapism within the system.

5. Lack of Efficiency: In this system, both public and private sectors suffer due to lack of efficiency. In public sector it is because the government employees do not perform their duty with responsibility, while in private sector, efficiency goes down because government imposes too many restrictions in the form of control, permits and licenses, etc.

Though mixed economic sytem is marked by certain demerits but still it is the best form of economic system as both the sectors together contribute fo the economic growth and development of a country.

Cost – Total Cost, Fixed Cost, Variable cost, Average Cost

A Cost is a key concept in economics, is the monetary expense incurred ‘by organizations for various purposes, such as acquiring resources, producing goods and services, advertising, and hiring workers. The choice of combination of factors by an entrepreneur is determined by the technical possibilities and Prices of factors of production.

Technically costs are derived functions as they explain the available efficient methods of production at any given point of time. Cost of production is a function of total costs in relation to price to guide the firm in deciding whether to expand or contract output and also whether to leave or enter an industry.

Analysis of types of cost

1. Money cost and real cost- Money cost is the aggregate money expenditure incurred by a firm on the various items entering into the process of production. The payment of wages, payments for raw materials, purchase of machinery etc will constitute money cost.

Real cost concept was given by Marshall; it is the efforts and sacrifices of both labours and producers in the process of completing the production of goods and services.

2. Opportunity cost and Outlay cost- Opportunity cost also known as alternative cost, it is the cost of production that is sacrificed or forgone.

Outlay cost- it is inclusive of all outlays of fund made on payments for various variables and is recorded in the book of account.

Accounting cost and economic cost- Accounting cost refers to that costs which involve cash payments. They are also called as explicit costs.

Economic cost also known as implicit costs, are is that cost which includes the amount of money that the entrepreneur has earned and had he invested his money and sold his services and other factors in the next best alternative uses.

Cost function- It refers to the mathematical relation between cost of a product and various determinants of costs.

C=f (O,S,T,P, ------ n)

Where-

C is cost

O is the level of ouput

S is the size of the plant

T is the time consideration

P is the prices of factors of production.

Determinants of cost-

The Law of returns operating in the cost analysis will show the tendency of change cost to change in returns. The size of the plant will influence the cost, bigger the size lowers the cost and smaller the size higher will be the cost incurred.The cost behavior is determined by the element of time and is determined short or long period. The capacity utilization will bring about the changes in fixed cost and helps to understand the efficiency. The prices of the factors of production have a relationship with the value of given input to the total cost of production. The technology influences the cost and bringing innovations can reduce the overall cost.

Short period cost curves-

The short period may be defined as that period of time within which the firm can increase its output only by increasing more workers and utlising large supplies of raw materials. The period iss not long enough for the firm to allow any increase in its capital equipment or machinery. The short period costs are classified as

a. Fixed costs - Fixed costs are those which are independent of output, that is, they do not change with changes in output. These costs are a fixed amount which must be incurred by a firm in the short run, whether output is small or large. Even if the firm closes down for some time in the short run but remains in business, these costs have to be borne by it. Fixed costs are also known as overhead costs and include charges such as contractual rent, insurance fee, maintenance costs, property taxes, interest on the capital invested, minimum administrative expenses such as manager's salary, watchman's wages etc. Thus fixed costs are those which are incurred in hiring the fixed factors of production whose amount cannot be altered in the short run.

b. Variable costs- are those costs which are incurred on the employment of variable factors of production whose amount can be altered in the short run. Thus the total variable costs change with changes in output in the short run, i.e., they increase or decrease when the output rises or falls.

These costs include payments such as wages of labour employed, prices of the raw materials, fuel and power used, the expenses incurred on transporting and the like. If a firm shuts down for some time in the short run, then it will not use the variable factors of production and will not therefore incur any variable costs.

Total Costs- Total costs of a business are the sum of its total variable costs and total fixed costs.

TC = TFC+ TVC

Where TC stands for total cost,

TFC for total fixed cost and

TVC for total variable cost.

As the total variable cost (TVC) varies with the change in output, the total cost of production (TC) will also change with the changes in the level of output. The total cost increases as the level of output rises. The cost curve of TC, VC, and FC is explained with below diagram-

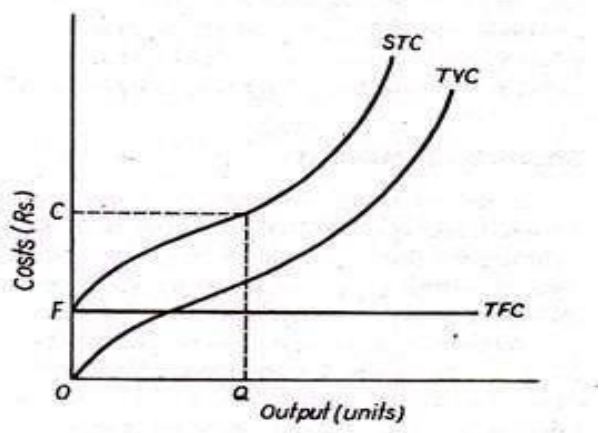


Figure 14.3 Short-run Costs

The total fixed cost curve (TFC) starts from a point F on the Y-axis meaning thereby that the total fixed cost equal to OF will be incurred even if the output is zero. On the other hand, the total variable cost curve (TVC) rises upward showing thereby that as output is increased the total variable cost also increases. The total variable cost curve TVC starts from the origin which shows that when output is zero the variable costs are nil. It should be noted that total cost (TC) is a function of total output (Q); the greater the output, the greater will be the total cost.

Further classification of cost is Average cost. Average cost is classified as Average Fixed cost, Average Variable cost and Average cost.

Average Fixed Cost- It is obtained by dividing total fixed cost of production by total number of units of commodity produced. It is popularly known as per unit cost of production. Graphically AFC is a rectangular hyperbola

$$AFC=TFC/Q$$

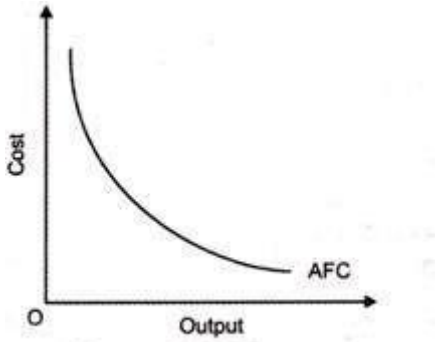


Figure-6: AFC Curve

Average Variable cost-It is obtained by dividing total variable cost of production by total number of units of commodity produced.

AVC=TVC/Q

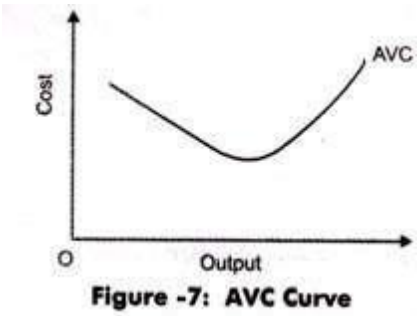


Figure -7: AVC Curve

Average cost- Average total cost is also known as unit cost, since it is cost per unit of output produced. As the average total cost is the sum of average variable cost and average fixed cost.It is obtained by dividing total cost of production by total number of units of commodity produced. It is also called as unit cost.

AC=TC/Q

It can explained with help of a diagram-

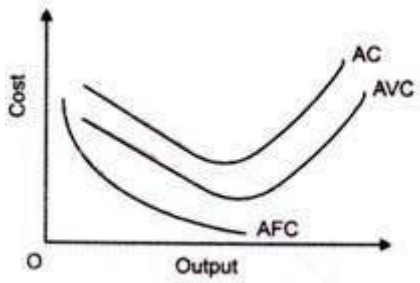


Figure -8: AC Curve

$$\text{i.e., } ATC = \frac{TC}{Q}$$

$$\text{Alternatively, } TC = TFC + TVC$$

$$\text{and } ATC = \frac{TFC}{Q} + \frac{TVC}{Q}$$

$$= AFC + AVC$$

In this above diagram we have drawn three curves- AC,AFC and AV cost curves.

Marginal cost- It is defined as the change in the total cost resulting from a unit change in output. It is the addition to the total cost of producing n units instead of n-1 units. It is also known as cost of producing the final or the marginal unit of a commodity.

MCn = TCn- TCn-1

Output	TC	MC= ChangeTC/Change Q
0	100	-
1	125	25
2	145	20
3	160	15

The below diagram helps us to understand the relationships of the curves .

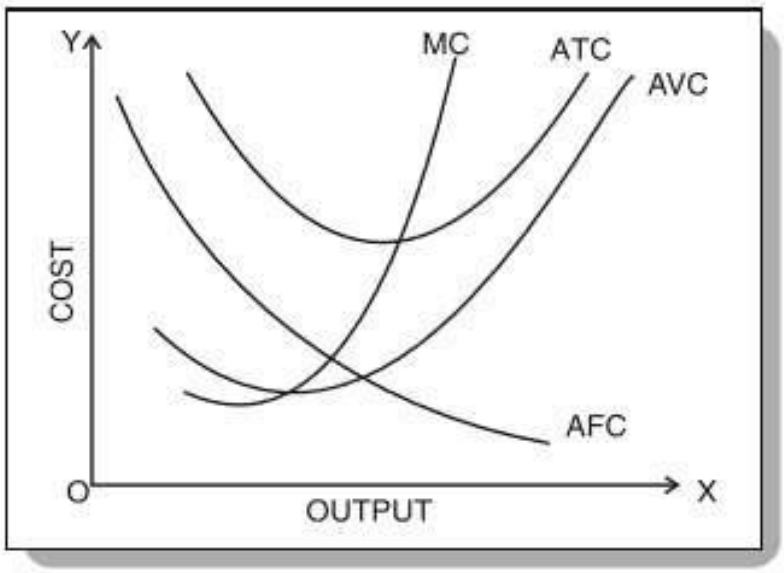


Fig. 1 : Short run Average and Marginal Cost Curves

- AVC is 'U shaped curve or dish shaped curve, falling to minimum at point N and then rising.
- AFC declines continuously at a progressively diminishing rate.
- ATC is the sum of AVC and AFC, and is also U shaped as it is more influenced by AVC.
- MC falls initially and then rises upwards, it is independent of FC and VC
- MC intersects AVC first and then ATC.
- Thus MC=AVC=AC When they are at lowest levels. It can be said that when MC is less than AVC and ATC, it pulls them down and When MC is greater than AVC and ATC, it moves them upwards**.**

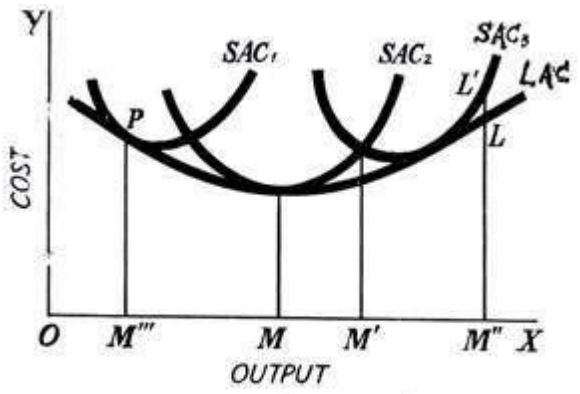
Model to calculate short run costs

output	TFC	TVC	TC	AFC TFC/Q	AVC TVC/Q	AC TC/Q	MC
0	1000	0	1000	-	-	-	-
1	1000	200	1200	1000	200	1200	200

2	1000	367	1367	500	184	684	167
3	1000	510	1510	333	170	503	143
4	1000	677	1677	250	169	419	167
5	1000	877	1877	200	175	375	200
6	1000	1127	2127	167	188	355	250
7	1000	1460	2460	143	209	352	333
8	1000	2460	3460	125	308	433	1000

Long run cost curves

Long run cost curves refers to a period during which full adjustments can be made to the changing environment, and the firm can vary all inputs, including capital equipment and factory itself. The long run cost includes all possible short run situations among which the firm can choose to produce a targeted output. Thus there are no fixed inputs or costs in the long run. Long run is a period in which all the costs change as all the factors of production are variable.



LAC Curve : An Envelope
Fig. 23.6

SAC^1, SAC^2 and SAC^3, are the short-run cost curves corresponding to the different scales of operations. In each case, the firm in question will be producing the desired output at the lowest cost. For example, OM"' output is produced at PM"' in the scale of operations represented by the curve SAC. OM will be produced on SAC^2, and so on. In the long-run can the scale of operations be altered; in the short-run, it will be fixed, and the average cost of output above or below the optimum level will necessarily rise along the short-run cost curve in question, whether it will be SAC^1, SAC^2 and SAC^3. A long-run average cost will show what the long-run cost of producing each output will be. It will be seen, that the short-run average cost curve SAC^2, has a lower minimum point than either the curves SAC^1, and SAC^3. The optimum output of the firm is obtained at OM.

The long-run average cost curve LAC is a tangent to all the short-run cost curves SAC^1, SAC^2 and SAC^3. The LAC curve will, be U-shaped like the short-run cost curves, but its U-shape will be less pronounced than that of the short-run cost curves. It will be flatter. That is why the long-run cost curve is called an 'Envelope', because it envelops all the short-run cost curves.

Revenue

The term revenue refers to the income obtained by a firm through the sale of goods at different prices. In the words of Dooley, 'the revenue of a firm is its sales, receipts or income'. The revenue concepts are concerned with Total Revenue, Average Revenue and Marginal Revenue.

Total Revenue- The income earned by a seller or producer after selling the output is called the total revenue. Total revenue is the multiple of price and output. The behavior of total revenue depends on the market where the firm produces or sells. “Total revenue is the sum of all sales, receipts or income of a firm.” “Total revenue at any output is equal to price per unit multiplied by quantity sold.” Stonier and Hague

Total Revenue = Price per unit*Total number of units of a commodity sold.

Average revenue-Average revenue refers to the revenue obtained by the seller by selling the per unit commodity. It is obtained by dividing the total revenue by total output. “The average revenue curve shows that the price of the firm’s product is the same at each level of output.” Stonier and Hague

Thus :

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

where AR = Average Revenue
TR = Total Revenue
Q = Output

Marginal revenue- Marginal revenue is the net revenue obtained by selling an additional unit of the commodity. “Marginal revenue is the change in total revenue which results from the sale of one more or one less unit of output.” Marginal revenue is the addition made to the total revenue by selling one more unit of the good. In algebraic terms, marginal revenue is the net addition to the total revenue by selling n units of a commodity instead of n – 1.

$$MR = \frac{\Delta TR}{\Delta Q}$$

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

Whereas

TR_n = Total Revenue of 'n' units

TR_{n-1} = Total Revenue from $(n - 1)$ units

$MR_{(nth)}$ = Marginal revenue from nth unit

n = Any given number

Relationship between Average revenue curve and marginal revenue

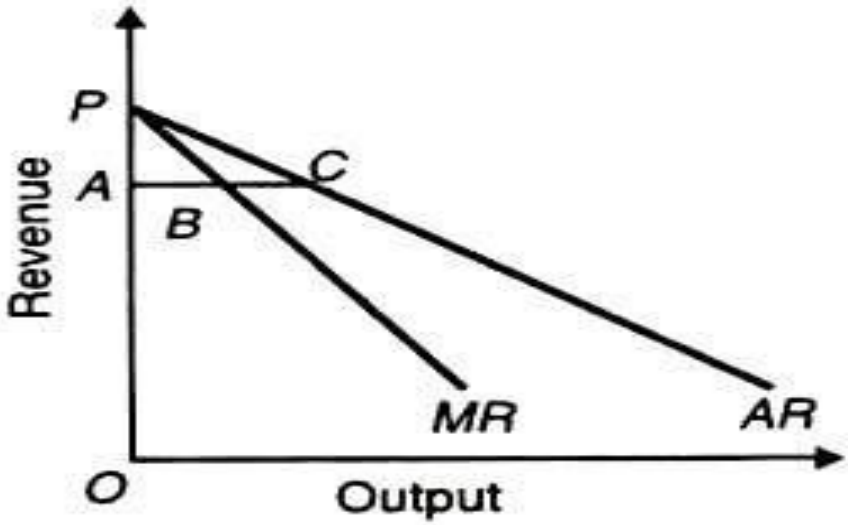


Fig. 2

The average revenue curve is the downward sloping industry demand curve and its corresponding marginal revenue curve lies below it. As long as AR is falling, the MR will be less than AR. AR and MR are downward sloping straight lines and MR will cut any line perpendicular to the X axis, halfway to the AR curve. MR is always half way between AR and MR on Y axis from point C, on the AR curve on the line AC. AC cuts MR at point B and at S on CM.

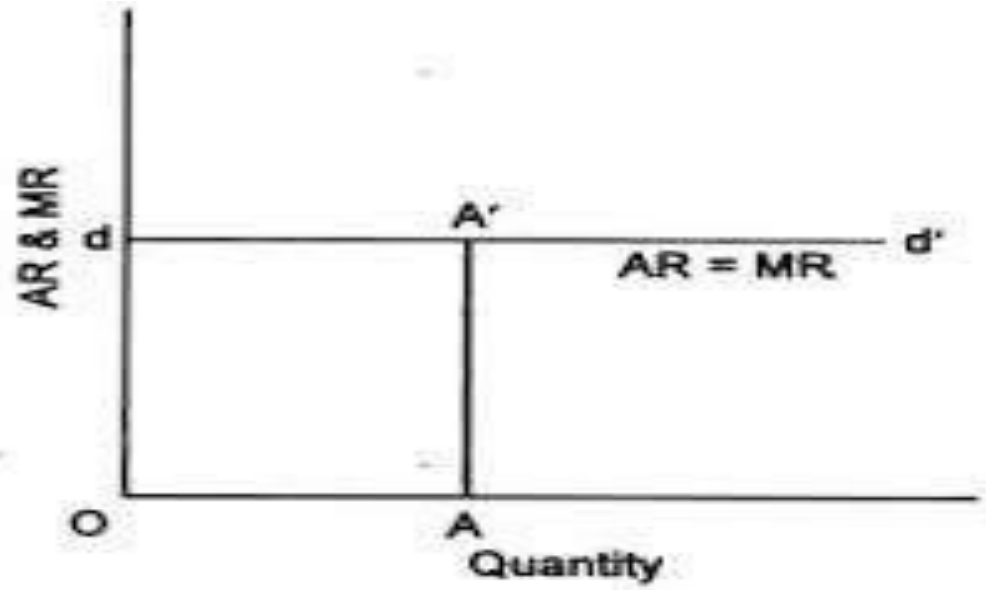


Fig. 5 : AR & MR under Perfect Competition

The Average and Marginal revenue curves are horizontal straight line under perfect competitive markets. It is because under this market the firms must take the price at which they are to sell as fixed. The demand is perfectly elastic and all firms are producing and selling homogeneous products, thus any change the firm by a firm will reduce their profit margin. Thus as the price is determined by the industry, no firm can sell above the market price fixed thus average revenue will coincide with marginal revenue and are horizontal straight lines.

Unit II- Theories of Consumption

Utility

"Wants satisfying capacity of goods or services is called Utility." It is a subjective concept and it varies from person to person. It relates to inner sentiments and emotions.

Total utility -It is the utility derived from the consumption of all the units at the disposal of the consumer.

Marginal utility-It is the given amount of a commodity and the difference between the total utility when one unit is withdrawn from the amount of the commodity. It is also known as the utility of an extra or additional unit. It is the difference between the total utilities of m+1 and m units or m-1 and m units.

Law of Diminishing Marginal utility

Economists like Bentham, Gossen and Marshall stated the concept of diminishing marginal utility. Hermann Heinrich Gossen was the first to formulate this law in 1854 though the name was given by Marshall. Jevons called it Gossen's First Law. The law represents the fundamental tendency of human behavior. Gossen stated it as "The magnitude of one and the same satisfaction, when we continue to enjoy it without interruption, continually decreases until satiation is reached."

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

The statement of the law -"The more one consumes of one commodity during any period of time, the less satisfaction one gets from consuming an additional unit of it".

It states that as a person purchases or consumes more and more of a commodity, the marginal utility derived from the commodity diminishes. The Marginal utility of a commodity depends upon the stock and volume possessed by a person at any given time. Thus the law can be stated

as “as the quantity as a commodity possessed by a person increases at any given time, the marginal utility will diminish to him”.

Assumptions-

a. The taste and preference of the consumer remain unchanged during the period of consumption.
b. The units of the commodity are homogeneous.
c. There is no time gap between consumption of two units of the commodity.
d. The Prices of substitutes should remain constant.
e. The state of mind of the consumer is stable and is aware of the process.
f. The units of the commodity should be of a suitable size.
g. The income, taste, preferences and temperaments of the consumer should remain the same.

Explanation of the law-

Units	Marginal utility	Total utility
A	20	20
B	18	38
C	15	53
D	10	63
E	5	68

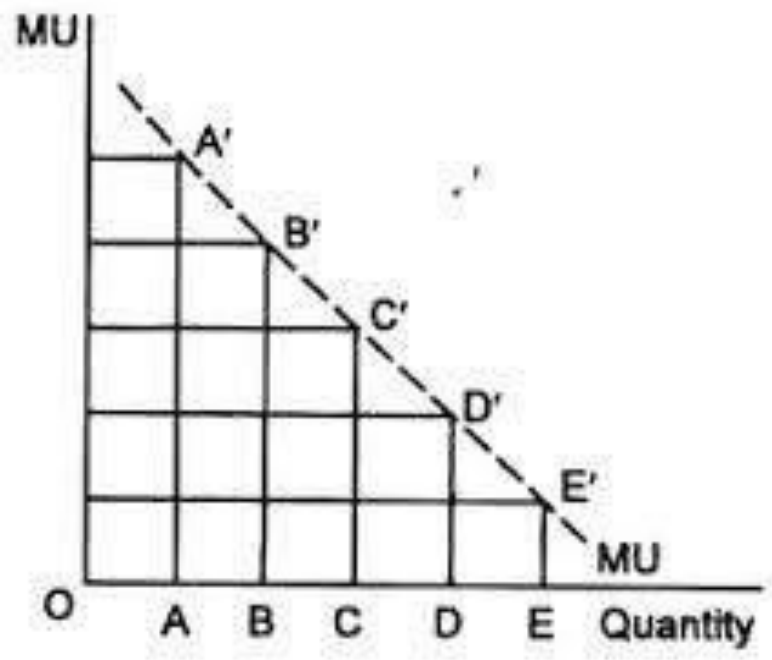


Fig. 2 : Diminishing marginal utility

The law can be depicted both by space as well as curve representation. The utility of each unit can be seen by the area of rectangle. It represents the utility of various units of the commodity. MU represents the marginal utility curve, which slopes downwards to the right. With every increase in the quantity of the commodity consumed, the marginal utility declines.

The reasons for law to operate are- The commodities are not perfect substitutes to each other. The consumer secures maximum satisfaction only when he consumes appropriate proportions. Thus beyond that point successive increments of units would diminish the satisfaction derived. The Satiability of particular wants becomes the necessity condition in the process of consumption.

Importance of the law

The Law of Diminishing Marginal Utility is the basic law of consumption. The Law of Demand, the Law of Equi-marginal Utility, and the Concept of Consumer's Surplus are based on it. The law helps to explain the phenomenon in value theory that the price of a commodity falls when its supply increases.

The famous **"diamond-water paradox"** of Smith can be explained with the help of this law. Because of their relative scarcity, diamonds possess high marginal utility and so a high price. Since water is relatively abundant, it possesses low marginal utility and hence low price even though its total utility is high

Exceptions to law of Diminishing Marginal Utility.- this theory is not applicable to the following

a. Hobbies- greater the collection of a person, greater will be his desire to collect
b. Consumption of intoxicants here the level of consumption higher will be the satisfaction derived and vice versa.
c. Not applicable to money as there is always a desire for man to acquire more and more money.

Law of Equi Marginal utility

The Law of equi marginal Utility is another fundamental principle of Economics. This law is also known as the Law of substitution or the Law of Maximum Satisfaction, and also as Gossen's Second Law. This theory explains how a consumer with his given income, spends on various goods and services to complete his process of consumption. It makes an attempt to understand the rational behaviour of a consumer that how he manages to fulfill as many as his consumption requirements within the given income.

The law states -that the consumer will distribute his given money income between the goods in such a way that the utility derived from the last rupee spent on each good will be equal.

Prof. Marshall has said that – "If a person has a thing which he can put to several uses he will distribute it among these uses in such a way that it has the same marginal utility in all. If it has a great marginal utility, in one use than in another, he would gain by taking some of it from the second use and applying it to first."

The law states that distributing a commodity among various uses so as to secure marginal utility in all its utilization to achieve maximum satisfaction will be the objective of a consumer. Thus equalization of marginal utilities in different uses will maximize his aggregate satisfaction.

It also states that a consumer will spend his given money income in different goods in such a way that marginal utility of money expenditure on each commodity is equal.

Consumer is said to be in equilibrium with regard to his money income in the process of purchase of goods and services as-

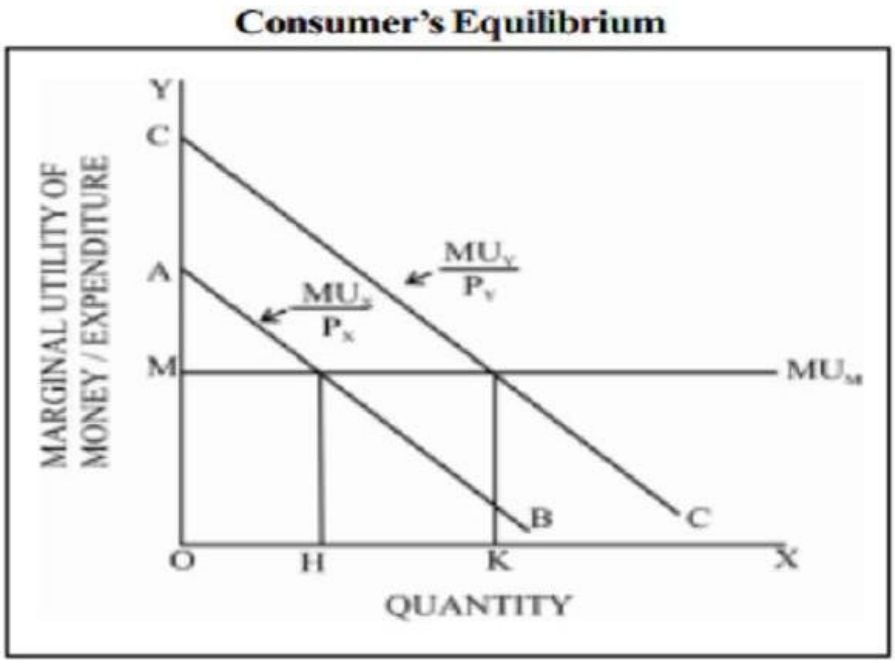
MUx/Px = MUy?Py

MUx , MUy are marginal utilitues of x, y

Px,Py are prices of commodity X and Y

According o this law, every individual tries to regulate his expenditure on income in such a way that he secures the same marginal utility on his outlay in all items of expenditure. The consumer will balance his purchase in such a way that each commodity gives him the marginal utility per rupee and secures happiness. Thus it can be concluded that only when marginal utility per rupee is same in all items of expenditure, then the consumer will be in equilibrium.

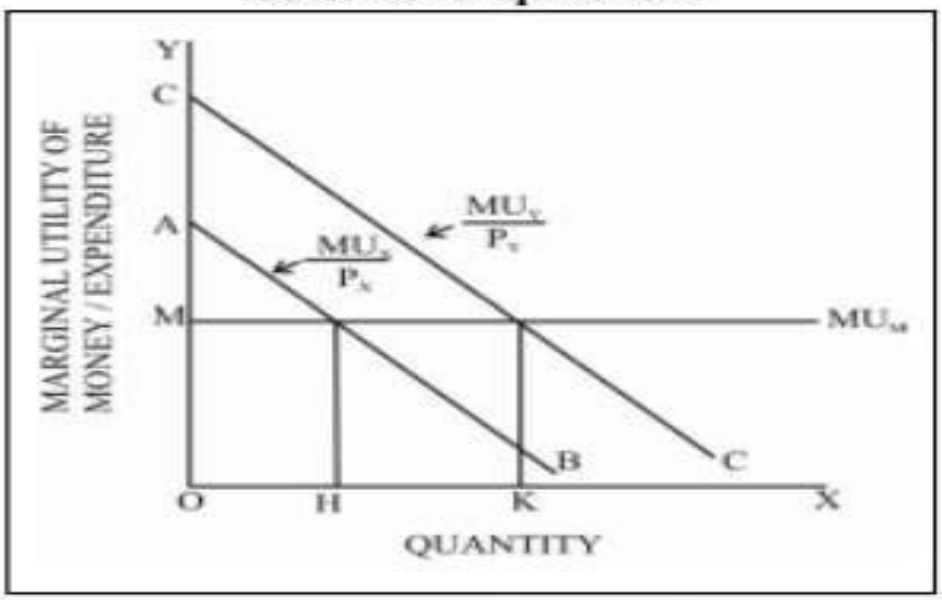
Diagram----



Suppose the marginal utility of money is constant at Re 1 = 5 units, the consumer will buy 6 units of commodity 'x' and 5 units of commodity 'y'. His total expenditure will be (Rs 5 x 6) + (Rs 4 x 5) = Rs 50/- on both commodities. At this point of expenditure his satisfaction is maximised and therefore he will be in equilibrium.

Figure 3.2

Consumer's Equilibrium



Consumer's equilibrium is graphically portrayed in fig. 3.2. Since marginal utility curves of goods slope downward, curves depicting $\frac{MU_x}{P_x}$ and $\frac{MU_y}{P_y}$ will also slope downward. Taking the income of a consumer as given, let his marginal utility of money be constant at OM utils in Fig. 3.2. $\frac{MU_x}{P_x}$ is equal to OM (the marginal utility of money) when OH amount of good x is purchased; $\frac{MU_y}{P_y}$ is equal to OM when OK quantity of good Y is purchased. Thus, when the consumer is buying OH of X and OK of Y, then

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = MU_m$$

Limitations-

1. Economic irrationality- man is assumed to be rational. In reality there are many obstacles for man like meeting the daily expenditure, non availability of information paucity of time due to which he does not give importance to price for all the commodities. Thus large expenditures in routine living may involve rational thinking not for all the transactions undertaken. Consumption is influenced by desire and thus consumption process may not be derived rationality of consumer behavior.

2. Indivisibility of goods -if goods happen to be large and indivisible, then it will obstruct the process of equalization of marginal utilities difficult and impossible.

3. Indefiniteness of the budget period is the reality and thus extreme calculation in the process of meeting the consumption process is difficult.

4. Non availability of certain goods- at times certain goods are not available in the market and consumer purchase other goods and this fails to derive the theory.

5. Changes in the prices of the goods- prices of goods are subjective to market fluctuations and thus may result in change in utilities, this will obstruct the functioning of law.

6. Complementary goods-law is not applicable here.

7. Certain basic assumptions of law are wrong like marginal utility of money remains constant, utility can be measured.

Consumer Surplus

The consumer's surplus concept was introduced in economics by Alfred Marshall, but the concept was first introduced by the French economist Dupuit in 1845. Dr. Alfred Marshall explained this concept in his "The Pure Theory of Domestic Values" as consumer's rent. In his 'Principles of Economics' he further elaborated the concept in logical details and described it as "Consumer's Surplus". He renamed it as Consumer's Surplus. Consumer surplus is used to explain the gap between total utility that a consumer gets from the consumption of a certain commodity and the total money value which he actually pays for the same.

Prof. Marshall opined that "The excess of price which he (consumer) would be willing to pay rather than go without. The thing over that, which he actually does pay, is the economic measure of this surplus satisfaction. It may be called "Consumer's Surplus". Consumer's surplus is the difference between the price that 'one is willing to pay' and 'the price one actually pays' for a particular product.

According to Samuelson – "There is always a gap between total welfare and total economic value. This gap is the nature of a surplus which consumer gets because he always receives more than he pays."

Taussig – "Consumer's Surplus is the difference between the sum which measures total exchange value".

The essence of the concept of consumer's surplus is that a consumer derives extra satisfaction from the purchases he daily makes over the price he actually pays for them. In other words, people generally get more utility from the consumption of goods than the price they actually pay for them. It has been found that people are prepared to pay more price for the goods than they actually pay for them. This extra satisfaction which the consumers obtain from buying a good has been called consumer surplus.

Marshall defines the consumer's surplus in the following words: "excess of the price which a consumer would be willing to pay rather than go without a thing over that which he actually does pay is the economic measure of this surplus satisfaction. it may be called consumer's surplus."

Consumer's surplus = what a consumer is willing to pay minus what he actually pays.

= Σ Marginal utility – (Price × Number of units of a commodity purchased)

The concept of consumer surplus is derived from the law of diminishing marginal utility. Marshall makes an attempt to obtain the monetary measure of this surplus. It is the monetary value of this surplus that Marshall called consumer surplus. The monetary measure is through considering –

It considers, first, the total utility in terms of money that a consumer expects to get from the consumption of a certain amount of a commodity. Second the total market value of the amount of commodity consumed by him. It is quite easy to measure the total market value as it is equal to market price of a commodity multiplied by its quantity purchased

Explanation of the concept of consumer's surplus-

Table 6.1. Marginal Utility and Consumer Surplus

No. of Units	*Marginal Utility*	*Price*	*Net Marginal Benefit*
1	Rs. 20	Rs. 12	Rs. 8
2	Rs. 18	Rs. 12	Rs. 6
3	Rs. 16	Rs. 12	Rs. 4
4	Rs. 14	Rs. 12	Rs. 2
5	Rs. 12	Rs. 12	Rs. 0
6	Rs. 10	Rs. 12	Rs. (–) 2
Total Consumer Surplus (from 5 units)			20

Assuming that, the price of a commodity is Rs. 20 per unit. At price of Rs. 20, the consumer is willing to buy only one unit of the commodity. This implies that utility which the consumer gets

from this first unit is at least worth Rs. 20. When the price falls to Rs. 18, he is prepared to buy the second unit also.

This again implies that the second unit of the commodity is at least worth Rs. 18 to him. Further, he is prepared to buy third unit at price Rs. 16 which means that it is at least worth Rs. 16 to him. Likewise, the fourth and fifth units of the commodity are at least worth Rs. 14 and Rs. 12 as he is prepared to pay these prices for the fourth and fifth units respectively, otherwise he would not have demanded them at these prices.

Thus it can be said that prices which the consumer is prepared to pay for various units of the commodity means the marginal utility which he gets from these units of the commodity demanded by him. This marginal utility of a unit of a commodity for an individual shows how much he will be willing to pay for it. In reality the consumer has to pay the current market price for the commodities, and thus his marginal utility of the first four units will be greater than the market price which he actually pays for them. Hence he will obtain surplus as the net marginal benefit of Rs. 8 (Rs. 20 – 12) from the first unit, Rs. 6 (Rs. 18 – 12) from the second unit, Rs. 4 on the third unit and Rs. 2 will determine the difference the price willing to pay and actual price paid for the commodity.

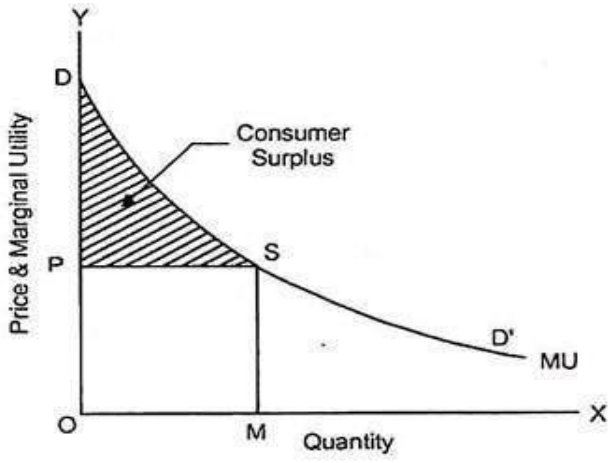


Fig. 6.2. Marshall's Measure of Consumer's Surplus

The measurement of consumer surplus from a commodity is illustrated in the diagram, in which we measure the amount of the commodity on the X-axis, and the marginal utility and the price of the commodity are measured on the Y-axis.

DD' is the demand or marginal utility curve which is sloping downward, indicating that as the consumer buys more units of the commodity, his willingness to pay for the additional units of the commodity or in other words marginal utility which he gets from the commodity falls. Marginal utility shows the price which a person will be willing to pay for the different units rather than go without them. If OP is the price that prevails in the market, then the consumer will be in equilibrium when he buys OM units of the commodity, since at OM units, marginal utility is equal to the given price OP.

The M^{th} unit of the commodity does not yield any consumer's surplus to the consumer since this is the last unit purchased and for this price paid is equal to the marginal utility which indicates the price he is prepared to pay rather than go without it.

But for the intra marginal units i.e., units before M^{th} unit, marginal utility is greater than the price and, therefore, these units yield consumer's surplus to the consumer.

The total utility derived by the consumer from OM units of the commodity will be equal to the area under the demand or marginal utility curve up to point M. That is, the total utility of OM units is equal to ODSM. In other words, for OM units of the good the consumer will be prepared to pay the sum equal to Rs. ODSM.

But given the price OP, the consumer will actually pay for OM units of the good the sum equal to OPSM. The consumer derives extra utility equal to ODSM minus OPSM = DPS, which has been shaded, is consumer's surplus. The consumer's surplus can be considered as net benefit or extra utility which a consumer obtains from the changes in price of a good or in the levels of its consumption. It can be explained with help of a diagram-

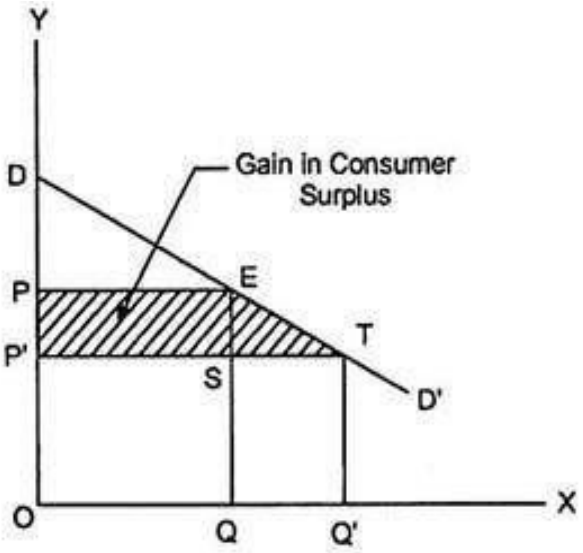


Fig. 6.3. Gain in Consumer Surplus with a Fall in Price

DD shows the demand curve, the market price of commodity A is OP, and the consumer buys OQ quantity of the commodity. The total market value which he pays for OQ the commodity A is equal to the area OPEQ, that is, price OP multiplied by quantity OQ. The total benefit, utility or use value of OQ quantity of commodity A is the area ODEQ. Thus, consumer's surplus obtained by the consumer would be equal to the area PED.

If the price of commodity A falls to OP', the consumer will buy OQ' quantity of commodity A and the consumer surplus will increase to P'TD. The net increase in the consumer's surplus as a result of fall in price is the shaded area PETP', (P'TD – PED = PETP'). This measures the net benefits or extra utility obtained by the consumer from the fall in price of the commodity.

Assumptions-

a. Utility and satisfaction have definite relationship and are part and parcel of the theory.
b. All the assumptions of demand are derived and are subjective to demand curve.
c. Marginal utility of money remains constant throughout the process of exchange.
d. Utility of the given commodity depends upon the quantity of that commodity and each commodity is treated as independent commodity.
e. Commodity under considerations does not posses substitutes.
f. Assumes that differences in income, taste, fashion do not exist.

Criticisms-

1. It is hypothetical, imaginary and illusory.
2. The theory is based on invalid assumptions that all determinants of demand except price remain unchanged.
3. It is again based on the assumption of constant marginal utility of money was questioned.
4. The concept ignores interdependence between the goods and thus the theory is not definite and precise.
5. It is unrealistic, arbitrary and inappropriate as it assumes that there are no differences in income, taste and fashions.
6. The comparison and structure and structure of the demand curve as a basis for consumer surplus was criticized.

Importance of law-

1. It helps us to understand the economic comparisons regarding people's welfare.
2. It provides a powerful theoretical argument for direct tax and indirect taxes.
3. It is helpful in evaluating the economic effect of tax or a bounty on a commodity.
4. The theory is helpful to monopolist keeping in mind the psychological behavior of consumer while fixation of price.
5. It helps in analysis of international trade.
6. It helps in studying welfare economics.

Indifference Curve analysis

The indifference curve analysis was first put forth by F.Y. Edgeworth in1881. It was later taken forward by Irving Fisher in 1892 and further by Pareto in1906 in his theory of value. The indifference curve technique was refined by Russian economist Slutsky in 1915. in 1934, J R Hicks and R.G.D. Allen in their article - 'A Reconsideration of the Theory of Value' gave a scientific treatment to the concept. In 1939 Hicks reproduced the indifference curve theory of consumer's demand in his book 'Value and Capital.'

The indifference curve analysis measures ordinal utility. It explains the consumer's behavior in terms of his preferences or rankings for different combinations of two goods. According to the indifference curves theory, utility is a psychic entity and hence it cannot be measured in quantitative cardinal terms. In other words, utility being a psychological feeling is not quantifiable.

The ordinal utility implies that the consumer is capable of simply 'comparing the different levels of satisfaction'. In other words, according to the ordinal utility hypothesis, while the consumer may not be able to indicate the exact amounts of utilities that he derives from commodities or any combination of them, but he is capable of judging whether the satisfaction obtained from a good or a combination of goods is equal to, lower than, or higher than another.

The indifference curve analysis is also known as substitution analysis as it is based on the concept of diminishing marginal rate of substitution.

According to Watson, "An indifference schedule is a list of combinations of two commodities the list being so arranged that a consumer is indifferent to the combinations, preferring none of any other."

The basis of the study is derived on the following-

Completeness- According to this assumption, the consumer is capable of ranking alternative combinations of goods for his consumption. Here a consumer expresses his preferences.

Transitivity- The second assumption about preferences of consumers is that consumers' preference over combination of goods is consistent. Thus it can be said that consumer is rational.

The basis of indifference curve analysis of demand is the preference indifference hypothesis. This means that if the consumer is given with a number of various combinations of goods, he can order or rank them according to his 'scale of preferences'. If the various combinations are marked A, B, C, D, E, etc. the consumer can tell whether he prefers A to B, or B to A, or is indifferent between them. The consumer can indicate his preference or indifference between any other pair of combinations.

The concept of ordinal utility implies that the consumer cannot go beyond stating his preference or indifference. In other words, if a consumer happens to prefer A to B, he cannot tell by how much he prefers A to B. Thus, under ordinal utility hypothesis, the consumer cannot tell the 'quantitative differences' between various levels of satisfaction; but can compare them 'qualitatively.

Assumptions-

1. More of a commodity is better than less- It is assumed that the consumer will always prefer a larger amount of a good to a smaller amount of that good, provided that the other goods at his disposal remains unchanged.

2. Preferences or indifferences of a consumer are transitive- Suppose there are three combinations of two goods A, B and C. If the consumer is indifferent between A and B and also between B and C, it is then assumed that he will be indifferent between A and C too. This condition implies that consumer's tastes are quite consistent.

3. Diminishing marginal rate of substitution - Indifference curve analysis is derived on the principle of diminishing marginal rate of substitution. That is as more and more units of X is substituted for Y, the consumer will be willing to giving up fewer and fewer units of Y, for each additional unit of X, or when more and more of Y is substituted for X, he will be willing to give up successively fewer and fewer units of X for each additional unit of Y.

The indifference curve represents all those combinations of goods which give same satisfaction to the consumer. Thus all combinations of two goods lying on a consumer's indifference curve are equally desirable to or equally preferred by him. The basis of indifference curve analysis represents all those combinations of goods which give the consumer the same level of satisfaction. It can be studied with indifference curve and schedule. The curve on which the combination of goods is shown is called as indifference curve. An individual schedule depicts various combinations of two goods that will be equally applicable to the consumer.

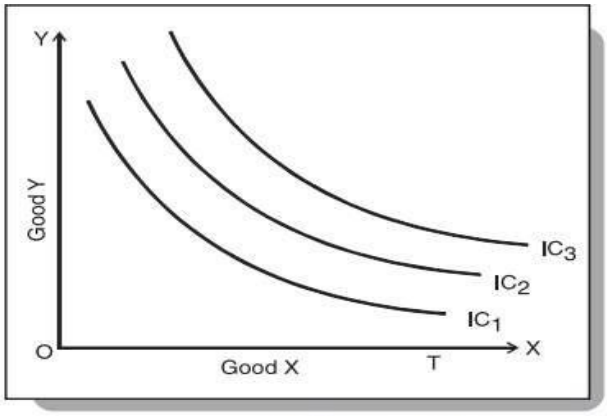


Fig. 2 : Indifference Map

The diagram depicts the indifference curves,

Indifference schedule

Combination of commodities	Commodity X	CommodityY
1	12	2
2	8	3
3	5	4
4	3	5
5	2	6

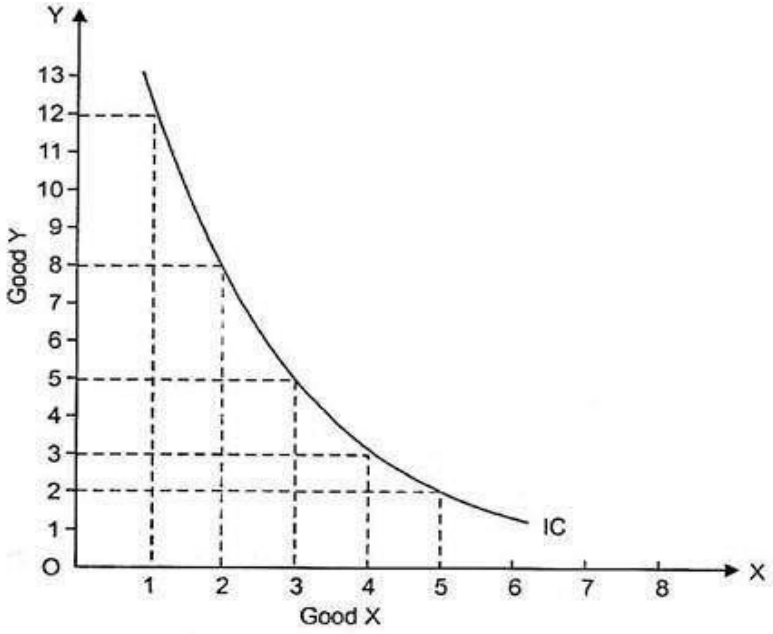


Fig. 8.1. An Indifference Curve

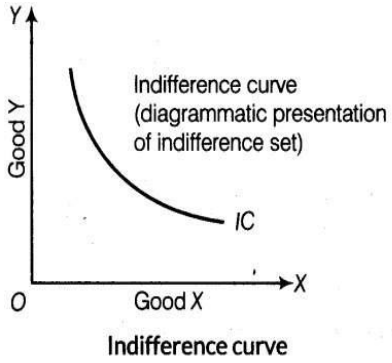
An indifference curve IC is drawn by plotting the various combinations of the indifference schedule. The quantity of good X is measured on the horizontal axis, and the quantity of the good Y is measured on the vertical axis.

As in an indifference schedule, combinations lying on an indifference curve will also be equally desirable to the consumer, that is, will give him the same satisfaction. Any combination on a higher indifference curve will be preferred to any combination on a lower indifference curve. It is thus clear that the indifference curve lying above and to the right of an indifference curve will indicate a higher level of satisfaction. An indifference curve shows all those combinations of two goods which provide equal satisfaction to the consumer; it does not indicate exactly how much satisfaction is derived by the consumer from those combinations. This is because the concept of ordinal utility does not involve the quantitative measurability of utility.

Properties of Indifference curve

1. Indifference curve slopes negatively or Slope downwards from the Left to the Right

This property follows from assumption I. Indifference curve being downward sloping means that when the amount of one good in the combination is increased, the amount of the other good is reduced. This must be so if the level of satisfaction is to remain the same on an indifference curve.



Indifference curve

The indifference curve slopes downwards as the amount of one good in combination is increased, the amount of other good is reduced, and this can be operational only when the level of satisfaction is same on the Indifference curve.

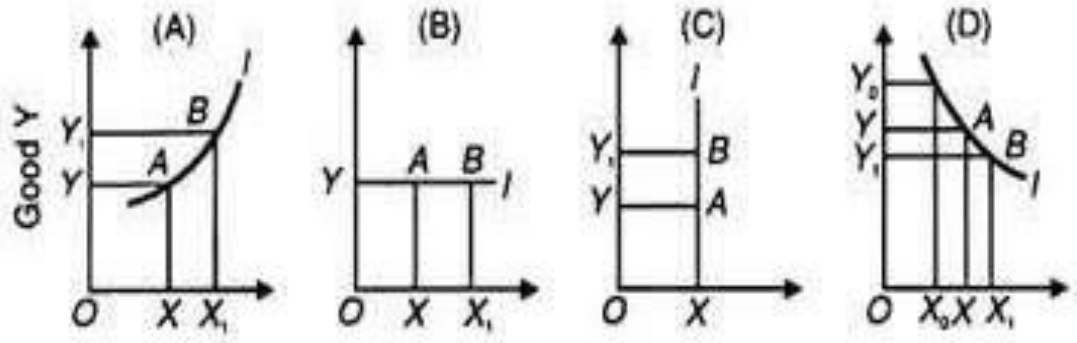
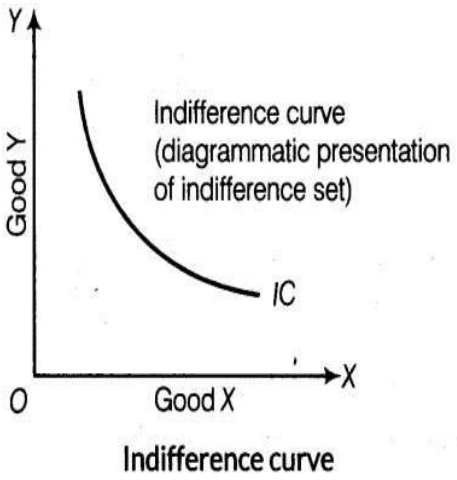


Fig. 4

An indifference curve cannot be upward sloping curve because here the amount of both the goods will increase and thus the satisfaction derived by the consumer will increase. Here the total satisfaction gained by the consumer will increase as he moves upwards along the curve. An indifference curve cannot be a horizontal straight line also because here the consumer will be increasing the consumption of commodity X, keeping commodity Y as constant.

An indifference curve cannot be a vertical straight line also as here the consumer keeps commodity X as constant and increases the consumption of commodity Y.

2. Indifference curves are convex to the origin- The other important property of indifference curves is that they are usually convex to the origin. In other words, the indifference curve is relatively flatter in its right-hand portion and relatively steeper in its left-hand portion



Indifference curve

This property of indifference curves is based on marginal rate of substitution, that is MRS of X for Y (MRS_{xy}) diminishes as more and more of X is substituted for Y. Only a convex indifference curve denotes diminishing marginal rate of substitution.

Indifference curve cannot intersect each other- The important property of indifference curves is that they cannot intersect each other. In other words, only one indifference curve will pass through a point in the indifference map. This property can be easily proved by first making the

two indifference curves cut each other and then showing the absurdity or self contradictory result it leads to.

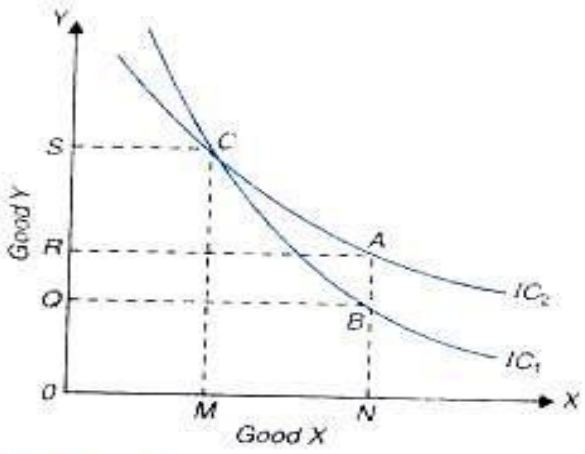


Fig. 8.5. Indifference curves cannot cut each other

Here the two indifference curves are shown cutting each other at point C. Now take point on indifference curve IC_2 and point B on indifference curve IC_1 vertically below A. An indifference curve represents those combinations of two commodities which give equal satisfaction to the consumer, the combinations represented by points A and C will give equal satisfaction to the consumer because both lie on the same indifference curve IC_2.

The combinations B and C will give equal satisfaction to the consumer; both being on the same indifference curve IC_1. If combination A is equal to combination C in terms of satisfaction, and combination B is equal to combination C, it follows that the combination A will be equivalent to

B in terms of satisfaction. Thus, the consumer will definitely prefer A to B, that is, A will give more satisfaction to the consumer than B. But the two indifference curves cutting each other lead us to an absurd conclusion of A being equal to Bin terms of satisfaction.

A higher indifference curve represents a higher level of satisfaction than a lower indifference curve

The consumer would prefer that combinations which lies on a higher indifference curve and that will be the preferred combinations than which lies on a lower indifference curve. IC2 is a higher indifference curve than IC1. Combination Q has been taken on a higher indifference curve IC2 and combination S on a lower indifference curve IC1. Combination Q on the higher indifference curve IC2 will give a consumer more satisfaction than combination S on the lower indifference curves IC1 because the combination Q contains more of both goods X and Y than the combination S.

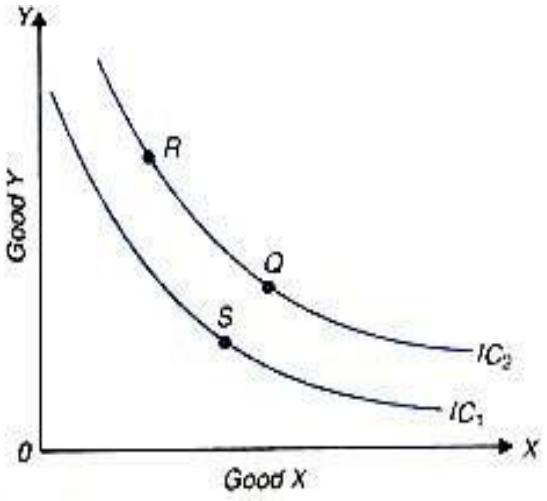


Fig. 8.6. *A higher indifference curve shows a higher level of satisfaction*

Hence the consumer must prefer Q to S , he will prefer any other combination such as combination R on IC2 to any combination on IC1. Therefore, it can be concluded that a higher indifference curve represents a higher level of satisfaction and combinations on it will be preferred to the combinations on a lower indifference curve.

Indifference Curves are not Necessarily Parallel to each other -Firstly, the Indifference Curves are not based on the cardinal measurability of utility. Secondly, the rate of substitution between the two commodities need not be the same in all the indifference schedules. It is therefore not necessary that the Indifference Curves should be parallel to each other.

Consumer's Equilibrium under IC

A consumer is said to be in equilibrium when he/she is buying such a combination of goods that leaves them with no tendency to rearrange their purchases of goods. The consumer is in a position of balance in regard to the allocation of money expenditure among various goods.

A consumer is said to be in equilibrium when given the taste and prices of the two goods, the consumer spends a given money income on the purchase of two goods in such a way as to get the maximum satisfaction.

Assumptions

a. The consumer's equilibrium is determined under the given conditions or assumptions-
b. Consumer has an indifference map showing his/her scale of preferences which will remain the same throughout the analysis.
c. The money income given is constant.
d. Prices of both the commodities are given.
e. The goods are divisible in nature and homogeneous.
f. There is no change in the taste and the preferences of the consumer throughout.

Under the conditions of perfect competition, the consumer is rational and thus aims at maximising the satisfaction from the purchase of the two goods.

Tools used are-

1. Indifference map

2. Budge line /price line

The consumer's equilibrium under indifference curve can be demonstrated with the help of a diagram. The consumer has a choice of combination of two goods, X and Y. Here the indifference map portrays consumer's scale of preferences between various possible combinations of two goods and the budget line shows the various combinations which he can afford to buy with his given money income and given prices of the two goods.

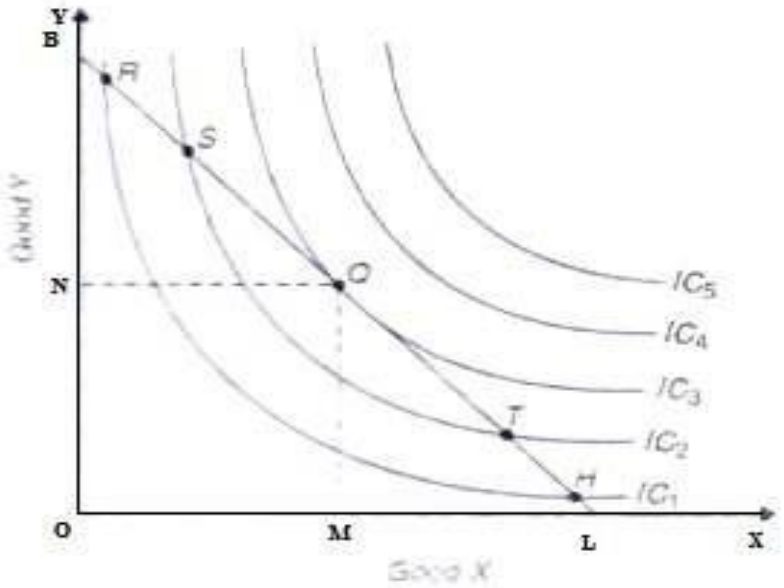


Fig. 8.19. Consumer's Equilibrium

Good X is measured on the X-axis and good Y is measured on the X-axis. With a given money to be spent and given prices of the two goods, the consumer can buy any combination of the goods which lies on the budget line BL. Every combination on the budget line BL costs him the same amount of money.

To maximise his satisfaction, the consumer will try to reach the highest possible indifference curve which he could with a given expenditure of money and given prices of the two goods. Budget constraint forces the consumer to remain on the given budget line, and choose a combination from among only those which lie on the given budget line.

The budget line BL is tangent to indifference curve IC3 at point Q. Since the indifference curves are convex to the origin, all other points on the budget line BL, above or below the point Q, will lie on lower indifference curves. Take point R which also lies on the budget line BL and here the consumer can afford to buy. A combination of goods represented by R costs him the same as the combination Q. But, as is evident, R lies on the lower indifference curve IC_1 and will therefore yield less satisfaction than Q. The point S lies on the budget line BL but will be rejected in favour of Q as it lies on the indifference curve IC_2 which is also lower than IC_3.

Thus, Q will be preferred to all other points on the budget line BL which lies to the right of Q on the budget line, such as T and H. Therefore, the position the consumer would choose would be at point Q, because this combination would give him the maximum satisfaction as IC_3 would be tangent to budget line at point Q.

The combinations lying on indifference curves IC_4 and IC_5 will give greater satisfaction to the consumer than Q, but they are unattainable with the given money income and the given prices of the goods as represented by the budget line BL. Therefore with the given money expenditure and the given prices of the goods as shown by BL, the consumer will obtain maximum possible satisfaction and will be in equilibrium position at point Q at which the budget line BL is tangent to the indifference curve IC_3.

In this equilibrium position at Q the consumer will buy OM amount of good X and ON amount of good Y. At the tangency point Q, the slopes of the budget line BL and indifference curve IC_3 are equal.

The slope of the indifference curve will showcase the marginal rate of substitution of X for Y (MRS_{xy}), while the slope of the budget line indicates the ratio between the prices of two goods P_x/P_y.

Thus, at the equilibrium point Q-

MRS_{xy} = Price of good X/ Price of good Y = P_x/P_y

As the marginal rates of substitution (MRS_{xy}) is greater than the given price ratio, the consumer will substitute good X for good Y and will move down along the budget line BL .He will continue to do so until the marginal rate of substitution becomes equal to the price ratio, that is, the given budget line BL becomes tangent to an indifference curve.

Thus the condition for the equilibrium of the consumer is that the given budget line, it must be tangent to the indifference curve, or the marginal rate of substitution of good X for good Y and must be equal to the ratio between the prices of the two goods.

To conclude- given his subjective preferences, his money income and the prices of the two commodities, the consumer will achieve maximum satisfaction, only at the point at which his budget line is tangent to the indifference curve. The equality between the consumer's MRS and the price ratio is an indispensable condition of equilibrium.

Law of Demand

It is also known as the First Law of Purchase. The law of demand expresses a relationship between the quantity demanded and its price. In Marshall's words - **"the amount demanded increases with a fall in price, and diminishes with a rise in price".** Under the given conditions, the quantity of a commodity bought tends to vary with price. Thus it expresses an inverse relation between price and demand.

The law refers to the direction in which quantity demanded changes with a change in price. This law of demand is based on logic and confirmed by many empirical investigations. But it is only indicative in nature and helps to understand the direction in which the demand will change. It is represented by the slope of the demand curve which is normally negative throughout its length. The inverse price demand relationship is based on other things remaining equal.

Statement of law of demand, other things being equal, if the price of a commodity falls, the quantity demoded of it will rise, and if the price of the commodity rises, its quantity demanded will decline.

According to the law of demand, there is inverse relationship between price and quantity demanded, other things remaining the same. These other things which are assumed to be constant are-

a. There is no change in the tastes and preferences of the consumer;
b. The income of the consumer remains constant;
c. The price of other related goods remains same;
d. There are no substitutes for the commodity in question available;
e. People do not have future expectations of the price changes.
f. Not applicable to commodity which has a prestige value.

The law of demand can be illustrated through a demand schedule and a demand curve. Demand schedule refers to the list of prices and quantity of commodities. It is the list of the various quantities of a commodity which an consumer purchases at different alternative prices in the market. It explains the functional relationship between the two variables of price and quantity demanded. The Demand curve is a graphic statement or presentation of quantities of goods which will be demanded by the consumer at various possible prices in a given moment of time.

Demand Schedule

Table 3.
Demand Schedule

Price (Rs)	Quantity Demanded
5	100 Units
4	200 Units
3	300 Units
2	400 Units
1	600 Units

Demand Curve

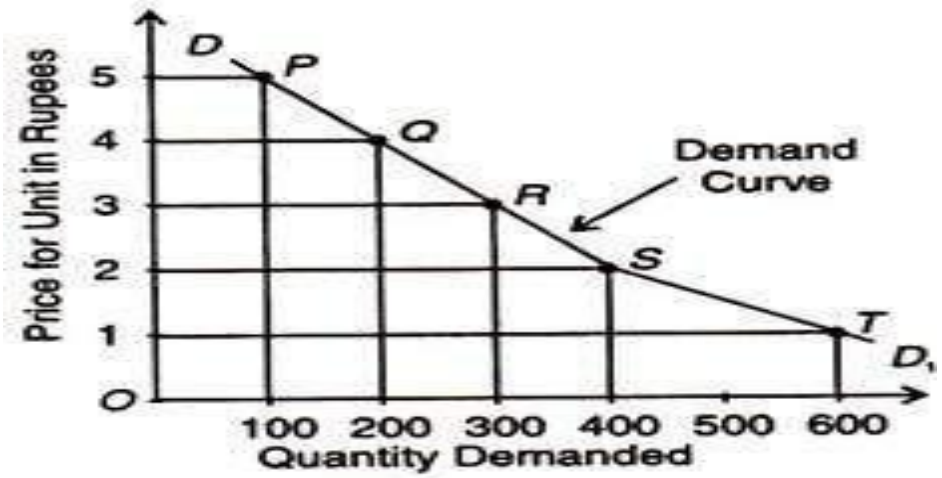


Fig. 7

The demand curve DD shows the relationship between price and quantity demanded for a commodity. Quantity demanded of a commodity is measured on OX axis and Price on OY axis. The above table shows that when the price of the commodity A is Rs 5 , the quantity demanded was 100 units, as the price starts declining the quantity demanded for the commodities starts increasing. This is clear from points P, Q, R, S, and T. Thus, the demand curve DD_1 shows increase in demand for commodity A, when its price falls. This indicates the inverse relation between price and demand.

Reasons for the Law of Demand: and why does Demand Curve Slope Downward?

a. Law of demand operates because law of diminishing marginal utility comes into operation. Any additional expenditure on a given commodity will bring down the satisfaction level and limits his purchase of the commodity. Thus to induce the consumer to continue to purchase the commodity the seller will offer it at lesser price.
b. It is due to working of the principle of different uses. Some commodities have several uses and when price increases its utility is restricted to the required purpose and if price decreases it will used for less important utility.
c. Impact of principle of different desires will lead to law of demand. People have different requirements, taste and temperaments and this consumer behavior gives rise to operation of law of demand.
d. Principles of different income and its effect-

Income effect- with a fall in the price of a commodity, consumer's real income or purchasing power increases. This increase in real income induces the consumer to buy more of that commodity. This is called income effect of the change in price of the commodity. This is one reason why a consumer buys more of a commodity when its price falls.

Substitution effect- The other important reason why the quantity demanded of a commodity rises as its price falls is the substitution effect. When price of a commodity falls, it becomes relatively cheaper than other commodities. This induces the consumer to substitute the commodity whose price has fallen for other commodities which have now become relatively dearer. As a result of this substitution effect, the quantity demanded of the commodity, whose price has fallen, rises.

Exceptions to Law of Demand

a. Giffen paradox is considered as an exception to law of demand a fall in its price tends to reduce and a rise in its price tends to extend its demand. This was observed by SirRobert

Giffen. He discovered that with the rise in the price of bread, the working class families in Britain were compelled to cut down their consumption of meat.

It is argued that if the price of inferior commodity falls, the real income will increase and he can spend now on a better quality good and vice versa.

b. Goods having Prestige Value popularly known as Veblen Effect-One exception to the law of demand is associated Thorstein Veblen who propounded the doctrine of conspicuous consumption. According to Veblen, some consumers measure the utility of a commodity entirely by its price i.e., for them, the greater the price of a commodity, the greater it's utility. The consumers are affected by the principle of conspicuous consumption or demonstration effect; they would buy more of those commodities which confer distinction on the possessor, when their prices rise. On the other hand, with the fall in the prices of such articles, their demand falls, example diamonds.
c. High priced commodities- Consumers buy more at a higher price under the influence of the "ignorance effect", where a commodity may be mistaken for some other commodity, due to deceptive packing, label, etc.
d. Speculation- Marshall mentions speculation as one of the important exceptions to the downward sloping demand curve. According to him, the law of demand does not apply to the demand for speculators. When a group unloads a great quantity of a thing on to the market, the price falls and the other group begins buying it. Here an increase in price may not be accompanied by decrease in demand.

Unit –III

Production and Production Function

The term production in economics refers to the creation of those goods and services which have exchange value. It refers to creation of utilities.

The essential characteristics of the firm is that it purchases factors of production such as land, labour, capital, intermediate goods, and raw material from households and other business firms and transforms those resources into different goods or services which it sells to consumers.

The creation of utility can be in three ways-

1. Form Utility- By changing the form of an object of nature, viz., iron ore into steel, wood into furniture. Most manufacturing processes convert raw materials into goods or items. It is known as form utility.
2. Time utility- Making available materials at times when they are not available is time utility.
3. Place utility - By changing the place, i.e., transferring a thing from the place of abundance to the place of scarcity. It is called place utility.

The word production in economics is thus not merely confined to effecting physical transformation in the matter; it is creation or addition of value.

J. R. Hicks: "Production is any activity whether physical or mental, which is directed to the satisfaction of other peoples wants through exchange".

Interpretation of this definition is that-

a. Any production is impossible without some activity, like physical or mental effort.
b. Activity should ensure or be directed towards satisfaction of other people's wants.
c. The people's wants must be satisfied through process of exchange.

Bates and Parkinson defines as "Production is the organised activity of transforming resources into finished products in the form of goods and services; the objective of production is to satisfy the demand for such transformed resources".

The term production also comprises of the following-

a. Extractive industries- these are concerned with production of raw materials.
b. Manufacturing industries.

c. Commercial services
d. Direct services.

The modern concept of production is a wider term.

Production Function

The production function refers to the functional relationship between the quantity of a good produced and factors of production. The production function is a mathematical relation between the quantity of output of a good and the quantities of inputs required to make it. It is the name for the relation between physical inputs and the physical outputs of a firm.

"The production function is a technical or engineering relation between input and output. As long as the natural laws of technology remain unchanged, the production function remains unchanged." Prof. L.R. Klein

Leontief defines - "A production function is a description of the quantitative relationship between the inputs absorbed and the outputs emerging from a particular production process".

"Production function is the relationship between inputs of productive services per unit of time and outputs of product per unit of time." Prof. George J. Stigler

A production function shows for a given state of technological knowledge, the relation between physical quantities of inputs and outputs achieved per period of time.

Mathematically, it is the relationship between inputs and outputs and may be expressed as:

It is a function of inputs. The functional relationship between physical inputs and physical output of a firm is known as production function.

Algebraically, production function can be written as

: q = f (a, b, c, d.....)...

Where q stands for the quantity of output,

a, b, c, d etc., stand for the quantities of factors A, B, C, D respectively.

This function shows that the quantity (q) of output produced depends upon the quantities, a, b, c, d of the factors A, B, C and D respectively.

The production function is based on following assumptions-

1. It is related to a specified period of time.
2. The state of technology does not change during the given time period.
3. The firm will use the best and the most effective technique available in production.

4. The factors of production are divisible into viable units.

Short term and long term production function

There are two types of production function, namely-

1. Short term production function(with one variable input)
2. Long term production function(with all variable inputs)

The law of variable proportions is related to short term production function. Considering two factors, labour and capital where capital is fixed factor input and labour as variable factor, the production function can be expressed as-

$Q=f(L, \overline{C})$

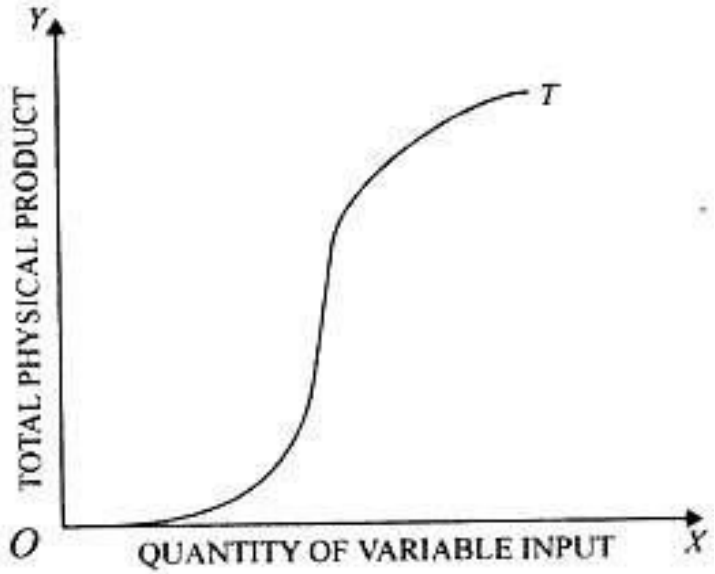
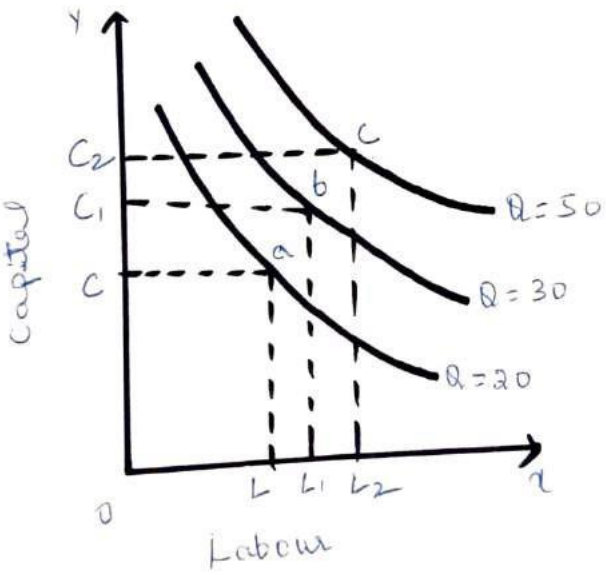


Fig. 1. A Production function

Input level is measured along the horizontal axis and the total output upon the vertical axis. In the above diagram, the slope of the curve shows that the output rises with labour until it reaches its maximum point, further beyond this point an increase in workers will lead to fall in output.

In Long run production function, all inputs are considered as variable inputs. Here the firm can substitute one input for the other while continuing to produce the same level of output.

The combination of labour and capital that produces same level of output can be shown with the help of isoquants.



of labour and capital that produce different
the long run when all inputs are changed
asing, decreasing and are constant

Law of Variable Proportions

This law is associated with economists like Adam Smith, Ricardo and Malthus, this law was known as law of diminishing marginal returns. This law was associated with agriculture.

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 output is increased by varying the quantity of one input. When the quantity of one factor is increased keeping the quantity of the other factors constant, the proportion between the variable factor

and the fixed factor is subjective to change; the ratio of employment of the variable factor to that of the fixed goes on increasing as the quantity of the variable factor is increased.

According to this law when one factor increases, other factors held constant, after a point, marginal returns to the variable factor diminishes, this is also called law of diminishing returns. This law has played a vital role in the and occupies an equally important place in modern economic theory and has been supported by the empirical evidence.

"As the proportion of the factor in a combination of factors is increased after a point, first the marginal and then the average product of that factor will diminish." 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." Samuelson

"The law of variable proportion states that if the inputs of one resource is increased by equal increment per unit of time while the inputs of other resources are held constant, total output will increase, but beyond some point the resulting output increases will become smaller and smaller." Leftwitch

Assumptions:

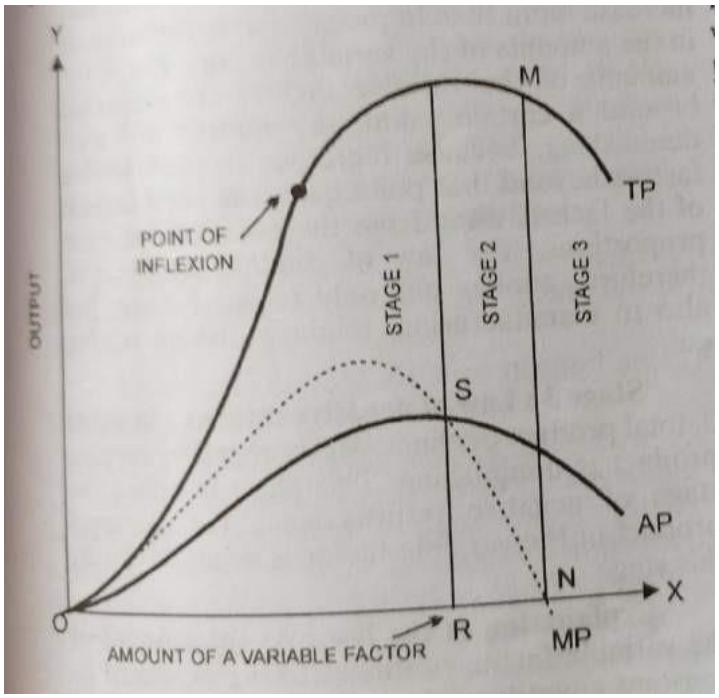
Law of variable proportions is based on following assumptions:

1. Constant Technology: The state of technology is assumed to be given and constant. If there is an improvement in technology the production function will move upward.

2. Factor Proportions are Variable: it keeps one factor proportion as variable and the all other factors as constant/fixed. Short run production one

3. Homogeneous Factor Units with same skill

4. Physical inputs and outputs are not determined by monetary terms



The quantity of variable factor is depicted on the X axis and total output, marginal output and average output is measured on OY axis. The TP curve goes on increasing up to a point and then declines. AP and MP curve first rise and then decline, but MP declines faster than AP. This behavior of the curve is explained through three stages.

The three stages are-

1. Law of increasing returns- the total product increases up to a point, marginal product also increases and is maximum in I stage and average product also goes on increasing. In the first stage the AP curve rises throughout whereas marginal product cure rises and then starts declining. It operates so mainly because in the beginning the quantity of fixed factors is relatively abundant to the quantity of variable factor. As more and more of variable factors are added to the fixed factors the efficiency of fixed factors increase and causes for rapid increase in production. Technically speaking a minimum amount of factor must be employed to given capacity of production whatever the level of output be. Thus as more units of variable factors are employed to work with an indivisible fixed factor, output increases due to fuller utilization of latter.

2. Law of Diminishing returns- the total output will increase at a diminishing rate until it reaches the maximum at point M, the marginal product and average product are diminishing but positive. The end of the stage is at point N, the marginal product becomes zero and this stage is called as diminishing stage as both AP and Mp are diminishing. This stage is important because the firm will seek its production in its range. In this stage the amount of variable factor is sufficient to ensure efficient utilization of fixed factor then becomes inadequate relative to the quantity of the variable factor.

3. Law of negative returns- the total product declines, MP is negative and AP is declining. Here the stage is reached where the quantity of variable factor becomes excessive in relative to the fixed factor and thus results in fall in output. A rational producer will never produce in this stage, where marginal product is negative. The producer will not be making the best use of fixed factor in first stage; the best producer is the one who operates in second stage, where both MP and AP of variable products are diminishing.

Importance and significance of law-

1. Universal applicability- this law is a fundamental law applicable to all branches of production, namely, agriculture, industry, mining etc.

2. Basis for development of Malthus Theory of Population- Malthus his theory states that food supply does not increase faster than the growth of population due to operation of lw of diminishing returns in agriculture.

3. Led to development of Ricardian theory of rent- any additional application of doses of labour and capital on the given piece of land will not lead to increase in output to the same proportion.

4. Migration of population- it occurs due to increase in population and increases the pressure on land

5. Formulation of Marginal productivity theory- the returns of factors of production gave rise to formulation of Marginal productivity theory.

6. Understanding the problems of UDCs- it helps in understanding the problems of UDCs where agriculture is the primary occupation.

7. Impact on standard of living- for countries marked by population rise, any increase agriculture production is not equivalent to population growth, the standard of living if these people will be low.

Economies of Scale

The scale of production refers to the amount of factors used, the quantities of products produced, and the techniques of production adopted by a producer. As production increases with the increase in the quantities of land, labour and capital, the scale of production expands. A firm expands its scale of production for the purpose of earning larger profits and thereby derives many economies of large scale production; it helps in lowering the costs of production and

increasing its productive efficiency. When the majority of firms enjoy the economies of large scale production, they are also available to an industry which comprises those firms.

Economies of large scale production have been classified by Marshall into Internal Economies and External Economies. Internal economies are internal to a firm when its costs of production are reduced and output increases. They "are open to a single factory or a single firm independently of the action of other firms. They result from an increase in the scale of output of the firm, and cannot be achieved unless output increases. They are not the result of inventions of any kind, but are due to the use of known methods of production which a small firm does not find

External Economies are external to firms which are available to it when the output of the whole industry increases with the expansion of the industry itself. They are "shared by a number of firms or industries when the scale of production in any industry or group of industries increases. They are not monopolised by a single firm when it grows in size, but are conferred on it when some other firms grow larger."

Internal Economies — Their Causes and Types:

Internal economies which accrue to a firm when it expands are caused by two factors:

(1) Indivisibility and (2) specialisation.

1. Indivisibilities**:** factors of production are indivisible in the sense that they must be used in a fixed minimum size. Such "factors of production can be most efficiently employed at a fairly large output, but work less efficiently at small outputs because they cannot be divided into smaller units." Thus as output increases, the indivisible factors which were being used below capacity can be utilised to their full capacity thereby reducing costs. Such indivisibilities arise in the case of labour, machines, marketing, finance and research. A machine is also indivisible, marketing can posses' indivisibility.

2. Specialisation- Division of labour leads to specialization. When a firm expands in size, not only its production increases, but the quantity of raw materials and the number of workers also increase. This necessitates division of labour whereby each worker is assigned one particular job

and the splitting up of processes into sub processes for greater efficiency. Specialisation will lead to greater productive efficiency and to reduction in costs.

Technical Economies**:** Technical economies are those which arise to a firm from the use of better machines and techniques of production. As a result, production increases and the per unit cost of production falls.

Economies of Increased Dimensions**:** The installation of large machines itself brings many advantages to a firm. The cost of operating large machines is less than that of operating small machines. Even the cost of construction is relatively lower for large machines than for small ones.

Marketing Economies**:** A large firm also reaps the economies of buying and selling. It buys its requirements of various inputs in bulk and is, able to secure them at favourable terms in the form of better quality inputs, prompt delivery, transport concessions, etc. Because of its larger organisation, it produces quality products which are offered for sale in attractive packing by its packing department. It may also have a marketing department manned by experts who carry on salesmanship, propaganda and advertisement through the various media efficiently. Thus a large firm is able to reap the economies of marketing through its superior bargaining power and efficient packing and sales organisation.

Financial Economies**:** A large firm can procure cheap and timely finance both from the banks and the market because it possesses large assets and good reputation. It can also raise fresh capital by floating shares and debentures in the capital market. It is in this way that a large firm reaps financial economies.

Risk-Bearing Economies: A large firm is in a better position than a small firm in spreading its risks. It can produce a variety of products, and sell them in different areas. By the diversification, of its products the large firm is able to reduce risks by counter balancing the loss of one product by the gain from other products. By the diversification of markets, it can balance the fall in demand in one market by the increased demand in other markets. Even if the demand in the other markets for the products of the firm is constant, the loss can be easily borne by it.

A firm undertakes great risk by depending excessively on one source for its supply of power and raw materials. It can avoid risks by having alternative sources of supply in the case of power and different sources for the supply of raw materials. For instance, a large firm can avoid the losses arising from failure of regular power supply by installing a generator of its own.

Economies of Welfare: A large firm with its large resources can provide better working conditions to its workers. It may run subsidized canteens, provide crèches for the infants of women workers and recreation rooms for the workers within the factory premises. It may also provide cheap houses, educational and medical facilities for the families of workers and recreational clubs outside the factory. Though the expenses on such facilities are very heavy, yet they tend to increase the productive efficiency of the workers which helps in raising production and reducing costs.

(B) External Economies:

External economies benefit all firms within the industry as the size of the industry expands. Such economies accrue to firms when the industry is localised in a particular area, makes inventions and evolves specialisation of production processes. These external economies are discussed below.

1. Economies of Concentration: When an industry is concentrated in a particular area, all the member firms reap some common economies. It can be availability of skilled labour to all the firms. Second, means of transport and communications are considerably improved. Road transporters may also provide special facilities to the firms. Third, banks, insurance companies and other financial institutions set up their offices in the area and the firms get cheap and timely credit. Fourth, the electricity board supplies adequate power to the firms, often at concessional rates. Lost, subsidiary industries develop to supply the localised industry with tools, equipment and raw materials. All these facilities tend to lower the unit cost of production of all the firms in the industry.
2. Economies of Information: An industry is in a better position to set up research laboratories than a large firm because it is able to pool larger resources. It can employ highly paid and more experienced research personnel. The fruits of their research in the form of new inventions are passed on to the firms through a scientific journal. The industry can also set up an information centre which may publish a journal and pass on

information regarding the availability of raw materials, modern machines, export potentialities of the products of the industry in various countries of the world and provide other information needed by the firms. All this helps in raising the productive efficiency of the firms and reduction in their cost.

3. Economies of welfare: An industry would be in a better position to provide welfare facilities to the workers. It can give certain special provisions like free housing, educational facilities, and health care to the employees.
4. Economies of dis integration: the firms in an industry may reap the economies of specialization. As industry expands, it can split up its some processes which are taken over by its spealist firms.

Diseconomies of scale-

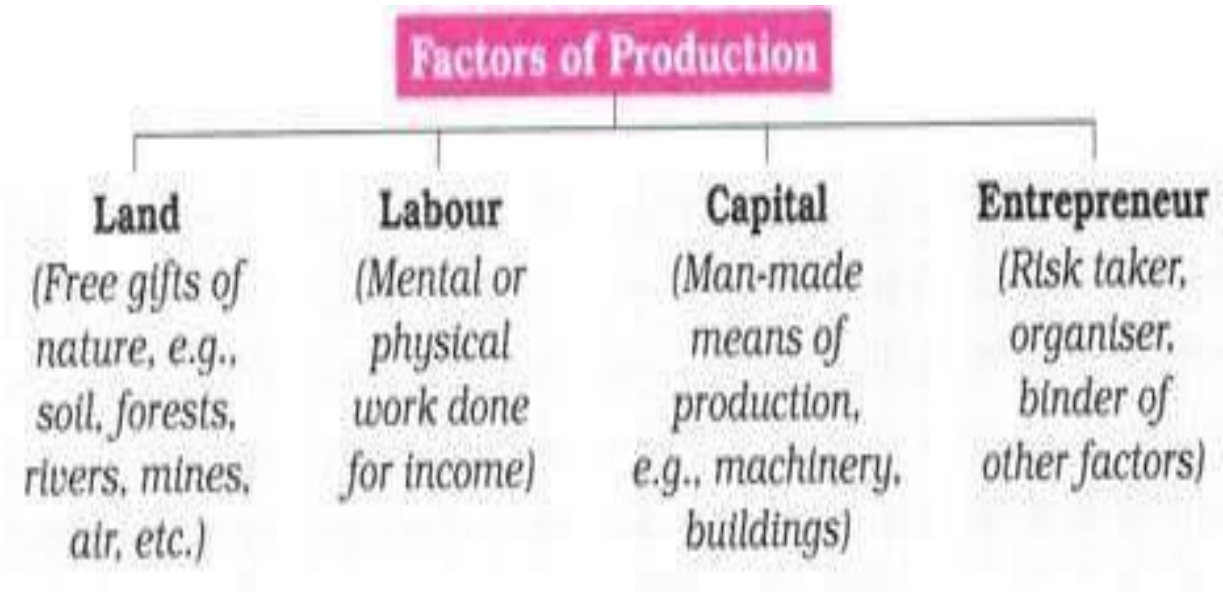
A firm may be subjective to internal and external diseconomiesas cost increase with increase in its production capacity. Thus the expansion of an industry may result in diseconomies of scale.

The major diseconomies are-

1. Financial diseconomies- the entrprenuer may face dificultybin meeting the financial needs while expanding his business. Lack of availability of finance may retard the production plans and there by increase the costs of the firm.
2. Managerial diseconomies- there are many challenges of large scale management. It can lead to inefficiency of workers with large scale employment, wastage, lack of coordination between the management and workers will lead to failure of the firm.
3. Marketing diseconomies- with expansion , the requisite for factors and raw materials will increase, and may not be available in sufficient quantities. The prices will increase and cost of production will also rise. The challenges for the firms are with change in taste and preferences, the demand for goods and services will fall and firms will incur losses.
4. Technical diseconomies- there will be limit to the division of labourand splitting down of production processes. The firms may fail to operate its plant to its maximum capacity, it will resut in increase in cost per unit and followed by internal diseconomies.

5. Diseconomies of risk taking- as the firms expand, risk also increases, wrong decision by the management may impact the firms.

Factors of production



The resources (input) used to produce final products (output) are termed as factors of production. In economic terms factors of production can be defined as inputs that are used for the production of goods or services with the aim to make economic profit. The factors, of production are the resources that include land, labor, capital, and enterprise.

Land

The term 'land' generally refers to the surface of the earth. But in economics, it includes all that, which is available free of cost from 'nature' as a gift to human beings. Land stands for all nature, living and non-living which are used by man in production. Though land is passive factor and it does not possess any ability to produce on its own, but it is an important agent of production.

"By land is meant not merely land in the strict sense of the word, but whole of the materials and forces which nature gives freely for man's aid in land, water, in air and light and heat." As opined by Prof. Marshall

Land includes:

i. Surface of the earth like plains, plateaus, mountains, etc.

ii. Sea, rivers, ponds, etc.

iii. Air, light, etc.

iv. Oil, coal, natural gas, etc.

v. Silver, gold and other metals and minerals.

Characteristics of Land: 'Land' has specific characteristics, which distinguish it from other factors of production. The main characteristics of land are:

1. Free Gift of Nature: land is available free of cost from the nature. To improve the usefulness or fertility of land or to make some improvements over land, some expenditure can be incurred, but as such, it is available at no cost from nature. Man has to make efforts in order to acquire other factors of production. But to acquire land no human efforts are needed. Land is not the outcome of human labour.

2. Supply of Land is fixed: Supply of land is fixed in quantity. It means supply of land cannot be increased or decreased like other factors of production. Although for an individual, supply of land may be flexible, but at macro level, the overall supply of land is fixed. However, only effective supply of land can be increased by making an intensive use of land.

3. Difference in Fertility: All lands are not equally fertile. Different patches of land have different degrees of fertility. Some locations are very fertile and have very good agricultural productivity, whereas some patches are totally barren and nothing can be grown there. Similarly, the degree of richness of mineral wealth varies from place to place, making the land more useful or less useful from economic point of view.

4. Indestructibility of Land: Land is an indestructible factor of production. Man can change only the shape of a particular location and composition of its elements, but as such land cannot be destroyed. It can either be converted into a garden or to a forest or to an artificial lake. However, some parts of land get eroded due to natural factors, but that is immaterial because overall availability of land does not change.

5. Immobility: Unlike other factors, land is not physically mobile. It is an immobile factor of production, as it cannot be shifted from one place to another. It lacks geographical mobility. Some economists, however, describe land as a mobile factor on the argument that it can be put to several uses.

6. Passive Factor of Production: Land is a passive factor of production, because it cannot produce anything on its own. Human element and capital inputs are required to be combined in an appropriate manner with land in order to obtain yields from it.

Labour

Labour constitutes one of the important factors of production. This factor involves human services and efforts for the production of goods or services. In economic terms, a work, physical or mental, carried out for monetary purpose is called labour.

According to Marshall, “Any exertion of mind or body undergone partly or wholly with a view to some good other than the pleasure derived directly from the work is called labor.”

Properties of labour

1. Labour involves human effort- labour is determined by certain human and psychological considerations.
2. Labour is Perishable- Labour is perishable factor of production. It means labour cannot be stored. The labour of an unemployed worker is lost forever for that day when he does not work. Labour can neither be postponed nor accumulated for the next day. It will perish. Once time is lost, it is lost forever.
3. Labour has weaker bargaining power- A labourer sells his labour for wages and an employer purchases labour by paying wages. Labourers have a very weak bargaining power, because their labour cannot be stored and they are poor, ignorant and less organised. Moreover, labour as a class does not have reserves to fall back upon when either there is no work or the wage rate is so low that it is not worth working. Poor labourers have to work for their subsistence. Therefore, the labourers have a weak bargaining power as compared to the employers.
4. Labour is an Active factor of production- Land and capital are considered as the passive factors of production, because they alone cannot start the production process. Production from land and capital starts only when a man makes efforts. Production begins with the active participation of man. Therefore, labour is an active factor of production.
5. Labour cannot be separated from labourer- labour cannot he separated from a labourer. Labour and labourer are indispensable for each other. For example, it is not possible to

bring the ability of a teacher to teach in the school, leaving the teacher at home. The labour of a teacher can work only if he himself is present in the class.

6. The Labour sells his Labour, but not himself- A labourer sells his labour for wages and not himself. The worker sells work but he himself remains his own property.
7. Labour is Mobile- he can move from one place to another, from one occupation to other.
8. Supply of Labour is Inelastic- The supply of labour is inelastic at a particular time. It means their supply can neither be increased nor decreased if the need demands so. The supply of labour depends upon the size of population. Population cannot be increased or decreased quickly. Therefore, the supply of labour is inelastic to a great extent. It cannot be increased or decreased immediately.
9. Labour makes a choice between Work and Leisure.

Division of Labour:

It refers to a scheme of dividing a given activity among workers in such a way that each worker is supposed to do one activity or only limited and narrow segment of an activity. It increases output per worker on account of higher efficiency, specialized skill and repetitive work on a given task.

There are 3 types of division of labour:

a. Professional Specialization.
b. Specialization by Process.
c. Territorial Specialization.

Merits of Division of Labour:

1. It increases the ability and the capacity of the individual worker as work is allotted as per his specialization.
2. Worker becomes highly skilled and it adds to his productivity.
3. It saves time and money as worker remains employed on the same process.
4. Mechanization is possible through division of labour.

5. It helps in expanding operations into larger scale unit.
6. It leads to rise of entrepreneurial and managerial efficiency.

Capital

Capital refers to the part of an individual's income that is used for Income creation purposes. Capital is not considered as original factor of production. In economics, the term capital is associated with capital goods, such as plant, raw materials, fuel, and machinery. Capital is one of the important factors as production of any kind of goods and services is dependent on capital. Production cannot take place without the involvement of capital. An organization requires a number of capital goods, such as tools and machinery, to produce goods.

According to J.S. Mill, "Capital is the accumulated product of past labour destined for the production of further wealth."

Features of capital-

1. Capital is a passive factor of production. It can become an active factor only with labour and land.
2. It is not indispensable factor. Capital is not original, it s man made and production can take place without capital sometimes.
3. Capital has highest mobility. It has both place and occupational mobility.
4. Supply of capital is elastic in nature. It can be easily being increased and adjusted to demand.
5. It is productive. It aids labour in the productive process.
6. It last over time. It can be used over a period of time.
7. It involves present sacrifice in return for future values. The benefits received by capital are referred to as productivity of capital.

   Importance of capital-

   a. It is the basic factor of production.

b. It arranges raw materials for production.
c. It is the basic for all types of trade,
d. It is important from the point of view of credit,
e. It provides employment.

Classification of capital

i) Fixed and Circulating Capital: Fixed capitals are continuously used in the process of production. For instance, machines, tools, equipment's etc. On the other hand, the capital which are used for single time, i.e., one time used capitals are called circulating capital. For example coal, petrol and raw material etc

(ii) Sunk and Floating Capital: The capitals which remain fixed and cannot be shifted from one place to another are called sunk capital. Factory, machines etc. are sunk capital.Floating capitals are those, which can be used for several purposes or by several industries. For example, money and other raw materials are the example of floating capitals.

iii) Remuneratory capital and auxiliary capital: Remuneratory capital constitutes capital used for payment of wages, salaries etc. Auxiliary capital is used for further production of wealth.

(iv)Trade capital and social capital: Trade capital is those which person uses in his trade. Social capital comprises all wealth other than free gift of nature which will yield real income to the society.

Organization/ Entrepreneur

Organization is the fourth factor of production. An entrepreneur is a person who organises the other factors and undertakes the risks and uncertainties involved in the production. He hires the other three factors, brings them together, organises and coordinates them so as to earn maximum profit. An entrepreneur acts as a boss and decides how the business shall run. He decides in what proportion factors should be combined. What and where he will produce and by what method. Thus, entrepreneur ship is a trait or quality owned by the entrepreneur.

Functions of an entrepreneur-

1. Organising production- the entrepreneur takes the responsibility of organizing production. He has to take various decisions and are as-

a. Choice of industry- it is the first and most important decision to be taken. The entrepreneur has to study in length the profit yielding capacities of various industries before taking the final decision.

b. Choice of commodities and services- the next important decision to be made by the entrepreneur is to decide the type of goods and services to e produced by him.

c. Decision making on the production unit- the size will be determined by the nature of the demand for the commodity and his own resources and capacity for production.

d. Combining the optimum combination of factors of production- the entrepreneur has to analyse the optimum combination of various factors together to get the best results, he has to use law of substitution to resolve these issues.

e. Location of production u, power , availability of labour, transport facilities etc. - the decision is mainly based on the considerations of nearness of raw materials

The process of decision making of an entrepreneur are-

a. Business organisation- the entrepreneur will have to decide upon the technique of marketing, advertisement, publicity etc. he has to decide the basis of remunerating the factors of production for the services rendered by them.

b. Risk taking or uncertainty bearing- the entire burden of loss is borne by the entrepreneur if the business fails. The risk of loss will be higher and he has to bear the responsibility.

c. Innovations- he introduces innovation. It can be new production techniques, utilization of new source of raw material, adoption of new forms of organisation, introduction of new line of production, quality improvements and exploring new markets.

UNIT IV- Markets

Markets

Perfect competition

Perfect competition refers to a market situation in which there are large number of buyers and sellers of homogeneous products. The price of the product is determined by industry with the forces of demand and supply.

"Perfectly competitive market is a situation where large number of buyers and sellers are engaged in the purchase and sale of identically similar commodities, who are in close contact with one another and who buy and sell freely among themselves." -Boulding

"The perfect competition is characterized by the presence of many firms; they all sell identically the same product. The seller is a price- taker." –Bilas

"Perfect competition prevails when the demand for the output of each producer is perfectly elastic." -Mrs. Joan Robinson

Assumptions: A perfectly competitive market has following assumptions

1. Large Number of Buyers and Sellers: The industry or market includes a large number of firms (and buyers), so that each individual firm, however large, supplies only a small part of the total quantity offered in the market. The buyers are also numerous so that no monopolistic power can affect the working of the market. Under these conditions each firm alone cannot affect the price in the market by changing its output.

2. Homogeneous Products: The second assumption of perfect competition is that all sellers sell homogeneous product. The buyers have no reason to prefer the product of one seller to another. The products are homogeneous means they are perfect substitutes from the buyers view

and their cross elasticity is infinite. Therefore no seller can charge a price even slightly higher than the ruling market price.

3. Free entry and exit of firms: There is no barrier to entry or exit from the industry. Entry or exit may take time, but firms have freedom of movement in and out of the industry. This assumption is supplementary to the assumption of large numbers. If barriers exist the number of firms in the industry may be reduced so that each one of them may acquire power to affect the price in the market.

4. Profit maximization: The goal of all firms is profit maximization. Under perfect competition, all firms have a common goal of profit maximization. Thus, there is absence of social welfare of the general masses.

5. Perfect Mobility: There must be perfect mobility of factors of production within the country which ensures uniform cost of production in the whole economy. It implies that different factors of production are free to seek employment in any industry.

6. Perfect knowledge: A competitive market is where there is a perfect knowledge of the market on the part of buyers and sellers. It implies that a large number of buyers and sellers in the market exactly know how much is the price of the commodity in different parts of the market.

In other words, there must be knowledge on the part of each buyer and seller of the prices at which transactions are being carried on, and of the prices at which other buyers and sellers are willing to buy or sell.

7. No Transport Costs: There shall not be any cost of transport between sellers. It assumes that the various firms work so close to each other that there is no transport cost. In other words, these are always uniform price in the market.

8. Absence of artificial restrictions: There is no existence of any governmental or institutional fixation of the prices for goods and services and factors of production. There will be the non existence of any artificial restrictions on the demand, supply, prices of goods and factors of production.

Monopoly

'Mono' means one and 'poly' means seller. Thus monopoly refers to a market situation in which there is only one seller of a particular product. This means that the firm itself is the industry and the firm's product has no close substitute. The monopolist is not bothered about the reaction of rival firms since it has no rival. Monopolist has full control over the supply of commodity. Having control over the supply of the commodity he possesses the market power to set the price.

"Monopoly is a market situation in which there is a single seller. There are no close substitutes of the commodity it produces, there are barriers to entry". -Koutsoyiannis

"Under pure monopoly there is a single seller in the market. The monopolist demand is market demand. The monopolist is a price-maker. Pure monopoly suggests no substitute situation". -A. J. Braff

"A pure monopoly exists when there is only one producer in the market. There are no dire competitions." -Ferguson

"Pure or absolute monopoly exists when a single firm is the sole producer for a product for there are no close substitutes." -McConnel

Features:

1. One Seller and Large Number of Buyers: The monopolist's firm is the only firm; it is an industry. But the number of buyers is assumed to be large. He may be an individual or a firm of partners or a joint stock company. This condition is essential to eliminate competition.

2. Barriers to the Entry of New Firm: There must be strict barriers to the entry of new firms either in the market or to do production. Those three conditions ensure that the monopolist

can set the price of his commodity i.e., he can pursue an independent price output policy. Power to influence price is the essence of Monopoly.

3. No Close Substitutes: There shall not be any close substitutes for the product sold by the monopolist. The cross elasticity of demand between the product of the monopolist and others must be negligible or zero.

4. Price Maker: The firm is the price maker and not price taker i.e., the firm can sell more at lower price and less at higher price. Monopolist is guided by the motive of profit maximization either by raising price or by expanding the scale of production. Much would depend on his business objectives.

Reasons for emergence of monopoly

1. Immobility of factors of production – it means that existing suppliers cannot be challenged by new entrants. It can through-

a. Legal prohibitions for new entrants as with public utilities, where many be firms would create a technical difficulties.

b. Patents, copyrights and trademarks here the object is to promote inventions and development of new ideas.

c. Government policies of establishing single buying and selling agencies like marketing boards.

2. Ignorance- a monopoly will exist largely through the ignorance of possible competitors.

3. Indivisibilities- the original firm may have been able to build up its size gradually, thus new firms may find it difficult to raise the large capital required to produce on a scale which is cost competitive.

4. A deliberate policy of excluding competition. Firms producing or selling the same good may combine or a competitor may be subject to a takeover bid.

Monopolistic Competition

In 1933 a revolution in the approach to price theory was initiated by the publication of two works of modern economists, Chamberlin from USA and Mrs. Joan Robinson from Great Britain. E.H. Chamberlin's work entitled "The Theory of Monopolistic Competition" and Mrs. Robinson's "The Economics of Imperfect Competition" marked for the beginning of the development of imperfect markets.

Both these economists challenged the concept of perfect competition and monopoly as unrealistic and attempted to present a new theory which is more realistic of the two new approaches, the view of Chamberlin's theory of monopolistic competition received wide appreciation.

Monopolistic Competition refers to the market situation in which there is a keen competition, but neither perfect nor pure, among a group of a large number of small producers or suppliers having some degree of monopoly because of the differentiation of their products.

Monopolistic Competition refers to competition among a large number of sellers producing close but not perfect substitutes for each other.

According to Prof. Lerner – "The condition of imperfect competition arises when a seller has to face the falling demand curve."

Prof. Leftwich – "Monopolistic Competition is that condition of industrial market in which a particular commodity of one seller creates an idea of difference from that of the other sellers in the minds of the consumers."

Features/assumptions/characteristics-

The main features are as follows-

1. Large Number of Sellers: There are large numbers of firms selling closely related, but not homogeneous products. Each firm acts independently and has a limited share of the market. So, an individual firm has limited control over the market price. Large number of firms leads to competition in the market.

2. Product Differentiation: Each firm is in a position to exercise some degree of monopoly through product differentiation. Product differentiation refers to differentiating the products on the basis of brand, size, colour, shape, etc. The product of a firm is close, but not perfect substitute of other firm.

Through 'Product differentiation' the buyers of a product differentiate between the same products produced by different firms. Therefore, they may be willing to pay different prices for the same product produced by different firms. This gives some monopoly power to an individual firm to influence market price of its product.

Product differentiation can be through by-

a. The differences can be in shape, flavor, colour, packing, after sale service, warranty period, etc.

b. The Imaginary Differences mean differences which are not really obvious but buyers are made to believe that such differences exist through selling costs that is by advertising and other marketing strategies.

c. By offering consumers supplementary and other services.
d. It can be bought through location advantages.

3. Freedom of Entry and Exit: Under monopolistic competition, firms are free to enter into or exit from the industry at any time they wish. It ensures that there are neither abnormal profits nor any abnormal losses to a firm in the long run. However, it must be noted that entry under monopolistic competition is not as easy and free as under perfect competition.

4. Absence of Firm's interdependence: each firm behaves like a petty monopolist in its own segment. Each firm formulates its own price output policy. This market form is a mild and

diluted form of monopoly, as the concerned firm does experience competitive pressures from the other firms in the market. Under monopolistic competition, each firm acts ,ore are less independently. Each firm formulates its own price output policy.

5. Revenue and cost curves- Under monopolistic competition, large number of firms selling closely related but differentiated products makes the demand curve downward sloping. It implies that a firm can sell more output only by reducing the price of its product.

Oligopolistic market

The term oligopoly is derived from two Greek words: ‘oligos’ means few and ‘pollen’ means to sell. Oligopoly is a market structure in which there are only a few sellers of the homogeneous or differentiated products.

Oligopoly refers to a market situation in which there are a few firms selling homogeneous or differentiated products. Oligopoly is, also known as ‘competition among the few’ as there are few sellers in the market and every seller influences and is influenced by the behaviour of other firms.

Types of Oligopoly:

Pure or Perfect Oligopoly: If the firms produce homogeneous products, then it is called pure or perfect oligopoly. Example cement, steel, aluminum and chemicals producing industries approach pure oligopoly.

Imperfect or Differentiated Oligopoly: when the firms produce differentiated products, then it is called differentiated or imperfect oligopoly. For example- passenger cars. The goods produced by different firms have their own distinguishing characteristics, yet all of them are close substitutes of each other.

Collusive Oligopoly: the firms here cooperate with each other in determining price or output or both; it is called collusive oligopoly or cooperative oligopoly.

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

Emergence of oligopoly

1. Huge capital investment-there are some industries which are highly capital intensive and need huge capital investments for their development. This will act as a barrier to the new entrants to enter the field thus it results in only few big gigantic concerns alone can continue to operate in these industries.

2. Absolute cost advantage to the present firms- the existing firms enjoy absolute cost advantage as they may acquire dominant control of certain cheap sources of raw material into the production of goods and services.

3. Product differentiation- the firms produce differentiated which are preferred by the consumers to the similar products brought out by other entrants.

4. Economies of large scale production- the production may be driven by a firm to enlarge its size with the passage of time. Large size firms may drive out smaller firms from industry through competition pressures.

5. Mergers and combinations- competition among firms in a particular industry may find itself in advantageous position to merge into or combine with each other thus eliminating the competition. Such mergers and combinations can be successful only if there are sufficiently strong barriers into the entry of new

Features

1. Interdependence- The foremost characteristic of oligopoly is interdependence of the various firms in the decision making. Each firm produces homogeneous or slightly differentiated products. As the numbers of firms in the market are small, each firm will enjoy a large share of the market and will be in a position to influence the price and output of the industry in a significant way. Therefore, a good interdependence of the firms under oligopoly is seen.

2. Indeterminateness of demand curve- mutual interdependence of firms create an atmosphere of uncertainty for all firms no firms are in a position to visualize the consequences of its price output policy with any degree of certainty. This complicates the pricing of the firm and thus no firm will be in a position to fix the price of its product independently without taking into account the reaction of its rivals.

3. Conflicting attitudes of firms-two conflicting trends work under oligopoly, one of cooperation and coordination and the other of conflict. The two rends may alternate each other. This atmosphere creates an uncertainty and instability under oligopoly market conditions.

4. Element of monopoly- since each firm controls a large share of market and produces a differentiated product, it acts in its own limited sphere as a petty monopolist when it comes to price and output fixation. The element of monopoly becomes still more conspicuous when the customers are deeply attached to the product of the oligopolistic firms. Therefore the firm will have greater freedom to fix price and output at the desired level.

5. Price rigidity- prices tend to be sticky and rigid under this competition. If any firm cuts price, the rival firms will follow the cutting down of prices. It results in price war and will not benefit anyone. But on the contrary if any firm increases the prices, the rival firms will not follow it. They will try to avail the benefit and expand the market.

6. Importance of advertising and selling cost- firms employ aggressive and defensive marketing strategies to gain a major share in market for their goods. Thus they will spend in advertising for sales promotion

Duopoly

Duopoly is a special case of oligopoly. Augustin Cournot published his theory of duopoly in 1838. Duopoly is a special case in the sense that it is limiting case of oligopoly as there must be at least two sellers to make the market oligopolistic in nature. A duopoly is a situation where two companies together own all, or nearly all, of the market for a given product or service. A duopoly is the most basic form of oligopoly, a market dominated by a small number of companies. A duopoly can have the same impact on the market as a monopoly if the two players collude on prices or output. A duopoly market can be with product differentiation and without product differentiation. A duopoly is a form of oligopoly, and should not be confused with monopoly, where only a single producer exists and controls the market. With a duopoly, each company will

tend to compete against the other, keeping prices lower and benefiting consumers. However, since there are only two major players in an industry under a duopoly, there is some likelihood that a monopoly could be formed, either through collusion between the two companies, or if one goes out of business.

Price Discrimination

Price discrimination refers to the charging of different prices by the monopolist for the same product. Price discrimination refers to the practice of a seller to sell the same product at different prices to different buyers. It is very difficult to charge different prices for the identical product from the different buyers. The concept of price discrimination can be broadened to include the sale of the various varieties of the same good at prices which are not proportional to their marginal costs.

"Price discrimination refers to the sale of technically similar products at prices which are not proportional to their marginal cost." –Stigler

"Price discrimination is the act of selling the same article produced under single control at a different price to the different buyers." -Mrs. Joan Robinson

"Price discrimination refers strictly to the practice by a seller of charging different prices from different buyers for the same good." -J.S. Bain

Price discrimination may be personal, local, or according to use or trade. Price discrimination is personal when a seller charges different prices from different persons. Price discrimination is local when the seller charges different prices from people of different localities or places.

Degrees of Price Discrimination

Prof. A.C. Pigou has distinguished between the following three types of price discrimination on another ground:

1. price discrimination of the first degree- Price discrimination of first degree is said to exist when the monopolist is able to sell each separate unit of his product at different prices. It is also known as the perfect price discrimination. In case of first degree

price discrimination, a seller charges a price equal to what the consumer is willing to pay. It means the seller leaves no consumer's surplus with the consumer. Apart from above, under perfect price discrimination the demand curve of the buyer, like under simple monopoly, becomes the marginal revenue curve of the seller.

2. Price discrimination of the second degree- In the price discrimination of second degree buyers are divided into different groups, from different groups a different price is charged which is the lowest demand price of that group. This type of price discrimination would occur if each individual buyer had a perfectly in- elastic demand curve for good below and above a certain price.
3. Price discrimination of the third degree- Price discrimination of third degree is said to exist when the seller divides his buyers into two or more than two sub markets and from each group a different price is charged. The price charged in each sub-market depends on the output sold in that sub-market along with demand conditions of that sub-market. In the real world, it is the third degree price discrimination which exists.

Methods of Price Discrimination

Two fundamental conditions for the price discrimination are-

1. Price discrimination can occur only if it is not possible to transfer any unit of the product from one market to another.
2. Price discrimination to occur is that it should not be possible for the buyers in the dearer market to transfer themselves into the cheaper market to buy the product or service at the lower price.

   Price discrimination is possible in the following cases-

   1. The Nature of the Commodity. The nature of the commodity or service may be such that there is no possibility of transference from one market to the other. The most usual case is the sale of direct personal services like that of a surgeon or lawyer. The surgeons usually charge different fees from the rich and the poor for the same kind of operation. This is possible for them since the service has to be delivered personally by the surgeon and therefore, it cannot be transferred.

   2. Long Distances or Tariff Barriers. Discrimination often occurs when the markets are separated by long distances or tariff barriers so that it is very expensive to transfer goods

from a cheaper market to be resold in the dearer market. Similarly, if a seller is selling his good in two different markets, , in a home market which is protected by a tariff and in a foreign market without a tariff, he can take advantage of the tariff barrier and can raise the price of his product in the home market. As a result, he will be selling the product in the foreign market at a lower price than at home.

3. Legal Sanction. In some cases there may be legal sanction for price discrimination. For example, an electricity company sells electricity at a lower price if it is used for domestic purposes and at a higher price if it is used for commercial purposes.

4. Preferences or Prejudices of the Buyers. Price discrimination may become possible due to preferences or prejudices of the buyers. The same good is generally converted into Price Discrimination different varieties by providing different packing's, different names or labels in order to convince the buyer that certain varieties are superior to others. Different prices are charged for different varieties, although they differ only in name or label.. So, price discrimination can based on the preferences or prejudices of the various buyers of the product. Another case of price discrimination falling in this category is that when some people prefer to buy goods in a particular locality at a higher price.

5. Ignorance and Laziness of Buyers. Price discrimination may become possible due to ignorance and laziness of buyers. If a seller is discriminating between two markets but the buyers of the dearer market are quite ignorant of that fact that the seller is selling the product at a lower price in another market, then price discrimination by the seller will persist. Price discrimination will also persist if the buyers of the dearer market are aware of the seller's act of selling the same product at a lower price in another market but due to laziness may not go for shopping in the cheaper market

6. Price discrimination may become possible when several groups of buyers require the same service for clearly differentiated commodities. For example, railways charge different rates of fare for the transport of cotton and coal. In this case price discrimination is possible since bales of cotton cannot be turned into loads of coal in order to take advantage of the cheaper rate of transport for coal.

Product Life Cycle

Product life cycle is the historical study of (sales of) the product. It includes when it was introduced; when it was getting rapid acceptance; when it was on the peak of its position; when it started falling from the peak; and when it disappeared. Product passes through certain stages during its life span.

The concept that studies the life span of product in relation to the demand is popularly known as product life cycle. The product life cycle is a conceptual representation. It is a product aging process. Professor Theodore Levitt popularized the concept and others like C.R. Wassen, B. Carty, M. Chevalier, DJ Luck, D.T. Kollat, R.D. Blackwell, and J.F. Robenson took the concept forward.

Joan Dean makes a statement "The length of the product life cycle is governed by the rate of technical change, the rate of market acceptance and the case of competitive entry."

Philip Kotler:"The product life cycle is an attempt to recognize distinct stages in sales history of the product."

Mr. Kollat D.T., Mr. Blackwell R.D. and Robenson J.F. -it is a "generalized model of sales and profits trends for a product class or category over a period of time".

A typical product moves through five stages, namely, introduction, growth, maturity saturation and decline. These stages in the life of a product are collectively known as product life cycle.

The length of the cycle and the duration of each stage may vary from product to product, depending on the rate of market acceptance, rate of technical change, nature of the product and ease of entry.

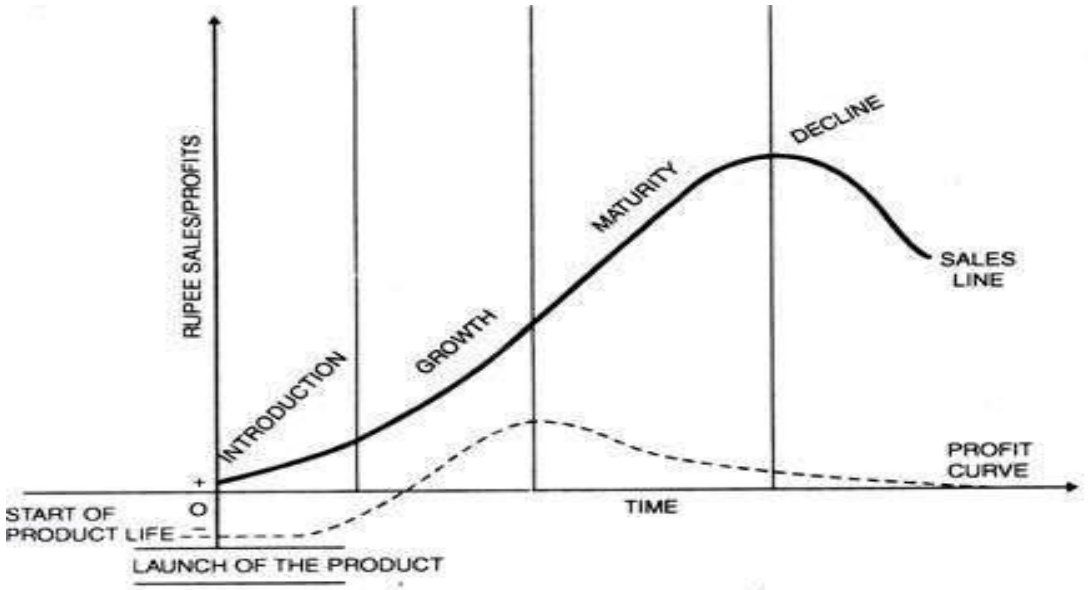


Fig. 1.04. A Typical Product Life Cycle.

Introduction Stage- In the first stage, the product is introduced in the market and its acceptance is obtained. As the product is not known to all consumers and they take time to shift from the existing products, sales volume and profit margins are low. Competition is very low, distribution is limited and price is relatively high.

Heavy expenditure is incurred on advertising and sales promotion to gain quick acceptance and create primary demand. Growth rate of sales is very slow and costs are high due to limited production and technological problems. Often a product incurs loss during this stage due to high startup costs and low sales turnover.

Growth Stage- As the product gains acceptance, demand and sales grow rapidly. Competition increases and prices fall. Economies of scale occur as production and distribution are widened. Attempt is made to improve the market share by deeper penetration into the existing market or entry into new markets. The promotional expenditure remains high because of increasing

competition and due to the need for effective distribution. Profits are high on account of large scale production and rapid sales turnover.

In this stage new versions of the product may be introduced to satisfy the requirements of different types of customers. Brand image of the product is created through advertising and publicity. The price of the product is made competitive.

Maturity Stage- During this stage prices and profits fall due to high competitive pressures. Growth rate becomes stable and weak firms are forced to leave the industry. Heavy expenditure is incurred on promotion to create brand loyalty. Firms try to modify and improve the product, to develop new uses of the product and to attract new customers in order to increase sales.

In this stage, the product is differentiated from the rival products. Brand image of the product may be created. Lifetime or longer period warranty is offered. New markets may be developed. The end of maturity period is marked by saturation.

4. Decline Stage- Market peaks and levels off during saturation. Few new customers buy the product and repeat orders disappear. Prices decline further due to stiff competition and firms fight for retaining market share or replacement sales. Sales and profits inevitably fall unless substantial improvements in the product or reduction in costs are made.

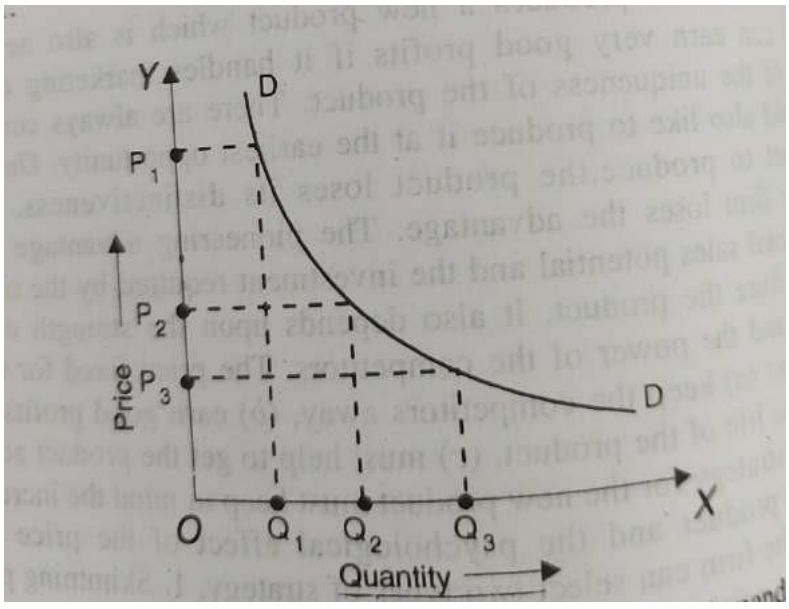
The product gradually is displaced by some new products due to changes in buying and behaviour of customers. Promotion expenditure is drastically reduced. The decline may be rapid and the product may soon disappear from the market. However, decline may be slow when new uses of the product are created. Throughout the cycle of the product, changes take place in the elasticity of demand and thus change in price. Pricing policy is adjusted to the various stages of the life cycle of the product

Skimming price

Under this strategy a high introductory price is charged for an innovative product and later on the price is reduced when more marketers enter the market with same type of product. Price skimming is a business strategy to set a high price on entry to the market and then reduce the price over time.

The firm will charge the highest possible price which the traffic can bear. The high will be charged in initial stages to help the firm recoups its expenditure on promotional research. Here the cost is recovered before the entry of others in the field. The innovators use price skimming strategy to get reward for their research and development. The price skimming strategy cannot be used by every marketer. Skimming price is used for the product that must be highly distinctive and demand for that product must be very inelastic. The company must be able to maintain its uniqueness for some time. To use price skimming strategy there must be customers in the market who value the uniqueness of the product and are ready to pay high price.

Skimming price policy is a strategy that helps to skim the cream of the market which is relatively insensitive to price. It is succesfiul for products which have relativeprice inelastic demand. It can be explained as- in initial stages it is difficult to estimate the price elasticity of demand for new products. The initial high prices will reduce the recovering the cost. The firms will also be producing limited quantities iniatially. The skimming price can be explained with diagrammatic explanation-



The firm is able to skim of the market segment OQ_1 only if it keeps price high OP_1. It depicts inelastic demand. Further when the price is lowered to OP_2 to expand OQ_2 demand.the next

expansion of the market will be lowering the price to OP_2. Thus in the adoption of skimming price strategy, the pricing should be lowered as market condition warrant.

Skimming price is successful undervthe conditions -

1. When the life cycle of the product is short.
2. Introducing new product concepts where there is no measuring rod for comparison of value and utility.
3. Where sale appears inelastic to price but responsive to information creating awareness of its uses.
4. Where there is a cream of market willing to pay higher prices for new products.
5. Where the firm requires funds to finance the products through its costly initial introductorystage.
6. The future modifications to be done without incoprporating price changes.
7. The firm has limited manufacturing facilities to produce the product.

Penetration price

This strategy aims at acheiing the maximum market penetration by charging a low price to create large volume of sales. The objective of the firm is to maximize its sales in short run. The penetration strategy keeps initially low prices, aims at high sales, keeping competitors away. The profit making is a long term objective of the firm.

Penetration price is appropriate where-

1. Product demand is highly price elastic.
2. The firm has substantial economies of scale.
3. The product is suitable for mass consumption.
4. The product will have competiton soon after is introduction.
5. The product has high industry standards.

   The penetration price policy is known as predatory pricing. This polic is also called as stay out price policy.

Unit V

Marginal productivity theory of distribution

The theory explains that the price of a factor of production depends upon its marginal productivity. It argued that factor of production should get its reward according to the contribution it makes to the total output, i.e., its marginal productivity. Marginal productivity theory was first put forward to explain the determination of wage i.e, reward for labour but subsequently prices of other factors of production such as land, capital etc. also were explained with doctrine of marginal productivity.

The origin of the concept of marginal productivity can be traced to Ricardo and West. Both Ricardo and West applied the marginal productivity doctrine only to land. J.B. Clark, Jevons, Wicksteed, Walaras and later Marshall and J.R. Hicks popularised the doctrine of marginal productivity.

Marginal Productivity Theory: Clark's Version

J. B. Clark, an American economist, developed marginal productivity theory of distribution presented it in complete form as an explanation for the distribution of wealth in a country in his book "The Distribution of Wealth". Clark assumed a completely static society, free from the disturbances caused by economic growth or change. In other words, he assumed constant population, a constant amount of capital and unchanging techniques of production. "By isolating from the process of economic change and development, Clark attempted to find the "natural values" of wages and other productive factors towards which all actual values in the real dynamic world around us tend at any moment of time."

He has also assumed perfect competition in the factor market and perfect mobility on the part of both labour and capital. He assumed that the total stock of capital remains constant. He treats labour as a homogeneous factor by taking identical labour units.

Every rational employer or entrepreneur will try to utilize his existing amount of capital so as to maximize his profits. For this the entrprenuer will hire as many labourers (labour units) as can be profitably put to work with the given amount of capital. For an individual firm or industry, marginal productivity of labour will decline as more and more workers are added to the fixed quantity of capital. He will hire more and more labour units as long as the addition made to the total product by a marginal labour unit is greater than the wage rate he has to pay for it. The employer will reach equilibrium position when the wage rate is just equal to the marginal product of labour.

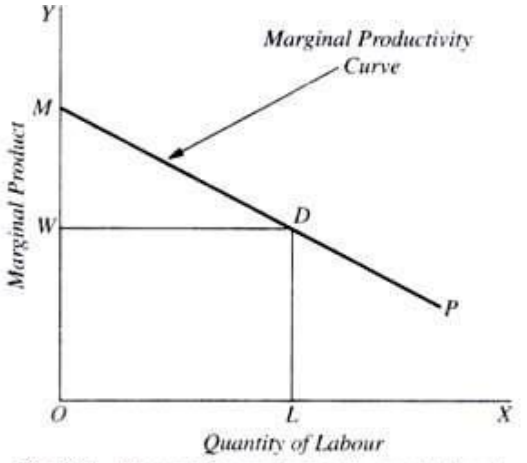


Fig. 32.1. *Wage rate is equalised with marginal productivity of labour.*

The units of labour are represented on the X-axis and the marginal product of labour on the X-axis. The MP curve shows the diminishing marginal product of labour. Given the supply of labour, and the prevailing wage rate which an employer is willing to pay is equal to OW, then it will be profitable for the employer to go on employing additional workers until the marginal product of labour becomes equal to the prevailing wage rate OW.The prevailing wage rate is OW; the employer will employ OL units of labour as the marginal product of labour is equal to OW at OL employment of labour. He would not employ more than OL amount of labour as the marginal product of labour falls below the wage rate OW and he would therefore be incurring losses on the employment of additional workers beyond OL.

A marginal product schedule or curve shows a particular wage-employment

relationship.In the competitive labour market the wage rate will be determined by the marginal product of a given quantity of labour force.

But if the labourers compete with each other for obtaining jobs, they will bid the wage rate down if some of them find themselves unemployed. The employers will bid the wage rate up if the prevailing wage rate is smaller than the marginal product of available labour force. This is so because at the wage rate lower than marginal product the employers' demand for labour force will be more than the available number of labourers.

In this figure, MP curve shows diminishing marginal product of labour as more units of labour are employed in the economy, assuming the quantities of other factors used as unchanged. If the available quantity of labour force is OL in the whole economy, LS is the supply curve of labour which is perfectly inelastic. The marginal product of OL quantity of labour is LD.

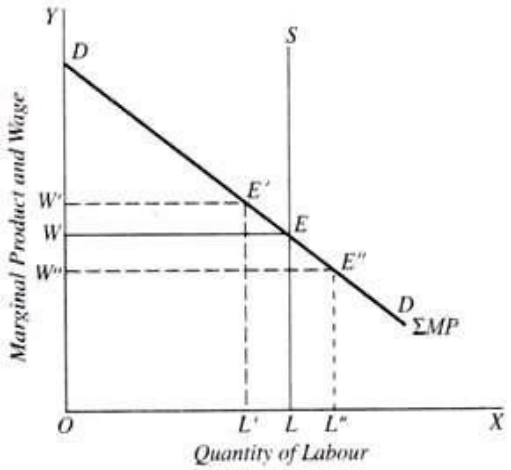


Fig. 32.2. *Wage rate is determined by marginal productivity.*

The wage rate will be determined by this marginal product LD and, therefore, equilibrium wage rate which will be determined by demand for and supply of labour in the OL′ amount of labour leaving LL′ amount of labour unemployed. Unemployed workers in their attempt to get employment will bring the 'wage rate down to the level OW at which all are employed.

On the other hand, at a lower wage rate than OW, say OW ″, the employers will demand OL″ amount of labour since their profits will be maximum if they are employing OL″ amount of labour at the wage rate OW″. But the available amount of labour is OL. Thus, at a lower wage rate than OW″ the demand for labour by the employers will be greater than the

available supply of labour. In their bid to get more labour, competition among employers will push the wage rate up to OW at which wage rate the employers demand just the same amount of labour which is actually available. If the actually available labour force in the whole economy is OL″, that is, labour supply curve is vertical line LD″, then the marginal productivity of labour force in equiliburium will be L″D″ and therefore the wage rate will be equal to OW″. If the actual quantity of labour force is OL′, then the wage rate will be equal to OW′. Thus, given the quantity of labour in the country, wage rate is determined by marginal productivity of labour.

Clark's marginal productivity theory of distribution may be divided for analytical purposes into the following three component parts:-

(1) The rational employer will be guided by the marginal productivity of the factor in determining the number of units of that factor he has to employ.

(2) There is the assumption of perfect competition so that market forces tend to equalise rates of return for all units of a factor.

(3) There is the premise of long run general equilibrium in all market.

Given the above three assumptions, it can be said that with a given fixed supply of labour in the market, the level of wages will be determined by the marginal product of labour.

Marginal Productivity Theory: Marshall-Hicks' Version

Alfred Marhall, gave a different version of the marginal productivity theory. Marshall's version has been called by many as the marginal productivity theory. Marshall said it was wrong to regard the marginal productivity principle or doctrine of wage determination as a wage theory. This is because he believed that wage rate (or any factor price) is determined by both demand for and supply of labour. According to him, Marginal productivity doctrine explains only the demand side of the problem. That is, given the wage rate, a rational employer will employ as many units of labour as will equalize the wage rate with the marginal product of labour. At different wage rates, the employers will employ different amounts of labour units, depending upon the corresponding amount of the value of the marginal product. Thus, according to Marshall, the relationship between the wage rate and

the marginal productivity of labour provides leads to emergence of the demand curve of labour.

Marshall ponted out that the marginal productivity doctrine plus the competitive conditions in the labour market would in the long run tend to make the wages of labour in different industries or uses equal to eachother and to the marginal product.

Marshall drew the distinction between the marginal productivity principle which determines the demand for a factor and the marginal productivity theory as a complete theory of determination of factor prices. Thus, according to Marshall, price of a factor such as wage rate of labour, rent of land are determined by demand for and supply of the factor and is equal to the marginal productivity of the factor.

While the marginal productivity principle determines the demand for a factor, namely, how much quantity of the factor is demanded at its various prices, the marginal productivity theory explains how through the interaction of demand and supply, price of a factor, say wage rate of labour, is determined.

Critical Evaluation of Marginal Productivity Theory

Marginal productivity theory has been a pillar in the neoclassical theory of income distribution; it constitutes an important factor in the determination of factor prices. It is criticized on following grounds-

1. Marginal Productivity theory is based on several unrealistic assumptions. It has often been argued that marginal productivity theory takes too many assumptions which are quite unrealistic. Therefore, it is concluded that theory has no validity. The theory of marginal productivity (Clarkian version) assumes a stationary state, perfect competition, perfect mobility of factors, equal bargaining power of buyers and sellers, and perfect knowledge, which are all far away from the actual conditions of the real world.
2. Under Imperfect Competition, factor rewards are not equal to value of marginal product. Another significant criticism levelled against marginal productivity theory is that being

based upon the assumption of perfect competition both in product and factor markets, it is unable to explain the determination of factor prices under conditions of imperfect competition in the factor and product markets. Under imperfect competition in the product market, a factor of production is remunerated according to a different principle, namely, marginal revenue product (MRP) which is less than the value of the marginal product (VMP).

3. Factors do not get reward equal to MRP in conditions of monopsony. If imperfect competition or monopsony prevails in the factor market, a factor will not get the reward even equal to its marginal revenue product (MRP). Under imperfect competition or monopsony or oligopsony in the factor market, the firm to be in equilibrium, will equate marginal wage of labour with the marginal revenue product of labour and, this marginal wage is greater than the average wage or the wage rate which will be paid to the labour.
4. Marginal Productivity theory cannot explain rewards of the factors used in fixed proportions. Another serious shortcoming of marginal productivity theory is that it cannot explain the rewards of the factors which are used in fixed proportions. Marginal productivity takes it granted that a good degree of elasticity of substitution exists between the factors of production so that increase in one factor, keeping other factors constant, leads to the increase in the addition to the total product, that is, it has a positive marginal productivity and therefore gets positive reward for its contribution to production. But when the factors are used in fixed proportions, increase in one factor keeping the others constant; will not lead to any increase in total production at all. That is to say, in case of fixed proportions or fixed relations between the factors, marginal productivity of the factors will be zero.In view of their zero marginal productivity, according to the marginal productivity theory, their rewards or prices should also be zero.
5. Marginal productivity theory neglects the role of labour unions in influencing the wage rate. The another serious drawback of marginal productivity theory is that, in its original and rigid version, trade unions or collective bargaining cannot raise the wages of labour without creating unemployment. Thus, according to this theory, trade unions are superfluous and collective bargaining by them is a futile activity.
6. Marginal productivity theory wrongly applied to the macro-analysis of wageemployment relashionship. Marginal productivity theory has also been criticised for its application to

macroeconomic field and wrong conclusions drawn. At times of severe depression and huge unemployment during the thirties, A. C. Pigou, a famous neoclassical economist, argued on the basis of marginal productivity theory that cut in wages of labour in the whole economy would bring about increase in employment, since, given the falling marginal revenue productivity curve of labour, at a lower wage rate more labour will be employed and economy would be able to get out of depression.

7. Positive relationship between factor rewards and productivity ignored. Marginal productivity theory also ignores the positive interrelations between rewards of the factors and their productivity, especially between wages and the efficiency or productivity of labour. Any rise in wages will have a favourable effect on the efficiency and productivity of labour. With higher wages workers can afford to have better standard of living and better health which will raise their productivity and efficiency.
8. Profit maximization assumption of marginal productivity theory is criticised. The marginal productivity theory of distribution developed by neo-classical economists has a marginal approach to the problem and therefore assumes that the entrepreneurs or employers seek to maximize profits. It is only if the entrepreneurs are maximizers of profits that they will equate wage with marginal product of labour. If they do not seek to maximize profits, then they may employ the amount of labour at which marginal product of labour stands higher than the wage.
9. Entrepreneurs are ignorant of marginal products of factors. Marginal productivity theory has also been challenged on the ground that it assumes that entrepreneurs are fully aware of their production function or, in other words, they know what the marginal products of various factors are and how they change with the expansion in their employment. But this has been proved wrong.
10. The basic objection raised against marginal productivity theory is that various factors are jointly demanded for the production of a commodity. That is, production of a commodity is the end result of cooperation of various factors and their individual productivities cannot be separately estimated. Further, all the factors are required to produce a commodity.
11. Marginal productivity theory neglects the supply side of factor pricing. It is based upon a wrong interpretation of the theory, is that the marginal productivity theory neglects the

supply side of the factor pricing and merely describes the demand side of it. It is pointed out that the technique of equalization of marginal product of labour with wage and of marginal product of capital with interest and so on is that the entrepreneur who is out for maximum profits adjusts his employment of labour to a given wage rate and use of capital to a given interest rate. This theory does not explain how these given wage rate and given interest rate are determined. It is thus said the marginal productivity theory is more a theory of employment of labour or employment of capital rather a theory of wage determination or of interest determination.

12. Marginal productivity theory ignores the importance of power structure, and social institutions in determining factors rewards. Finally, the marginal productivity theory of distribution also does not give any importance to the power structure, social conventions, social status, and prestige of a group of workers in the determination of remuneration of various groups or classes of labour force.

Marginal productivity theory of distribution does not explain fully the determination of all factor prices. But marginal productivity of a factor is the most important economic factor governing the prices of factors.

Ricardian theory of rent

The term 'Rent' is used as a part of the produce which is paid to the owner of land for the use of his goods and services. "Rent is that portion of the produce of earth which is paid to landlord for the use of original and indestructible powers of the soil." -Ricardo

"Rent is the income derived from the ownership of land and other free gifts of Nature." He further called it 'Quasi Rent' which arises on the manmade equipment's and machines in the short period and tends to disappear in the long run. – Marshall

"Rent is the price paid for the use of land." –Prof. Carver

Economic rent is also termed as surplus as it is received by landlord without any effort. Prof. Bounding termed it as "Economic Surplus." Modern economists comprising of Mrs. Joan Robinson, Boulding etc. opined that part of the income of each factor can be rent.

"Economic Rent may be defined as any payment to a factor of production which is in excess of the minimum amount necessary to keep the factor in its present occupation." – Boulding

David Ricardo, an English classical economist, propounded a theory to explain the origin and nature of economic rent. Ricardo defines rent as "that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil". Rent is nothing but the producer's surplus or differential gain, and it is found in land only.

Ricardo dealt with differential rent. Rent was a differential surplus according to him which accrued to superior land over inferior land. Thus he argued that the difference in the fertility of land was the factor giving rise to rent. The differential rent was explained with both intensive and extensive cultivation.

Assumptions of the theory-

This theory is based on following assumptions-

1. Determination of rent is in the long period.

2. There exists in every country no rent land or the marginal land.

3. Land is limited quantitatively and qualitatively.

4. Land has original and indestructible powers of soil, which is not found in other factors.

5. Rent arises only on land.

6. Land in a country is cultivated on descending order.

7. Rent arises due to differential fertility of soil.

8. The theory operates on the basis of law of diminishing returns.

9. Population will increase perennially.

Rent and Extensive cultivation

Ricardo explains the theory with an example. He assumes and takes example of an inhabited island that is newly discovered. Further he assumes that there are four types of land based on fertility- A, B, C and D. A is the most fertile land and D is the least fertile land.

People start coming to the island and start settling in batches. The first batch settlers will occupy A quality land for cultivation. He further assumes that for 1 dose of labour and capital, the A land would yield 100 metric tons of wheat per hectare. Now the second batch will come to the island and settle. They are faced with the challenge as to whether to choose 'B' land or take 'A' land for rent.

It is assumed that for 'B' land 1 dose of capital and labour will yield 80 tons of wheat per hectare. Thus the rent for A quality land can be calculated as 100-80=20 tons, that is the difference between the fertilities of two land.

When second batch decides to cultivate on B quality land the price at which the crop will be sold is determined by cost of production of B quality land, and thus A quality land would be enjoying surplus over B.

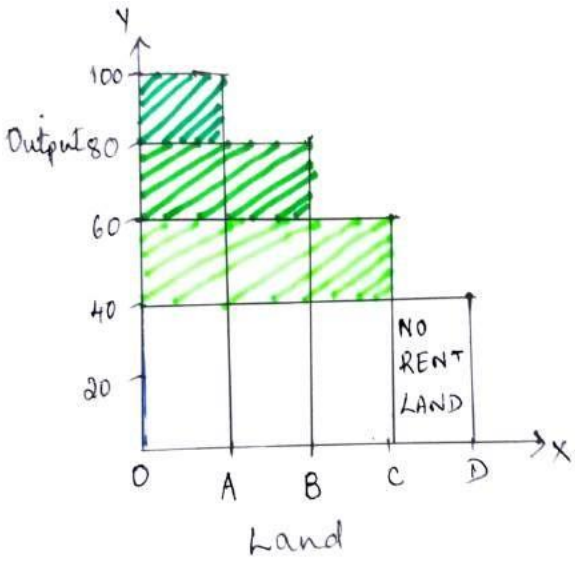
With third batch settling in the island, will either have option to choose C quality land for cultivation or rent A or B quality land. C quality land with one dose of labour and capital will yield 60 tons of wheat.

And f fourth batch of settlers come to the island they either have to choose D quality land or rent A/B/C land.

Thus rent would be determined by the difference in fertility of land. Hence , superior lands would are measured upwards from the marginal land or no rent land.

The rent on any superior land is determined by the difference between the fertility of this land over marginal land. Thus, rent is the surplus enjoyed by the superior land over inferior land.

This he explains diagrammatically-



A,B,C,& D land are represented on OX axis. Output yielded per hectare on application of one dose of capital and labour is measured on OY axis. A quality land is represented by 100 tons yielded by this land, and similarly B, C and D quality land represents their output. D will be the no rent land. Thus rents of the super marginal lands are measured on the basis of the output of this marginal land.

The important aspect to be considered is the price of the agricultural produce is equal to the cost of production of marginal land.

Rent and Intensive cultivation

Under this type of cultivation, the application of successive doses of labour and capital is accompanied by progressive diminishing output. When the volume of the output yielded is

by the marginal dose of labour and capital is equal to its cost, will be the marginal or no rent land.

To explain, the first dose of labour and capital will yield 100 metric tons, second dose of labour and capital will yield 80 metric tons, third dose will yield 60 metric tons and fourth 40 metric tons. Thus the fourth dose is no rent land as, first three doses will yield 60,40, 20 respectively. The shaded portion of the rectangle represents rent of A, B and C.

Criticisms-

1. Rent is derived for original and indestructible powers of soil were questioned. With scientific advancement it was argued that the fertility of soil coukd be increased or with indiscriminate cropping pattern, fertility of soil could be destroyed.

2. Ricardo's order of cultivation was historically wrong. He opined that most fertile land would be cultivated first. But it was argued that this order s wrong.

3. Productivity of land cannot be separated from capital invested on it. The arugument here was both original indestructible power of soil and capital contributes for production and both are to be considered.

4. It lacks realism.it is an imaginary and unrealistic theory as it is based perfect competition and it deals only for long period.

5. Theory does not pinpoint the real causes for rent.this theory only explains that the rent of inferior land is lesser than superior land.

6. No rent land does not exist. Every land possesses rent and thus there does not exist anything called as no rent land.

7. Rent arises for scarcity and not due to all fertility. All land will yield rent as land is scarce and thus law of diminishing returns operates.An original power of soil is not the main determinant.

8. Rent arises for other factors of production also.As long as the factors are inelastic supply they derive remuneration.

9. Rent and price have a relationship which Ricardo denied. Rent is determined by the price. Rent is high when price is high and low when price is less.

   Though the theory is criticized, it still occupies an important placein economic study.

Quasi Rent

The concept of ***quasi-rent*** owes its origin to Dr. Alfred Marshall. Dr. Marshal is of the opinion that: "It is not possible for human beings to increase the supply of land. It is fixed by Nature. If price of a produce rises, the surface of earth cannot be increased and if price falls, it cannot be decreased. But by appliance of machine which is the product of human efforts, the supply can be increased or decreased if a fairly long period of time is allowed".

"Marshall is of the view that a differential surplus which arises from a factor of production, whose supply is fixed for all times to come should be named as rent but a temporary gain which a factor or production earns due to temporary limitation of its supply should be called ***quasi-rent"***.

He defined quasi rent as surplus earnings generated by the factors of production, except land. The earnings from machines and instruments are termed as quasi rent. The quasi rent refers to the income produced when the demand for products increases suddenly. It is used for a short period of time. Quasi rent is regarded as the surplus that is temporary in nature.

Thus quasi rent is defined as- a surplus earned by a machine in the short period over its running cost. The examples quoted are sudden increase in shipping during World War II.

Quasi rent is different from proper or pure rent. Quasi rent arrives only in the short period. The difference between quasi rent and pure rent is illustrated with an example – ‘parable of meteor stones’.

1. A meteoric shower occurs and these stones are useful for industries. Thus residents pick up and enjoy pure rent as these are gift of nature and given in supply, it is perfectly inelastic to changes in its price.

2. If stones are available to people in unlimited quantities, then it is perfectly elastic to changes in both demand in short and long period.

3. A situation where availability of stones are neither perfectly inelastic nor perfectly elastic, then it would be fixed in short run and can accommodate to situation in long run, there quasi rent would prevail in short period and disappear in long period.

Quasi rent can occur to labour and entrepreneur in short run. Thus Flux explains it as- a sort of surplus over the normal income of a factor of production in the short period.

Marshall explains quasi rent as relevant to transfer earnings. The cost of production of commodity is split into-

a. Prime cost/ variable cost b. Supplementary cost/ fixed cost.

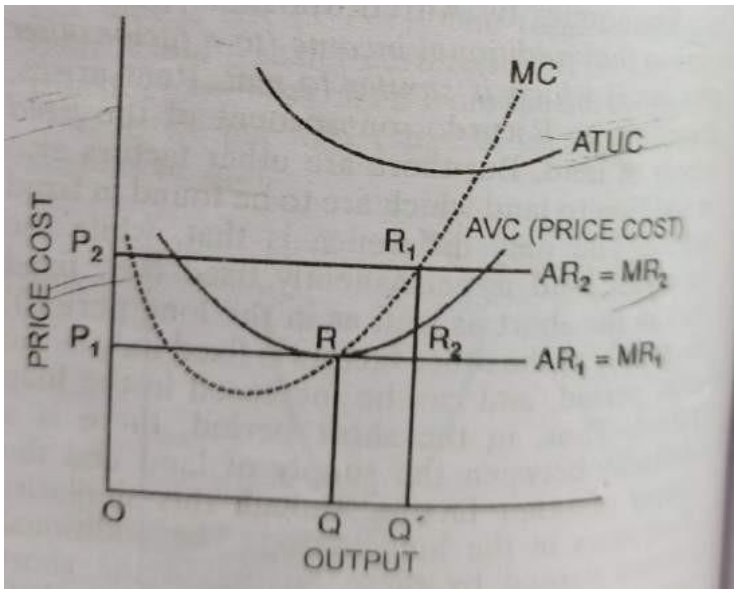
In long period the price of commodity must cover both, but in short period it has to cover prime cost. If it fails to cover prime cost, then firm has to close down. According to Marshall- quasi rent will occur to the firm if the price of the product exceeds its prime cost in the short period. The quasi rent will be measured by the extent of the excess of price over the prime cost in the short period.

Quasi Rent = Total Revenue Earned -Total Variable Costs

Or

Quasi rent=price – average prime cost (average variables)

The quasi rent must be equal to supplementary cost, but it can be less than supplementary cost also.



Under the conditions of perfect competition, the short period price OP_1 will cover average variable cost. The firm will produce OQ output. If the price increase to OP_2, the firm covers not only the prime cost and but also extra income of supplementary cost. This extra income is R_1R_2. It is called as quasi rent.This theory can be applied to all types of factors of production.

The modern economist express quasi rent as an surplus oer average variable cost. It is the difference between total variable cot and total revenue in short period. Quasi rent occurs only in the short period and disappears in long period. Quasi rent can never be negative because no firm will agree to forgo its prime cost of production under the conditions of perfect competition. This theory can be applied to all types of factors of production.

Wages

Real and Money wage, Minimum wage and Wage differentials.

Wages are price paid for the services rendered in production by labour, whether mental or physical. It is inclusive of all payments which are made by labour. Wages of a labour or fees of doctor etc are all included in wages.

Wages may be paid weekly, fortnightly or monthly.

"A wage may be defined as the sum of money paid under contract by an employer to worker for services rendered." -Benham

"Wages is the payment to labour for its assistance to production." -A.H. Hansen

'Wage rate is the price paid for the use of labour." -Mc Connell

Money wages or nominal wages refers to that amount of money which a worker receives in exchange for the services rendered by the labour. The total amount of money received by the labourer in the process of production is called the money wages or nominal wages.

Real Wages- Real wages mean translation of money wages into real terms or in terms of commodities and services that money can buy. They refer to the advantages of worker's occupation, i.e. the amount of the necessaries, comforts and luxuries of life which the worker can command in real terms. It includes those advantages, concessions and facilities

which are provided to a worker in addition to his nominal wages. The factors which determine the real wages of a worker are his purchasing power of money, other incidental advantages, extra earnings, working hours, conditions of employment, future prospects, leisure and holidays etc.

Minimum wages

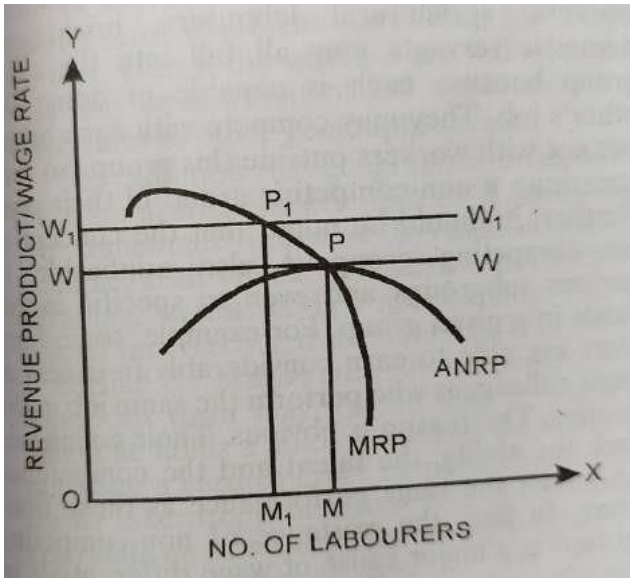
Minimum wages have been defined as "the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract"

It is the wage which must not only bare the sustenance of life but also preservation of the efficiency of the worker. It must be wages of the worker to cover his and his family's bare necessities including some measure of education, medical and other necessary amenities of life.

The purpose of minimum wages is to protect workers against unduly low pay. They help ensure a just and equitable share of the fruits of progress to all, and a minimum living wage to all who are employed and in need of such protection. Minimum wages can also be one element of a policy to overcome poverty and reduce inequality, including those between men and women, by promoting the right to equal remuneration for work of equal value.

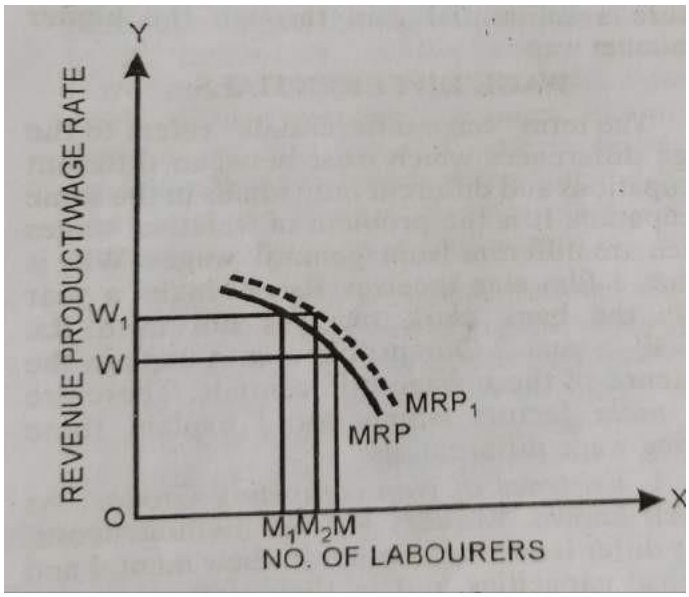
Under the conditions of perfect competition also minimum wage becomes meaningful only when it exceeds the existing equilibrium wages.

To analyse its implication, the minimum wages under perfect competition among the workers are-



The firm is in equilibrium when it employs OM labourers, because at this level of employment, the MRP of labour equals the marginal wage. If government fixes the minimum wages to OW_1, it is higher than the equilibrium wage OW.The fixation of minimum wage at a level higher than the equilibrium wage reduces the number of workers from OM to OM_1. The workers who lose their jobs will suffer from hardships.

Unemployment of such due to the impact of minimum wages depends upon the elasticity of demand for labour, or upon the elasticity of the MRP curve for labour. If the MRP curve is steep, then the fall in the volume of employment will not be substantial, but if the curve is flat the impact would be severe. it can be addressed only when firm in question raises its product price



The firm is in equilibrium at OW wages employing OM labourers, with government fixing minimum wages at OW_1, the volume of employment is reduced at OM_1. If the firm raises the price of the product, the MRP will shift to the right, now the volume employment will be further reduced to OM_2.

The price of the product can be raised only if the demand for the product is inelastic. It can also be argued that with increase in wages, it may lead to increase in efficiency of labour and productivity could increase.

Wage differentials

A certain job requiring a certain skill is paid more or less than another job requiring a different skill either in the same or some other industry.

Wage differential refers to differences in wage rates due to the location of company, hours of work, working conditions, type of product manufactured, or other factors. It may be the difference in wages between workers with different skills working in the same industry or workers with similar skills working in different industries or regions.

The factors for wage differentials-

1. Existence of non competiting groups. All workers are not homogeneous. They differ in both their mental and physical capabilities and in their education and training. These differences will create a number of non competiting groups. The salaries and wages are high for certain categories of workers as per their skill and performance of work. Wage differentials also occur because people belong to different occupations.

2. Existence of differences in the non monetary aspects of various occupations. Wage differences can be on the basis of non monetary aspects of the jobs. It is paid to compensate for the non monetary differences in various jobs.

3. Market imperfections refer to various types of immobilities which will check the free flowof labour. The immobilities can be in the form of geographical, sociological and artificial constraints. Geographical immobility is the reluctant nature of labour to move to distant place of work at higher wages. Artificial immobilities are imposed by institutions.

4. Cost of training in some occupation and profession are prolonged and expensive. If the monetary benefits of an occupation or profession do not match the cost of training, the supply of workers in relation to demand will decline.

5. Scarcity of talent is another factor for wage differentials. Greater the scarcity of talent higher will be the rewards available to it.

   Thus non competing aspects, market imperfections, differences in the non monetary aspects cost of training and scarcity of talent are the factors that lead o wage differential.

Interest

Interest is an amount which is paid by a borrower for using funds belonging to someone else. A lender can part with money for some time limit as he would like to use the money for his own requirements. Thus, timing is an important consideration in the borrowing and lending transaction as the time element should be suitable to the borrower and the lender.

Prof Wickshell- ‘a payment, made by the borrower of capital, by virtue of its productivity, as a reward for his absistence.’

Prof Meyers- interest is the price paid for the use of loanable funds.

Prof Keynes- the premium which has to be offered to reduce people hold wealth in some form or the other than hoarded money.

Gross interest- the whole of the income received by the lender from the borrower is gross interest. Gross interest comprises of

a. Net interest

b. Insurance against risk

c. Payment for inconvience

d. Reward for management.

Net interest is part of gross interest. It is inclusive of several other payments and charges of inconviences and risks involved in lending operations.

Loan able funds theory of Interest

The neo-classical theory of interest or loanable funds theory of interest owes its origin to the Swedish economist Knut Wicksell. Later on, economists like Ohlin, Myrdal, Lindahl, Robertson and J. Viner have considerably contributed to this theory. The rate of interest is determined by the demand for and supply of loanable funds.

Loanable funds theory is wider in scope, in this theory; supply of loanable funds not only includes savings out of current income but also bank credit, dishoarding and investment. The demand for loanable funds arises not only from investment but also from desire to hoard wealth. It considers both demand side and supply side for loanable funds.

According to loanable funds theory, the rate of interest is a function of four variables,

i.e r = f (I,S M,L.)

where, r is the rate of interest,

I = investment,

S = saving,

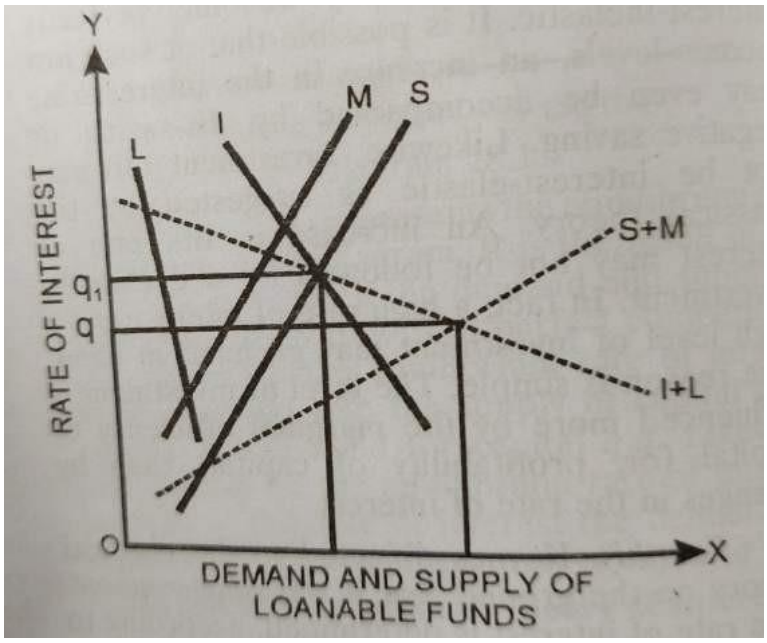
M = bank credit and

L = desire to hoard or the desire for liquidity.

The loanable funds theory explains the determination by monetary factors also. It can be illustrated with help of a diagram-

The Curve 'S' represents savings; the curve 'M' represents bank credit (including dishoarded and disinvested wealth). The curve S + M represents total loanable funds at different rates of interest. On the demand side, the curve I represents demand for investment. The curve L represents demand for idle cash balances or to hoard money.

The curve I + L represent the total demand for loanable funds at different rates of interest. The market rate of interest oq is determined by the intersection of S + M curve and I + L curve. The aggregate demand for loanable funds is equal to the aggregate supply of loanable funds at this rate of interest. In the classical theory, oq1 which may be called the natural rate of interest is determined by the intersection of I and S curves. That is, when the rate of interest is oq, the demand for investment is equal to the supply of savings.



The **M** curve represents supply of bank credit and it is interest elastic. It is influenced by changes in interest rate. Lower the interest rate, less the willingness of banks to lend and vice versa. Bank credit and interest rate have direct relationship.

The **S** curve represents different amount of savings at different levels of the rate of interest. The volume of savings and rate of interest are also directly related.

The line **I** on demand side represents investment demand for savings.

The curve **L** is the demand for idle cash or desire to hoard money at different levels of interest rates.

The theory tries to explain the determination of rate of interest on the basis of loanable funds. In classical theory rate of interest is determined by intersection of Investment and savings curve. But in Wickshell's version, rate of interest is determined by the intersection of S+M and I+L curves.

In classical theory oq1 is the rate of interest as I intersect S at that point. In loanable funds theory rate of interest is determined b intersection of S+M and I+L curves and thus rate of interest would be oq. Oq is the market rate of interest and oq1 is natural rate of interest. Thus

theory is more realistic and recognizes the impact of hoarding or liquidity preferences that influence loanable funds.

Criticisms

1. It exaggerates the effect of rate of interest on savings. In reality rate of interest does not influence the volume of savings.
2. It is based on the assumption that community income is given and remains constant. But as the volume of investment increases and rate of interest falls, the community income increases.
3. The theory fails to explain the process of rate of interest determination clearly.
4. It failed to distinct between real factors and monetary factors.
5. It is based on unrealistic assumption of full employment.

Profits

Profit is defined as a reward received by an entrepreneur by combining all the factors of production to serve the need of individuals in the economy faced with uncertainties. Profit in economics is termed as a pure profit or economic profit or just profit.

Gross profit- It is the surplus which occurs to a firm when it subtracts its total expenditure from its total receipts. It is inclusive of-

1. Remunerations for the factors of production contributed by the entrepreneur himself.
2. Depreciation and maintenance charges.
3. Extra personal profit
4. Net profit

Net profit- The remaining balance of deducting the first three items of gross profit. The net profit is the reward for-

a. Reward for coordination

b. Reward for risk taking

c. Reward for innovation.

Innovation Theory of Profit

The innovation theory of profits was propounded by Joseph Schumpeter. He attributes profits to dynamic changes. It is the dynamic changes which give rise to profits according to the dynamic theory of profits. American economist Joseph Schumpeter has singled out for special treatment; played by innovations.

According to Schumpeter, the principal function of the entrepreneur is to make innovations and profits are a reward for successful innovations. Innovation refers to all those changes in the production process; the objective is to bring down cost of the commodity.

An innovation can be in introduction of new production technique, use of new machine or a new plant, a change in organizational set up, use of new source of raw material, or a change in quality of raw material or change in the methods of marketing. The motive behind innovation is to earn profit. Any new measure or new policy initiated by the entrepreneur comes under innovation in the sense in which Schumpeter uses the term.

Innovations may be of two types:

(a) Those which change the production function and reduce the cost of production, and

(b) Those innovations which stimulate the demand for the product, i.e., which change the demand or utility function.

In the first type are included the introduction of new machinery, improved production techniques or processes, exploitation of a new source of raw material or a new and better organisational pattern for the firm.

The second type of innovations are those which are calculated to increase the demand for the product by introducing a new product or a new variety of an old product, new and more effective mode of advertisement, discovery of new markets, etc. The profits owing to innovations are only temporary and tend to be competed away. Sooner the innovations come to be innovations the rivals, they cease to be innovations or lose their novelty.

Thus, according to Schumpeter, innovation profits appear, disappear and reappear in a more or less regular sequence.

Profits occur to the person who introduces the change that is entrepreneur.

Schumpeter said that profits are not due to risk taking, but for bringing innovation. He said entrepreneur organizes the business and combined the various factors for the purpose of production, but this will not yield profits. It is only with introduction of innovations, firm earns profits. The hall mark of innovational profit is temporary in nature.

Criticisms –

1. The theory does not provide comprehensive treatment and explanations for profits. Other than innovation, there are various other determinants of profits.

2. The theory does not consider profit as a reward for risk taking. The argument is thatit is the capitalist who takes the risk and not the entrepreneur. But in reality it is the entrepreneur who takes the risk and not the capitalist.

3. It restricts the scope of entrepreneur as for introducing innovation, but the emntreprenuer takes all theresponsibility for proper organization of the business.

Bibliography

1. Principles of Economics by M.L Seth, 44th edition
2. Micro Economics by M.L. Jhingan, 8th Edition
3. Advanced Economic Theory: Micro Economic Analysis by H.L.Ahuja
4. Micro Economic Theory by H.S.Agrawal
5. Modern Economics: H.L. Ahuja, 19th Revised Edition
6. Modern Economic Theory: Dr. K.K.Dewett &M.H.Navalur
7. Managerial Economics by Cauvery, Sudha Naik.
8. http://www.jstor.org/stable/1817546
9. http://www.yourarticlelibrary.com/economics/theory-of-rent/ricardos-and-modern-theory-of-rent-explained-with-diagram/39140
10. http://www.yourarticlelibrary.com/economics/theory-of-distribution/marginal-productivity-theory-clarks-and-marshall-hicks-versions/37432
11. 11.

    http://www.jstor.org.iproxy.inflibnet.ac.in:2048/stable/pdf/1806140.pdf?refreqid=search%3A0141dd5087e28c04c621cadf1b58a559
12. http://www.economicsdiscussion.net/consumption-function/consumption-of-utilities-meaning-characteristics-and-importance-human-wants/13564