SYLLABUS

Class – I Year

Subject – Business Economics

UNIT – I	Historical background of economics in India with special reference to Kautilys, Definition of Economics, Concept of Micro and Macro Economics, Method of Economic study, Economics Law and their nature, Significance of Economics Basic problems of Economics
UNIT – II	Elasticity of Demand, Concept and measurement of Elasticity of Demand, Price, Income and cross elasticity, Average Revenue, Marginal Revenue and Elasticity of Demand, Determination of Elasticity of Demand, Importance of Elasticity of Denmed Q
UNIT – III	Factors of Production- Land, Labour, Division of labour, Efficiency of Labour, Capital, Organisation and Enterprises, The scale of production, Theories of Population
UNIT – IV	Production function and Law of returns, Return of scale, Equal product curve analysis, Market and their classification, Theory of cost and concept of revenue.
UNIT – V	Price determination under perfect competition and Equilibrium of the firmy Monopoly-price and output determination and monopoly control, Price determination under monopolly, Imperfect and monopolistic competition price determination
UNIT – V I	Re-concept, Recordian and modern theories of Rent, Quasi Rent, Wages concept, nominal andreal wages, theories of wage determination, Profit Nature, concept and Theories of profit Keywords/Tags:micro economics, macro economics, Production, perfect competition, Reat

Unit 1

HISTORICAL BACKGROUND OF ECONOMICS IN INDIA WITH SPECIAL REFERENCE TO KAUTILYA

Introduction to Kautilya and his Arthashastra Kautilya was a learned, ethical, wise, experienced, secular, progressive, independent and original thinker. He believed that poverty was death while living. His Arthashastra is a manual on promoting Yogakshema—peaceful enjoyment of prosperity—for all the people. It is shown that his approach is more suitable to our economy than the currently adopted western approach. He understood the economic system as an organic whole with interdependent parts. He undertook an in-depth and detailed analysis of each part at the micro level without losing sight of the macro goal of engineering shared prosperity. He believed in the power of persuasion, moral and material incentives and not in coercion or force to elicit effort. He designed material incentives in such a way that no crowding-out occurred, that is without weakening the moral incentives. He advanced a holistic yet logical and comprehensive approach to bring shared prosperity. In fact, a stakeholders-model in which the businessmen, workers and consumers share prosperity, is discernible in his Arthashastra. He relied both on the invisible hand (the market) and the direct hand (principles, policies and procedures) to enrich the people. Kautilya was deeply influenced by the Mahabharata (3102 BCE) and it appears as if it had happened in not too distant a past. Secondly, Rao (1973) points out that the measurements used in the Arthashastra are very similar to those prevalent during the Sindhu-Sarasvati Civilization (2600 BCE-1800 BCE).1 According to the new research, Chandragupta Maurya ruled around 1534 BCE and not during the 4th century BCE. The preponderance of emerging evidence indicates that Kautilya wrote his Arthashastra—science of wealth and welfare—several centuries earlier than the fourth century BCE which has been advanced by the Western Indologists. They had taken upon themselves the selfless and tortuous task of dating, without any margin of error, all the historical events, such as the Aryan Invasion Theory and providing authentic interpretations of our ancient texts. They really need their well-deserved retirement from this demanding responsibility and leave it to the native amateurs. . Kautilya was far-sighted, foresighted, ethical but not very religious, believed in designing an efficient organizational structure but was not a bureaucrat.

Kautilya: The True Founder of Economics The following table lists some of the concepts innovated and used by Kautilya. It also provides the time-periods of their re-emergence.

Table :- Concepts Developed and Used by Kautilya

S. No.	Re-emerged during the period Concepts	Originated and applied by Kautilya
1	1700-1850	Gains from trade, diversification, Division of labor, Inter-temporal choice, labor theory of property, Law of diminishing returns, moral hazard, regulation of monopoly, sources of economic growth, Duipit Curve, principles of taxation
2	1850-1900	Distinction short-run and long run, Efficiency Wages, externality, , Demand-Supply Apparatus, Opportunity cost, Producer Surplus
3	1900-1970	Principal-agent problem, Liquidity, Mean-Variance approach, non-cooperative game

4	1970- Present	Asymmetric information, piece-wise Linear income Tax, Loss-aversion, information economics, Self-protection, self-insurance, Time Inconsistency, Systemic risk

On the other hand, Adam Smith did not innovate a single concept in economics. Barber (1967, p17) observes, "Little of the content of The Wealth of Nations can be regarded as original to Smith himself. Most of the book's arguments had in one form or another been in circulation for some time."

Kautilya as a One-Man Planning Commission and More

Kautilya's Arthashastra is comprehensive, coherent, concise and consistent. It consists of three fully developed but inter-dependent parts.

(a) Principles and policies related to economic growth, taxation, international trade, efficient, clean and caring governance, moral and material incentives to elicit effort and preventive and remedial measures to deal with famines.

(b) Administration of justice, minimization of legal errors, formulation of ethical and efficient laws, labour theory of property, regulation of monopolies and monopsonies, protection of privacy, laws against sexual harassment and child labour.

(c) All aspects of national security: energetic, enthusiastic, well trained and equipped soldiers, most qualified and loyal advisers, strong public support, setting-up an intelligence and analysis wing, negotiating a favourable treaty, military tactics and strategy, and diet of soldiers to enhance their endurance.

Kautilya's Ethics-based Economics:

Ancient sages realized that genuine trust was an ethics-intensive concept since non-violence, truthfulness, honesty and benevolence were the foundation for trust. Kautilya accepted that insight wholeheartedly. That is, trust flourished only in an ethical environment. How to make sure that children grow-up to be ethical adults? Kautilya suggested teaching ethical values at an early age. Kautilya believed that dharmic (ethical) conduct paved the way to bliss and also to prosperity. That is, according to Kautilya, a society based on contracts alone is less productive and more anxiety prone than the one based on conscience and compassion. If the social environment is predominantly ethical, there is less of a need to take defensive measures to protect against opportunism. He emphasized ethical anchoring of the children for replacing the 'culture of suspicion' with a harmonious and trusting one.

Kautilya's Insights

(a) An ounce of ethics was better than a ton of laws. Ethical anchoring could be more effective in preventing systemic risk than a heap of rules and regulations.

(b) Principles were only as good as the people who practiced them, and policies were only as good as the people who formulate and implement them.

(c) Material incentives should complement and not substitute moral incentives so that there is no crowding- out.

(d) Education should include ethical education also. Secular values, such as non-violence, honesty, truthfulness, compassion and tolerance do not violate the separation between religion and state.

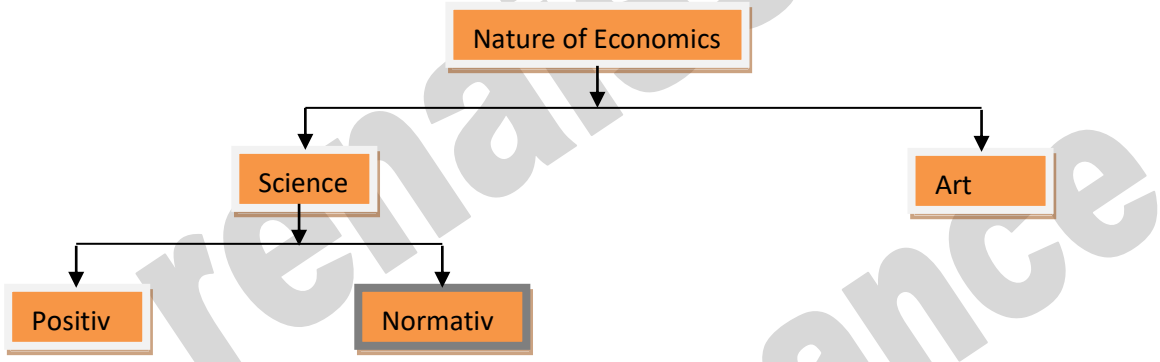
(e) Market failure is bad, government failure is worse but moral failure is the worst since moral failure is true cause for other failures.
(f) Ethics and foresightedness could improve governance and bring sustainable prosperity for the whole of humanity.
(g) Sound organizational design could complement the ethics-based approach by enhancing specialization and reducing the scope for conflict of interest situations.
(h) Wisdom is the most valuable asset and knowledge-management is a subset of management by wisdom.

Definition of Economics

The term "Economics" was originally derived from the two Greek word "Oikos" which means household and "Nomos" which means management. Thus, it refers to managing of a household using the limited funds.
Many economists like Stigler, Samuelson, Macifie, Oscar Lange, Sciovosky, have given definition of economics –

1. "Economics is fundamentally a study of scarcity and the problems which scarcity gives rise to." **-Stonier and Hagur**
2. "Economic is a science concerned with the administration of scarce resources." **-Scitovosky**

Nature of Economics



Economics as a Science

1) In simple words, a science is commonly defined as a systematic body of knowledge about a particular branch of the universe.
2) In the opinion of Poincare who says – "A science is built upon facts as a house is built of stones."
3) Applying this is to our subject, we find economics is built upon facts, examined and systematized by economists. Further, economics like other science deduce conclusion or generalizations after observing, collecting and examining facts. Thus, it deals with (i) observation of facts. (ii) Measurement (iii) Explanation (iv) Verification. In short, it

formulates economic laws about human behaviour. In this way economics has developed into a science of making and possessing laws for itself.

4) Science economics satisfies all the tests of a science, economics is regarded as a full-fledged, science. In short, it is no way less than other sciences.

The economics as a science can be divided into two parts i.e. (a) Positive Science and (b) Normative Science.

I. **Economics as a Positive Science –** A positive science establishes a relation between cause and effect. It tells us that if we do a certain thing, same result will follow.

II. **Economics as A Normative Science –** Marshall, Pigou and historical school puts the arguments that economics is normative science i.e. it states: What should be done.

Therefore a positive science describes what is and a normative science describes what should be done & what should not be done.

From the above noted discussion, we can say that economics is both positive and normative science as at present, it deals with 'what is' and 'what ought to be'. Therefore, it not only focuses why certain things happen, it also conveys whether it is the right thing to happen.

Economics as an art

Art is completely different from science.

1) In the words of Cossa – "A science teaches us to know; an art teaches up to do. In other words, science explains and expounds; art directs, art imposes precepts or proposes rules."In other words, science is theoretical but an art is political.
2) What is an Art? As J.M. Keynes has put it: "An art is a system of rules for the attainment of a given end". The object of an art is the formulation of precepts applicable to policy. This implies that art is practical. Applying this definition of art, we can say economics is an art. Its several branches like consumption, production and public finance provide practical guidance to solve economic problems. Again for example the theory of consumption guides the consumer to obtain maximum satisfaction with his given income (means). In this sense, economics can be considered as an art in the wider sense of the term art i.e. in the sense of practical science. It means creation or practical application of knowledge. It is for this reason; we treat economics as an art.

In a nutshell, we can conclude the discussion that economics is **both science and art.**

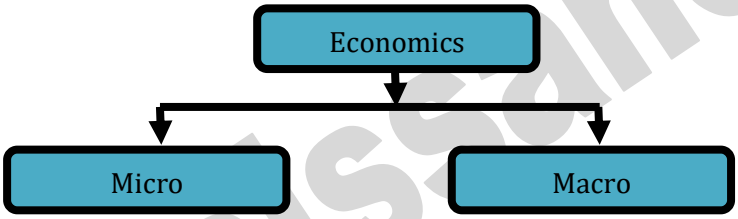
Practical uses of Economics

The main points of practical uses are discussed below –

1. Useful to the Consumer
2. Useful to the Producer
3. Helpful to Business Community
4. Solution to Economic Problems
5. Helpful to Workers
6. Helpful in Price Determination

7. Significant for Economics Development
8. Useful for Economic Planning
9. Useful for Social Workers
10. Helpful to Social Welfare Activities
11. Helpful in international Trade.

In short economics is useful for all.



Definitions of Micro Economics

Different economists have defined micro economics as under –

According to A.P. Lerner – "Micro economics consists of looking at the economy through a microscope, as it were, to see how the millions of cells in the body of the individuals, or households as consumers, and the individuals or firms as producers-play their parts in the working of the whole economic organism."

According to K.E. Boulding – 'Micro economics is the study of particular firms, particular households, individual prices, wages, incomes, individual industries and particular commodities."

According to Shapiro – "Micro economics deals with small parts of the economy.

Importance/Usefulness of Microeconomics

1. **Determination of demand pattern:** It determines the pattern of demand in the economy, *i.e.,* the amounts of the demand for the different goods and services in the economy, because the total demand for a good or service is the sum total of the demands of all the individuals. Thus, by determining the demand patterns of every individual or family, microeconomics determines the demand pattern in the country as a whole.

2. **Determination of the pattern of supply:** In a similar way, the pattern of supply in the country as a whole can be obtained from the amounts of goods and services produced by the firms in the economy. Microeconomics, therefore, determines the pattern of supply as well.

3. **Pricing:** Probably the most important economic question is the one of price determination. The prices of the various goods and services determine the pattern of resource allocation in the economy. The prices, in turn, are determined by the interaction of the forces of demand and supply of the goods and services. By determining demand and supply,

Microeconomics helps us in understanding the process of price determination and, hence, the process of determination of resource allocation in a society.

4. **Policies for improvement of resource allocation:** As is well-known, economic development stresses the need for improving the pattern of resource allocation in the country. Development polices, therefore, can be formulated only if we understand how the pattern of resource allocation is determined. For instance, if we want to analyze how a tax or a subsidy will affect the use of the scarce resources in the economy, we have to know how these will affect their prices. By explaining prices and, hence, the pattern of resource allocation, microeconomics helps us to formulate appropriate development policies for an underdeveloped economy.

5. **Solution to the problems of micro-units:** Since the study of microeconomics starts with the individual consumers and producers, policies for the correction of any wrong decisions at the micro-level are also facilitated by microeconomics. For example, if a firm has to know exactly what it should do in order to run efficiently, it has to know the optimal quantities of outputs produced and of inputs purchased. Only then can any deviation from these optimal levels be corrected. In this sense, microeconomics helps the formulation of policies at the micro-level.

Limitations of Microeconomics

However, microeconomics has its limitations as well:

1. **Monetary and fiscal policies:** Although total demand and total supply in the economy is the sum of individual demands and individual supplies respectively, the total economic picture of the country cannot always be understood in this simplistic way. There are many factors affecting the total economic system, which are outside the scope of Microeconomics. For example, the role of monetary and fiscal policies in the determination of the economic variables cannot be analyzed completely without going beyond microeconomics.

2. **Income determination:** Microeconomics also does not tell us anything about how the income of a country (*i.e.,* national income) is determined.

3. **Business cycles:** A related point is that, it does not analyze the causes of fluctuations in national income. The ups-and-downs of national income over time are known as business cycles. Microeconomics does not help us in understanding as to why these cycles occur and what the remedies are.

4. **Unemployment:** One of the main economic problems faced by an economy like India is the problem of unemployment. This, again, is one of the areas on which microeconomics does not shed much light. Because, if we are to find a solution to the unemployment problem, we must first understand the causes of this problem. For that, in turn, we must understand how the total employment level in the economy is determined. This is difficult to understand from within the confines of microeconomics.

Methods of Economic Analysis

An economic theory derives laws or generalizations through two methods:

(1) Deductive Method of Economic Analysis

The ***deductive method*** is also named as ***analytical***, ***abstract*** or ***prior*** method. The deductive method consists in deriving conclusions from general truths, takes few general principles and applies them draw conclusions. **(GENERAL TO PARTICULAR)**

For instance, if we accept the general proposition that man is entirely motivated by self-interest. Then Ram (a man) is also entirely motivated by self interest.

The classical and neo-classical school of economists notably, Ricardo, Senior, Cairnes, J.S. Mill, Malthus, Marshall, Pigou, applied the deductive method in their economic investigations.

Steps of Deductive Method:

The main steps involved in deductive logic are as under:

(i) Perception of the problem to be inquired into: In the process of deriving economic generalizations, the analyst must have a clear and precise idea of the problem to be inquired into.

(ii) Defining of terms: The next step in this direction is to define clearly the technical terms used analysis. Further, assumptions made for a theory should also be precise.

(iii) Deducing hypothesis from the assumptions: The third step in deriving generalizations is deducing hypothesis from the assumptions taken.

(iv) Testing of hypothesis: Before establishing laws or generalizations, hypothesis should be verified through direct observations of events in the rear world and through statistical methods. (Their inverse relationship between price and quantity demanded of a good is a well established generalization).

Merits of Deductive Method:
The main merits of deductive method are as under:
(i) This method is near to reality. It is less time consuming and less expensive.
(ii) The use of mathematical techniques in deducing theories of economics brings exactness and clarity in economic analysis.
(iii) There being limited scope of experimentation, the method helps in deriving economic theories.
(iv) The method is simple because it is analytical.

Demerits of Deductive Method:

(i) **The deductive method is simple and precise only if the underlying assumptions are valid**. More often the assumptions turn out to be based on half truths or have no relation to reality. The conclusions drawn from such assumptions will, therefore, be misleading.

(ii) In deductive method, the premises from which inferences are drawn may not hold good at all times, and places. As such **deductive reasoning is not applicable universally**.
(iii) The deductive method is highly abstract. **It requires a great deal of care to avoid bad logic or faulty economic reasoning.**

(2) Inductive Method of Economic Analysis:

Inductive method which is also called ***empirical method*** was adopted by the "Historical School of Economists". It involves the process of reasoning from particular facts to general principle.

(PARTICULAR TO GENERAL)

This method derives economic generalizations on the basis of (i) Experimentations (ii) Observations and (iii) Statistical methods.

In this method, data is collected about a certain economic phenomenon. These are systematically arranged and the general conclusions are drawn from them.

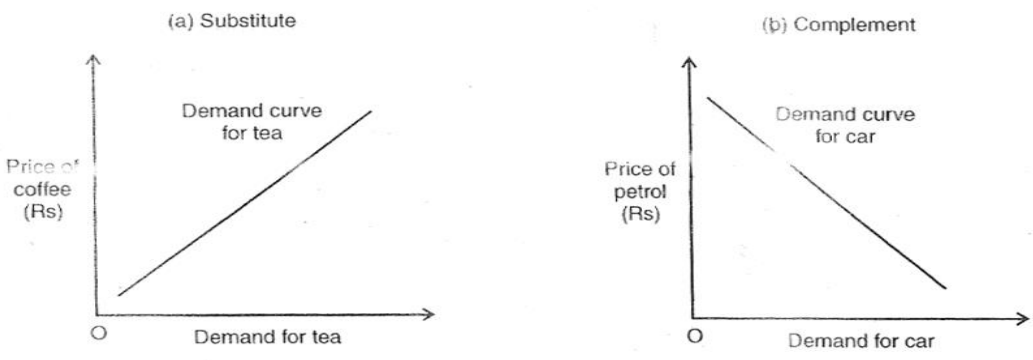
For example, we observe 200 persons in the market. We find that nearly 195 persons buy from the cheapest shops, Out of the 5 which remains, 4 persons buy local products even at higher rate just to patronize their own products, while the fifth is a fool. From this observation, we can easily draw conclusions that people like to buy from a cheaper shop unless they are guided by patriotism or they are devoid of commonsense.

Steps of Inductive Method:

The main steps involved in the application of inductive method are:
(i) Observation.
(ii) Formation of hypothesis.
(iii) Generalization.
(iv) Verification.

Merits of Inductive Method:

(i) It is based on facts as such the method is realistic.
(ii) In order to test the economic principles, method makes statistical techniques. The inductive method is, therefore, more reliable.
(iii) Inductive method is dynamic. The changing economic phenomenon are analyzed and on the basis of collected data, conclusions and solutions are drawn from them.



(iv) Inductive method also helps in future investigations.

Demerits of Inductive Method:

The main weaknesses of this method are as under:

(i) If conclusions are drawn from insufficient data, the generalizations obtained may be faulty.

(ii) The collection of data itself is not an easy task. The sources and methods employed in the collection of data differ from investigator to investigator. The results, therefore, may differ even with the same problem.

(iii) The inductive method is time-consuming and expensive.

Conclusion:

The above analysis reveals that both the methods have weaknesses. We cannot rely exclusively on any one of them. Modern economists are of the view that both these methods are complimentary. They partners and not rivals. **Alfred Marshall** has rightly remarked:

"***Inductive and Deductive methods*** are both needed for scientific thought, as the right and left foot are both needed for walking". We can apply any of them or both as the situation demands.

Macro Economics

The term macro in English has its origin in the Greek term "macros" which means large. In the context of 'Macroeconomics' means economics of the large like economy as a whole. Macro economics deals primarily with the analysis of the relationship between broad economic aggregates like national income, level of total employment, aggregate consumption, total investment, general price level, balance of payment, the quantity of money etc. Macroeconomics is also known as the theory of income & employment as it is concerned with the problems of on employment, economic fluctuation, inflation or deflation international trade and economic growth.

Definitions of Macro Economics

1) **According to culberton's-**"Macro Economics is the theory of income, employment, price and money."
2) **Accordingly to K.E. Boulding –**"Macro economics deals not with individuals quantities as such but with aggregate income, but with national income, not with individuals price but with price levels, not with individuals output but with national output."
3) **According to Edward Shapiro – "**Macro economics attempts to answer the truly 'big' question of economic life – full employment or unemployment, capacity or under capacity production."

Nature of Macro Economics

1) Macro economics studies the concept of national income and its different elements and the method of measurement.
2) It studies problems relating to employment and unemployment. It studies different factors determining the level of employment.

3) Determination of general price level is also studied under macro economics. Problems relating to inflation and deflation are an important component of macro economics.
4) Change in demand and supply of money have an important impact on the level of employment. Macroeconomics studies function of money & theories relating to it.
5) Problems relating to economic growth is another important component of macro economics like plans for overall increase in national income, output, employment are framed so the economic development of economy as a whole.
6) It also studies issues relating to international trade, export, import exchange rate and balance of payments are the principal issue in this context.

Importance of Macro Economics

1) Macro economics is helpful for getting us an idea of the functioning of an economic system. It is very essential for a proper and adequate knowledge of behavior pattern of the aggregative variable, as the description of a large and complex economic system.
2) It says about the study of national income and social accounts. It is the study of national income which enables us to know that three fourth of the world is living in object poverty without proper national difficult to formulate proper economic policies.
3) Macroeconomic approaches are of almost importance to analyze and understand the effect of inflation and deflation different sections of society are affected differently as a result of charges in the value of money.
4) Economic fluctuation is a characteristics features of the capitalist form of economy. The economic booms and depression in the level of income and employment follow one another in cyclical fashion.
5) The study of macro economics is essential for the proper understanding of Micro economics. No micro economics law could be framed without a prior study of the aggregate.

Limitations of Macroeconomics

Following are the main limitations of macro economics:-

1.***Excessive Thinking***:-Macro economics suffers from the limitations that it always excessively thinks in the terms of aggregates and presumes circumstances to be normal and homogeneous but aggregates may result into heterogeneous character. As Prof. Boulding points:

(a) Six apples+Seven apples=Thirteen apples which constitutes a meaningful aggregate.

(b) Six apples+Seven oranges=Thirteen fruits, which constitutes a fairly meaningful aggregates.

(c) Six apples+Seven shoes constitutes a meaningless aggregates.

2.***Difference in individual items***:-Sometimes while aggregating the variables, the basic characteristics of the data or the variables is left untouched because there are important differences in the items. Sometimes, the features of individual components may not be true to the aggregate so macro suffers from the danger of excessive generalization.

3.***Unable to influnce society equally***:-An aggregative tendency may not influence the entire sectors of the economy in the same way. For example, a general rise in price as inflation may not similar effects on different sectors of the economy.

4.***Contradictory***:-In aggregates, sometime the contradictory individual aspects are neutralized as in case of the estimation, prices in agriculture fall, of industrial products rise which have different

affects on individual factors but as an aggregate, there may not be any effect at all. Thus, macro aggregate results may be misleading.

5.***Role of less aggregative analysis***:-Aggregates itself suffer from certain serious problems due to statistical techniques. The recently introduced computational procedures and programming techniques have reduced the role of aggregative analysis.

Microeconomics V/s Macroeconomics

S.No.	Points	Microeconomics	Macroeconomics
1	**Study**	It studies individual unit	It studies aggregate or group of individual units.
2	**Assumption**	At micro level full employment is assumed which is never found in an economy. Hence this is an unreal assumption	At macro level, full employment is not assumed. Instead equilibrium employment is assumed which is a real assumption.
3	**Subject Matter**	We study demand supply, consumer behavior production, types of market, theory of cost & revenue etc.	We study national income, theory of wage, interest & employment, Theory of money, theory of international trade etc.
4	**Applicability**	It is useful in analysis of an individual unit like cost of an individual good, demand of a single good, price of a single good.	It is useful in analysis of aggregate units such as aggregate demand, aggregate prices or inflation-deflation, aggregate or national income etc.
5	**Usefulness to Govt.**	It is less useful to Govt. in formulating economic policies.	It is more useful to Govt. in formulating economic policies.

INTERDEPENDENCE BETWEEN MICRO AND MACRO ECONOMICS

Micro and macro economics are the two sides of the same coin. There is close interdependence between the two. We cannot analyse the individual behaviour without the assuming to aggregate and likewise aggregate cannot be effective unless individual variables are kept under consideration.

Micro economics contributes towards macro economics in a number of ways as:-

1.*Study of economic fluctuations*:-Business cycles which are universal in every sector, are influenced by both individuals and aggregate factors. Unless we review both micro and aggregate variables, we cannot provide an appropriate solution to business cycles. Therefore to study trade cycles micro and macro economics contribute significantly.

2.*Basis of economic laws*:-Micro economics acts as a basis macro economics because macro is an aggregate of individual units. The success and accuracy of aggregates depends on the individual units. Similarly, macro theories are used by micro **economists.**

3.*Role in international trade*:-In international trade both the approaches are used. Economists have developed their theories on the basis of micro economics presuming full employment of resources and mobility of factors of production. However, modern economists looked on the

economy as a whole and recognized the role of aggregates. So general equilibrium is nothing but an extension of equilibrium of micro economics.

4.*Balance of payments and interdependence*:-Balance of payments problem is also a burning problem for economy. An individual sector may have favorable balance of payments whereas other sectors, unfavourable balance of payments. On the other hand, the overall position of an economy is to be assessed from aggregate position of all sectors.

5.*Theory of tariffs*:-Many economists have propounded that modern macro approaches of imposing tariffs with the intention of correcting balance of payments position is virtually based on the theory of monopoly. So micro economics has influenced the modern macro economics theory.

UNIT-II

ELASTICITY OF DEMAND

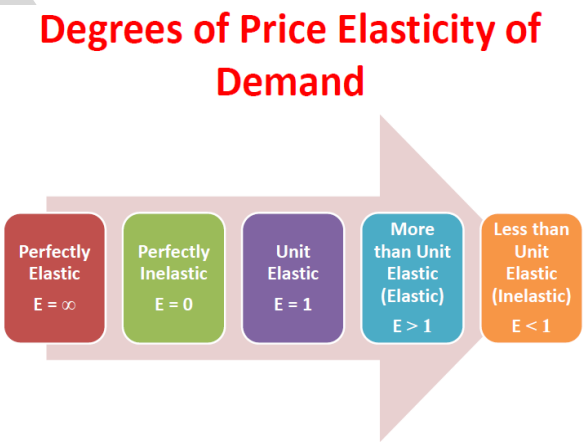
Elasticity of demand is defined as the degree of responsiveness of the quantity demanded of a good to a change in its price, consumers income and prices of related goods. There are three concepts of demand elasticity – price elasticity, income elasticity and cross elasticity.

E = % change in Quantity demanded/% change in variable

Price elasticity of demand

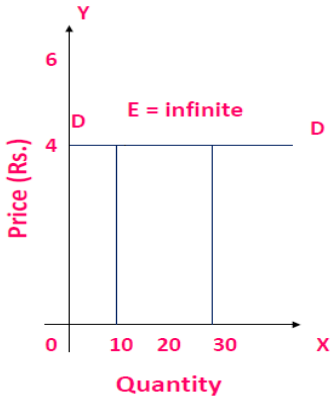
(**PED** or $\mathbf{E_d}$) is a measure used in economics to show the responsiveness, or elasticity, of the quantity demanded of a good or service to a change in its price. More precisely, it gives the percentage change in quantity demanded in response to a one percent change in price (holding constant all the other determinants of demand, such as income).

Price elasticity of Demand = Proportionate change in purchases of commodity X / Proportionate change in price of commodity X

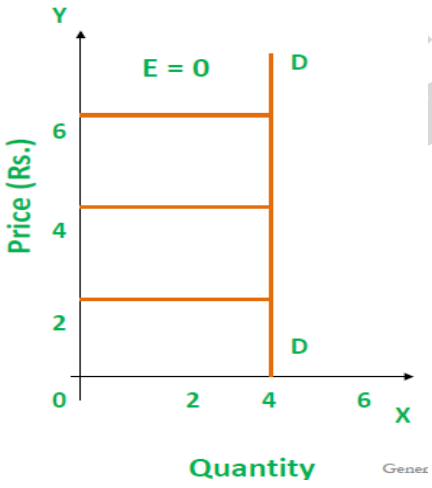


Types/Degrees of Price Elasticity of Demand

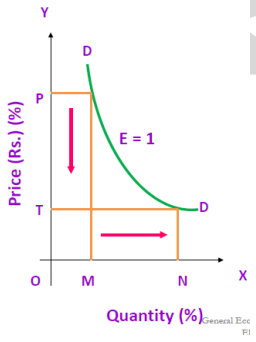
A) **Perfectly Elastic Demand:** A perfectly elastic demand refers to the situation when demand is infinite at the prevailing price. It is a situation where the slightest rise in price causes the quantity demand of the commodity falls to zero.



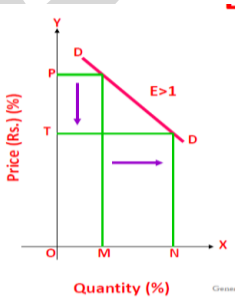
B) **Perfectly Inelastic Demand:** A perfectly inelastic demand refers to a situation when change in price causes no change in the quantity demanded. Even a substantial change in price does not impact quantity demanded.



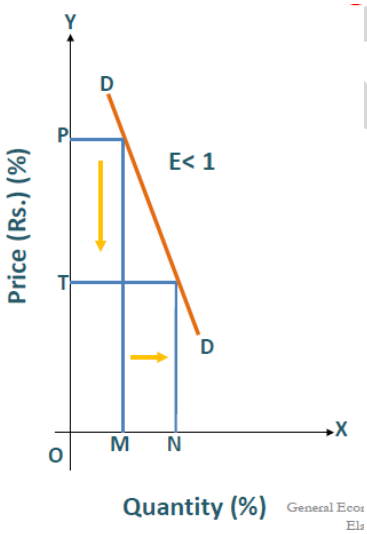
C) **Unitary Elastic Demand:** It is a situation when change in quantity demanded in response to change in own price of the commodity is such that total expenditure of the quantity remains constant. In short % change in quantity demanded is equal to % change in price. This type of demand curve is called Rectangular Hyperbola



D) **Greater than unitary Elastic Demand:** Demand is greater than unitary elastic when change in quantity demanded in response to change in price of the commodity is such that total expenditure of the commodity increases when the price decreases, and total expenditure decreases when price increases. In short % change in quantity demanded is greater than % change in price.



E) **Less than Unitary Elastic Demand:** Demand is less than unitary elastic when change in quantity demanded in response to change in price of the commodity is such that total expenditure on the commodity decreases when price falls, and total expenditure increases when price rises. In short % change in quantity demanded is less than % change in price.



Methods to measure Price Elasticity of demand

There are three methods of measuring price elasticity of demand:

(1) Total Expenditure Method.

(2) Geometrical Method or Point Elasticity Method.

(3) Arc Method.

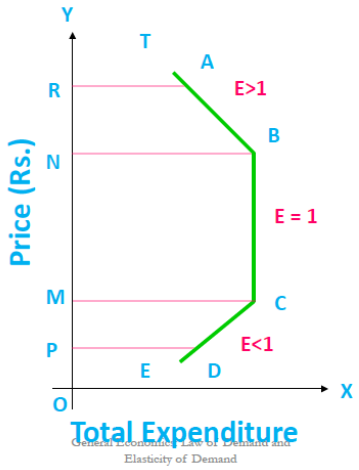
Total Expenditure (Outlay) Method:

This method is evolved by Dr. Alfred Marshall. According to this method, to measure the elasticity of demand it is essential to know how much & in what direction the total expenditure has changed as a result of change in the price of good.

Total Expenditure (Outlay) Method

Elasticity of Demand	Price	Total Expenditure
Greater than Unity i.e. $E_p > 1$	↑ ↓	↓ ↑
Unity i.e. $E_p = 1$	Same Same	Unchanged Unchanged
Less than Unity i.e. $E_p < 1$	↑ ↓	↑ ↓

Total Expenditure (Outlay) Method



For Example:

Price Per Unit ($)	Quantity Demanded	Total Expenditure ($)
20	10 Pens	200.0
10	30 Pens	300.0

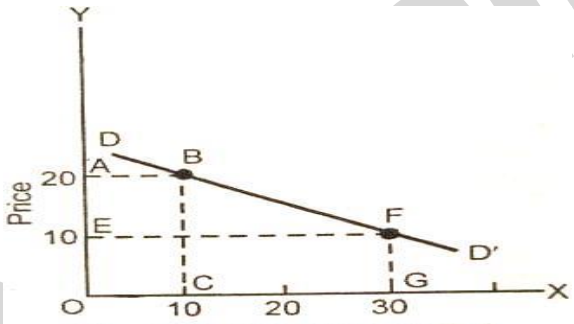
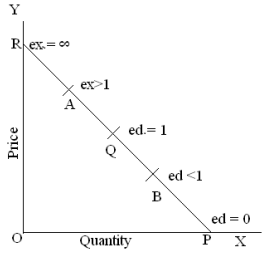


Fig. 6.6 Quantity demanded

Point Method or Geometrical Method:

This method was also suggested by Alfred Marshall. It explains the elasticity of demand at a particular point of the demand curve if the demand function is linear one (or when demands curve is straight line sloping down from left to right). The point method is not applicable on curvilinear demand curves. This method is based on the proposition that each point of the straight line demand curve has different elasticity of demand. Different elasticity of demand. We have already shown (under the heading slope and elasticity) that every point on demand curve does not have the same elasticity. This has been explained by point method, also known as Geometrical Method. The basic formula for this method is :

Ep = Length of Lower segment/Length of Upper segment



Now we can calculate elasticity of demand at different points R,A,Q, B and P, As per the ratio of the lower part to upper part.

e_p at Q = $\frac{QP}{RQ}$ = 1

e_p at A = $\frac{AP}{AR}$ < 1

e_p at B = $\frac{BP}{RB}$ > 1

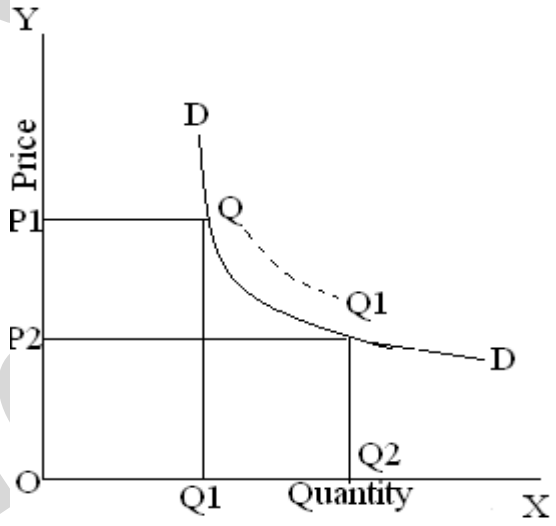
e_p at R = $\frac{RP}{0}$ = ∞

e_p at P = $\frac{0}{RP}$ = 0

Therefore, we can say that at the mid-point on a straight line demand curve, elasticity will be unitary, at higher points (such as A and R) elasticity will be greater than one; at lower points (B and P) the elasticity will be less than one. At points R and P the elasticities will be infinite and zero respectively. Point method is very useful in economics. It helps us measuring elasticity with very small changes in price and quantity demanded. It also tells us that slope and elasticity are two different things.

Arc Method:

As we have seen that point elasticity method can be used to determine the elasticity of demand at different points when infinitesimal changes in price are taking place. If the price change is somewhat large or we have to measure elasticity between two different points rather than at a specific point we use Arc Method. When we have to measure the price elasticity over an arc of the demand curve, such as between points Q and Q1 on the demand curve in figure the point elasticity method cannot yield true picture. In measuring arc elasticity we use the average of the two prices and average of two quantities at these prices in the following manner.



Suppose commodity X's position is like this- At price of Rs. 10 (P1) its, quantity demanded is 100 (Q1) and at price of Rs. 5 (P2) its quantity demanded is 300 (Q2). The elasticity of demand as per Arc Method will be

$$ed = \frac{\triangle q}{\triangle p} \times \frac{p_1+p_2}{q_1+q_2}$$

$$= \frac{200}{} \times \frac{10+5}{}$$

$$= \frac{200}{5} \times \frac{15}{400} = 1.5$$

Income elasticity of demand

Income elasticity of demand measures the percentage change in demand caused by a percent change in income. A change in income causes the demand curve to shift reflecting the change in demand. IED is a measurement of how far the curve shifts horizontally along the X-axis. Income elasticity can be used to classify goods as normal or inferior. With a normal good demand varies in the same direction as income. With an inferior good demand and income move in opposite directions

Income Elasticity = Proportionate change in the quantity purchased /Proportionate change in Income

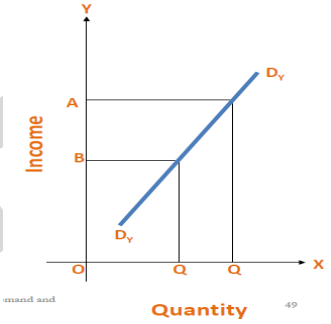
$$Ey = \frac{\text{\% Change in Quantity Demanded}}{\text{\% Change in Income}}$$

Degree of Income Elasticity of Demand

1. Positive Income Elasticity of Demand
   a. Unitary income elasticity of demand
   b. Less than unitary income elasticity of demand
   c. More than unitary income elasticity of demand
2. Negative income elasticity of demand
3. Zero income elasticity of demand

1. Positive income Elasticity of Demand

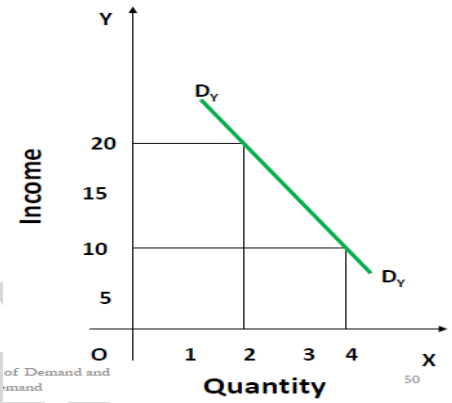
Income elasticity of demand for a good is positive, when with a increase in the income of a consumer his demand for the goods is increases and vice-versa.



2. Negative Income Elasticity of Demand:

Income Elasticity of Demand is negative when increases in the income of the consumer is accomplished by fall in demand of good.

It is negative in case of inferior goods which are known as Giften goods.



3. **Zero Income Elasticity of Demand**:

Income Elasticity of demand is zero, when change in the income of consumer evokes no change in his demands. Demands for necessaries like oil, salt, etc., have zero income elasticity of demand

CROSS ELASTICITY OF DEMAND

Cross price elasticity of demand measures the percentage change in demand for a particular good caused by a percent change in the price of another good. Goods can be complements, substitutes or unrelated. A change in the price of a related good causes the demand curve to shift reflecting a change in demand for the original good. Cross price elasticity is a measurement of how far, and in which direction, the curve shifts horizontally along the x-axis.

Cross elasticity of Demand for X and Y = Proportionate change in purchases of commodity X

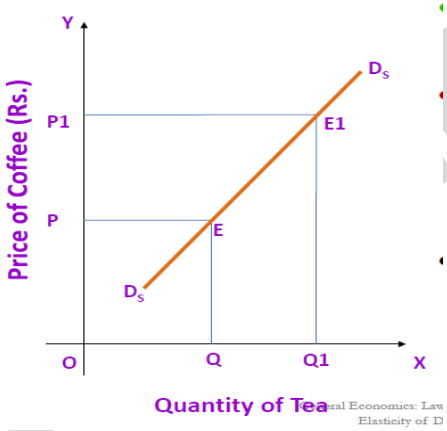
Proportionate change in price of commodity Y

The numerical value of cross elasticity depends on whether the two goods in question are substitutes, complements or unrelated.

Degree of Cross Elasticity of Demand

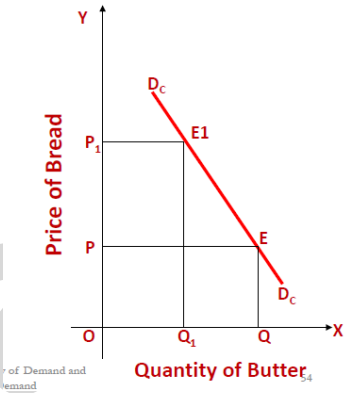
1. **Positive Cross Elasticity of Demand:**

It is positive in case of substitute goods for example, Rise in the price of coffee will lead to increase in Demand for Tea. The curve slopes upward from left to right



2. **Negative Cross Elasticity of Demand:**

It is negative in case of complementry goods. For example rise in price of bread will bring down the demand for butter.the curves slopes downward from left to right.



3. **Zero Elasticity Of Demand:**

Cross elasticity of demand is zero when two goods are not related to each other . for example, Rise in the price of wheat will have no effect on the demand for shoes.

Types of Cross Elasticity

(i) Substitute Goods. When two goods are substitute of each other, such as coke and Pepsi, an increase in the price of one good will lead to an increase in demand for the other good. The numerical value of goods is positive.

For example there are two goods. Coke and Pepsi which are close substitutes. If there is increase in the price of Pepsi called good y by 10% and it increases the demand for Coke called good X by 5%, the cross elasticity of demand would be:

$$E_{xy} = \%\Delta q_x / \%\Delta p_y = 0.2$$

Since E_{xy} is positive (E > 0), therefore, Coke and Pepsi are close substitutes.

(ii) Complementary Goods. However, in case of complementary goods such as car and petrol, cricket bat and ball, a rise in the price of one good say cricket bat by 7% will bring a fall in the

demand for the balls (say by 6%). The cross elasticity of demand which are complementary to each other is, therefore, 6% / 7% = 0.85 (**negative**).

(iii) Unrelated Goods. The two goods which a re unrelated to each other, say apples and pens, if the price of apple rises in the market, it is unlikely to result in a change in quantity demanded of pens. The elasticity is zero of unrelated goods.

PRODUCTION FUNCTION

1) Production is the process of conversion of inputs into outputs.
2) It is the creation of utility and addition of value
3) Production function is the relationship between inputs & output of a commodity
4) The mathematical expression of production function is –

$Q_x = f(x_1, x_2, x_3, \ldots\ldots x_n)$

$O_x \rightarrow$ Output of commodity X.

f = Function of

$x_1, x_2, x_3, \ldots\ldots x_n \rightarrow$ Inputs

5) The inputs/resources used for production are called factors of production. These are namely land, labour, capital & entrepreneur.

Attributes of production function

1. It indicates a functional relationship between physical inputs and physical outputs. For example, if we have two factors, say, labour (L) and capital (K) then the production function Q = f (L, K)
2. The production function is always in relation to a period of time. It denotes the flow of inputs resulting in a flow of outputs during a particular period of time. This is due to the fact when the firm wants to increase the production, it can either employ "some factors" additionally or increase "all the factors" in accordance with availability of the time period. Later we will study it as short period and long period.
3. The production function can specify either the maximum quantity of output that can be produced by a given set of input or the minimum quantity of inputs required for producing certain level of output.
4. The quantity of inputs is dependent upon the state of technology available and firm's managerial ability to use them. In order to simplify things the state of technology is considered to be given.
5. Production function takes into account the most efficient technology and methodology available at a time.
6. Production function is purely a technology relationship between input and output. It has nothing to do with the nominal relationship between input and output. It has nothing to do with the nominal price of factors; or value of quantity produced by them.

Fixed factors & variable factors:

1) Fixed Factor (FF)

a. Fixed factors refer to those factors of production which cannot be changed during short run.
b. These are used in a fixed quantity in the short run.
c. These factors can be changed only in the long run.
d. Example-land, plant and machinery, factory building etc.

2) **Variable Factor (VF)**
   a. Variable factor refer to those factors of production which can be changed during short period.
   b. The quantity of variable inputs varies according to the level of output.
   c. Example-labour, raw material etc.

Time Element in Production Function

Short Run and Long Run

Short Run: Short refer to a period of time in which a firm cannot change its fixed factors of production only variable factors can be changed.

Long Run: Long run refers to a time period during which a firm can change all the factors of production. In the long run, all inputs are variable. Therefore the distinction between fixed factors and variable factors will disappear.

Basic Concepts of Production

1. **Total product or Total physical product (TP or TPP)**
   Total product refers to the total volume of a commodity produced by a firm with given inputs during a given period.
2. **Average product or Average physical product (AP or APP)**
   Average product is per unit product of a variable input
   It is obtained by dividing the total product (TP) by the units of a variable factor.
   Symbolically, $\boldsymbol{AP = \frac{TP}{L}}$
3. **Marginal product or Marginal physical product (MP or MPP)**
   Marginal product is an addition to the total product when an additional unit of variable factor (labour) is employed.

Law of Variable Proportions

The Law of Variable Proportions (also called as returns to factor or Laws of Returns) is discussed under the situation of having one factor variable and another factor being used in fixed quantity if there are only two factors of production. This alters the proportions between factors; therefore, it is called as Law of Variable Proportions. The law is applicable for short run. Here $Q_x=f(L)$.

The law can be explained with the help of below table:

Units of Capital (K)	Units of Labour (L)	TP (Units) (Q)	AP $\left(\frac{Q}{L}\right)$	MP $\left(\frac{\Delta Q}{\Delta L}\right)$	
1	0	0	0	0	
1	1	70	70	70	Stage I
1	2	160	80	90	
1	3	270	90	110	
1	4	360	90	90	
1	5	430	86	70	Stage II
1	6	498	83	68	
1	7	546	78	48	
1	8	546	68.25	0	
1	9	522	58	−24	Stage III
1	10	470	47	−52	

First Stage- Stage of Increasing Returns

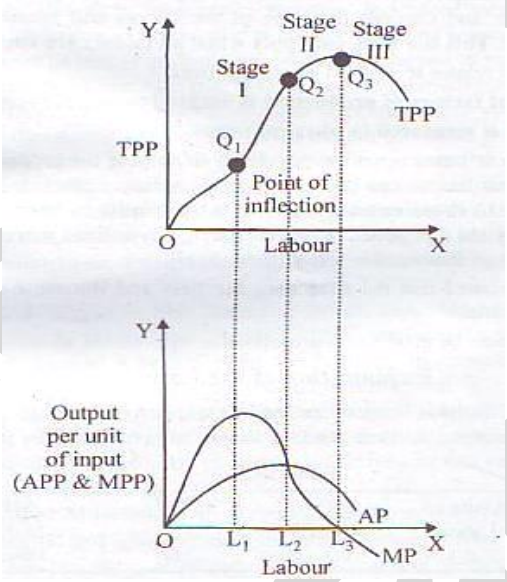
- In this stage as the input of variable factor (labour) increases, marginal product (MP) tends to increase and total product (TP) increases at increasing rate because there is underutilization of the fixed input
- MP also tends to rise alongwith AP.

Second Stage- Stage of Diminishing Returns

- In this stage, increase in the input of variable factor (Labour) is followed by a decrease in MP but it remains positive and TP increases at decreasing rate because there is pressure on fixed input.

Third Stage- Stage of Negative Returns

- In this stage, increase in the units of variable factor (labour) renders MP negative and TP starts declining because there is too much of variable input in relation to the fixed input.



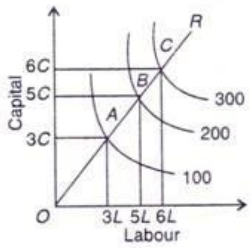
THE LAWS OF RETURNS TO SCALE: PRODUCTION FUNCTION WITH TWO VARIABLE INPUTS

The laws of returns to scale refer to the effects of a change in the scale of factors (inputs) upon output in the long run when the combinations of factors are changed in the same proportion.

If by increasing two factors, say labour and capital, in the same proportion, output increases in exactly the same proportion, there are constant returns to scale. If in order to secure equal increases in output, both factors are increased in larger proportionate units, there are decreasing returns to scale. If in order to get equal increases in output, both factors are increased in smaller proportionate units, there are increasing returns to scale.

Increasing Returns to Scale:

Below figure shows the case of increasing returns to scale where to get equal increases in output, lesser proportionate increases in both factors, labour and capital, are required.



It follows that in the figure:

100 units of output require 3C + 3L

200 units of output require 5C + 5L

300 units of output require 6C + 6L

So that along the expansion path OR, OA > AB > BC. In this case, the production function is homogeneous of degree greater than one. The increasing returns to scale are attributed to the existence of indivisibilities in machines, management, labour, finance, etc. Some items of equipment or some activities have a minimum size and cannot be divided into smaller units. When a business unit expands, the returns to scale increase because the indivisible factors are employed to their full capacity.

Increasing returns to scale also result from specialisation and division of labour. When the scale of the firm expands there is wide scope for specialisation and division of labour. Work can be divided into small tasks and workers can be concentrated to narrower range of processes. For this, specialized equipment can be installed.

Thus with specialization efficiency increases and increasing returns to scale follow:

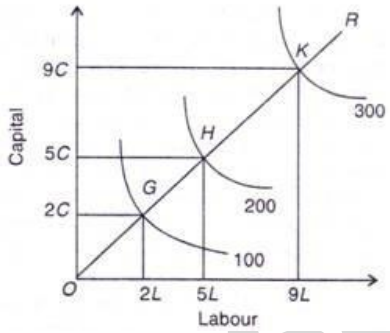
Further, as the firm expands, it enjoys internal economies of production. It may be able to install better machines, sell its products more easily, borrow money cheaply, procure the services of more efficient manager and workers, etc. All these economies help in increasing the returns to scale more than proportionately.

Not only this, a firm also enjoys increasing returns to scale due to external economies. When the industry itself expands to meet the increased long-run demand for its product, external economies appear which are shared by all the firms in the industry. When a large number of firms are concentrated at one place, skilled labour, credit and transport facilities are easily available.

Subsidiary industries crop up to help the main industry. Trade journals, research and training centres appear which help in increasing the productive efficiency of the firms. Thus these external economies are also the cause of increasing returns to scale.

Decreasing Returns to Scale:

Below Figure shows the case of decreasing returns where to get equal increases in output, larger proportionate increases in both labour and capital are required.



It follows that:

100 units of output require 2C + 2L

200 units of output require 5C + 5L

300 units of output require 9C + 9L

So that along the expansion path OR, OG < GH < HK.

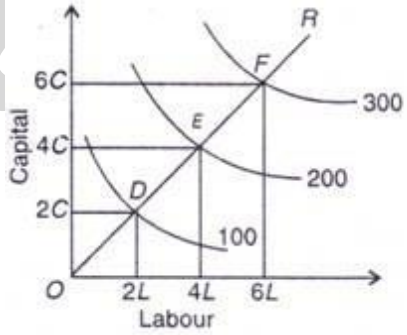
In this case, the production function is homogeneous of degree less than one. Returns to scale may start diminishing due to the following factors. Indivisible factors may become inefficient and less productive. Business may become unwieldy and produce problems of supervision and coordination.

Large management creates difficulties of control and rigidities. To these internal diseconomies are added external diseconomies of scale. These arise from higher factor prices or from diminishing productivities of the factors. As the industry continues to expand the demand for skilled labour, land, capital, etc. rises.

There being perfect competition, intensive bidding raises wages, rent and interest. Prices of raw materials also go up. Transport and marketing difficulties emerge. All these factors tend to raise costs and the expansion of the firms leads to diminishing returns to scale so that doubling the scale would not lead to doubling the output.

Constant Returns to Scale:

Below Figure shows the case of constant returns to scale. Where the distance between the isoquants 100, 200 and 300 along the expansion path OR is the same, i.e., OD = DE = EF. It means that if units of both factors, labour and capital, are doubled, the output is doubled. To treble the output, units of both factors are trebled.



It follows that:

100 units of output require
1 (2C + 2L) = 2C + 2L
200 units of output require
2 (2C + 2L) = 4C + 4L
300 units of output require
3 (2C + 2L) = 6C + 6L

The returns to scale are constant when internal economies enjoyed by a firm are neutralised by internal diseconomies so that output increases in the same proportion. Another reason is the balancing of external economies and external diseconomies.

Constant returns to scale also result when factors of production are perfectly divisible, substitutable, homogeneous and their supplies are perfectly elastic at given prices. That is why, in the case of constant returns to scale, the production function is homogeneous of degree one.

REVENUE ANALYSIS

CONCEPT OF REVENUE

A firm has to play the dual role of the producer and a seller. As a producer, it tends to minimize the costs of producing an output. But how much it is to produce if decided by the conditions that prevail in the product market and sale proceeds (revenue) it expects to earn vis-a-vis the costs that it has incurred The equilibrium output is that which gives it maximum profit.

The sale proceeds that a firm gets from the sale of its product is called revenue.

According to Dooley, "The revenue of a firm is its sale receipts or money receipts from the sale of a product."

The concept of revenue is different from the concept of profit. The following equation shows the difference :

Profit Revenue - Costs

Revenue Costs + Profits.

Total Average and Marginal Revenue

The revenue concept relates to Total Revenue, Average Revenue and Marginal Revenue.

Total Revenue (TR): Total Revenue from the production and sale of a product of a firm is the total quantity of the product produced and sold multiplied by the price of the product.

Thus:

TR = PQ

Where, TR is Total Revenue, P is price and Q is quantity of the product produced and sold.

If a firm sells 100 units of a commodity at 10 per unit. Then the total revenue of the firm will be:

Q×P=TR

100x10= Rs. 1,000.

Average Revenue (AR): Average Revenue is the revenue earned per unit of output produced and sold.

In other words, Average Revenue refers to revenue per unit of output.

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

Where, AR is Average Revenue

TR is Total Revenue

Q is quantity of the product produced and sold.

Average Revenue (AR) is equal to price (ARP) when a firm sells all units of output produced at the same price (except in the case of discriminating prices)

Therefore,

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

or.

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

or, AR-Price

If for example, a firm realises Total Revenue 7 1,000 by the sale of 100 units. It implies that the Average Revenue is? 10 (1000/10) or the firm has sold the commodity at a price of 10 per unit.

Marginal Revenue (MR): Marginal Revenue is defined as the extra revenue earned by the producing and selling an extra unit of output. Starting algebraically, marginal revenue is the difference between total revenue earned by producing and selling 'n' units of a product instead of 'n -1' units.

Thus,

MR=TR» TRn-1

MR= Marginal Revenue

TR=Total Revenue of 'n' units of output TR_2-1= Total Revenue of 'n - 1' units of output

UNIT-III

FACTORS OF PRODUCTION

INTRODUCTION

1) Production is the process of conversion of inputs into outputs.
2) By production, we mean the process by which man utilizes or converts the natural resources, working upon them so as to make them satisfy human wants.
3) It is the creation of utility and addition of value. This creation of utility may be by way of creating goods in physical terms (called commodities) or non-physical terms (called services).
4) Production of all goods and services require the use of certain factors (or inputs). The inputs/resources used for production are called factors of production. These are namely land, labour, capital & entrepreneur.

LAND –

The term 'Land' in economics is often used in a wider sense. It does not mean only the surface of the soil, but it also includes all those natural resources which are the free gifts of nature.

It, therefore, means all the free gifts of nature. These natural gifts include: (i) rivers, forests, mountains and oceans; (ii) heat of sun, light, climate, weather, rainfall, etc. which are above the surface of land; (iii) minerals under the surface of the earth such as iron, coal, copper, water, etc. According to Marshall, "By land is meant… materials and forces which nature gives freely for man's aid in land, water, air, light and heat." Therefore, land is a stock of free gifts of nature.

Characteristics of Land:

Land possesses the following characteristics:

1. Free Gift of 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. Rather, it existed even long before the evolution of man.

2. Fixed Quantity:

The total quantity of land does not undergo any change. It is limited and cannot be increased or decreased with human efforts. No alteration can be made in the surface area of land.

3. Land is Permanent:

All man-made things are perishable and these may even go out of existence. But land is indestructible. Thus it cannot go out of existence. It is not destructible.

4. Land is a Primary Factor of Production:

In any kind of production process, we have to start with land. For example, in industries, it helps to provide raw materials, and in agriculture, crops are produced on land.

5. Land is a Passive Factor of Production:

This is because it cannot produce anything by itself. For example, wheat cannot grow on a piece of land automatically. To grow wheat, man has to cultivate land. Labour is an active factor but land is a passive factor of production.

6. Land is Immovable:

It cannot be transported from one place to another. For instance, no portion of India's surface can be transported to some other country.

7. Land has some Original Indestructible Powers:

There are some original and indestructible powers of land, which a man cannot destroy. Its fertility may be varied but it cannot be destroyed completely.

8. Land Differs in Fertility:

Fertility of land differs on different pieces of land. One piece of land may produce more and the other less.

9. Supply of Land is Inelastic:

The demand for a particular commodity makes way for the supply of that commodity, but the supply of land cannot be increased or decreased according to its demand.

10. Land has Many Uses:

We can make use of land in many ways. On land, cultivation can be done, factories can be set up, roads can be constructed, buildings can be raised and shipping is possible in the sea and big rivers.

LABOUR

Labour includes both physical and mental work undertaken for some monetary reward. In this way, workers working in factories, services of doctors, advocates, ministers, officers and teachers are all included in labour. Any physical or mental work which is not undertaken for getting income, but simply to attain pleasure or happiness, is not labour.

For example, the work of a gardener in the garden is called labour, because he gets income for it. But if the same work is done by him in his home garden, it will not be called labour, as he is not paid for that work. So, if a mother brings up her children, a teacher teaches his son and a doctor treats his wife, these activities are not considered 'labour' in economics. It is so because these are not done to earn income.

Characteristics of Labour:

Labour has the following peculiarities which are explained as under:

1. Labour is Perishable:

Labour is more perishable than other factors 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.

2. Labour cannot be separated from the Labourer:

Land and capital can be separated from their owner, but 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. Therefore, labour and labourer cannot be separated from each other.

3. Less Mobility of Labour:

As compared to capital and other goods, labour is less mobile. Capital can be easily transported from one place to other, but labour cannot be transported easily from its present place to other places. A labourer is not ready to go too far off places leaving his native place. Therefore, labour has less mobility.

4. Weak Bargaining Power of Labour:

The ability of the buyer to purchase goods at the lowest price and the ability of the seller to sell his goods at the highest possible price is called the 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.

5. Inelastic Supply of labour:

The supply of labour is inelastic in a country at a particular time. It means their supply can neither be increased nor decreased if the need demands so. For example, if a country has a scarcity of a particular type of workers, their supply cannot be increased within a day, month or year. Labourers cannot be 'made to order' like other goods.

The supply of labour can be increased to a limited extent by importing labour from other countries in the short period. 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.

6. Labourer is a Human being and not a Machine:

Every labourer has his own tastes, habits and feelings. Therefore, labourers cannot be made to work like machines. Labourers cannot work round the clock like machines. After continuous work for a few hours, leisure is essential for them.

7. A Labourer sells his Labour and not Himself:

A labourer sells his labour for wages and not himself. 'The worker sells work but he himself remains his own property'. For example, when we purchase an animal, we become owners of the services as well as the body of that animal. But we cannot become the owner of a labourer in this sense.

8. Increase in Wages may reduce the Supply of Labour:

The supply of goods increases, when their prices increase, but the supply of labourers decreases, when their wages are increased. For example, when wages are low, all men, women and children in a labourer's family have to work to earn their livelihood. But when wage rates are increased, the labourer may work alone and his wife and children may stop working. In this way, the increase in wage rates decreases the supply of labourers. Labourers also work for less hours when they are paid more and hence again their supply decreases.

9. Labour is both the Beginning and the End of Production:

The presence of land and capital alone cannot make production. Production can be started only with the help of labour. It means labour is the beginning of production. Goods are produced to satisfy human wants. When we consume them, production comes to an end. Therefore, labour is both the beginning and the end of production.

10. Differences in the Efficiency of Labour:

Labourer differs in efficiency. Some labourers are more efficient due to their ability, training and skill, whereas others are less efficient on account of their illiteracy, ignorance, etc.

11. Indirect Demand for Labour:

The consumer goods like bread, vegetables, fruit, milk, etc. have direct demand as they satisfy our wants directly. But the demand for labourers is not direct, it is indirect. They are demanded so as to produce other goods, which satisfy our wants. So the demand for labourers depends upon the

demand for goods which they help to produce. Therefore, the demand for labourers arises because of their productive capacity to produce other goods.

12. Difficult to find out the Cost of Production of Labour:

We can easily calculate the cost of production of a machine. But it is not easy to calculate the cost of production of a labourer i.e., of an advocate, teacher, doctor, etc. If a person becomes an engineer at the age of twenty, it is difficult to find out the total cost on his education, food, clothes, etc. Therefore, it is difficult to calculate the cost of production of a labourer.

13. Labour creates Capital:

Capital, which is considered as a separate factor of production is, in fact, the result of the reward for labour. Labour earns wealth by way of production. We know that capital is that portion of wealth which is used to earn income. Therefore, capital is formulated and accumulated by labour. It is evident that labour is more important in the process of production than capital because capital is the result of the working of labour.

14. 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.

DIVISION OF LABOUR

Division of labour first originated from the division of workers in different occupations. Now, when the production is done on a large scale with the help of heavy machines, it is split up into a number of processes and many people join to produce an article.

It is called the division of labour. For instance, in a large scale readymade garment factory, a man does cutting of cloth, the second man stitches clothes with machines, the third buttons, the fourth makes folding and packing, etc.

This way of doing the work is called division of labour because different workers are engaged in performing different parts of production. In the words of Watson, "Production by division of labour consists in splitting up the productive process into its component parts."

In fact, one cannot produce all the goods he requires. Production has become so technical and complex that different workers are put to different tasks according to their capacity and ability. One becomes specialised in the production of those goods for which he or she is best suited. Different workers perform different parts of production on the basis of their specialisation.

The result is that goods come to the final shape with the cooperation of many workers. Thus, division of labour means that the main process of production is split up into many simple parts and each part is taken up by different workers who are specialised in the production of that specific part.

Forms of Division of Labour:

The division of labour has been divided into different forms by the economists which can be explained as follows:

1. Simple Division of Labour:

When the production is split up into different parts and many workers come together to complete the work, but the contribution of each worker cannot be known, it is called simple division of

labour. For example, when many persons carry a huge log of wood, it is difficult to assign how much labour has been contributed by an individual worker. It is simple division of labour.

2. Complex Division of Labour:

When the production is split up into different parts and each part is performed by different workers who have specialised in it, it is called complex division of labour. For example, in a shoe factory one worker makes the upper portion, the second one prepares the soles, the third one stitches them, the fourth one polishes them, and so on. In this way, shoes are manufactured. It is a case of complex division of labour.

3. Occupational Division of Labour:

When the production of a commodity becomes the occupation of the worker, it is called occupational division of labour. Thus, the production of different goods has created different occupations. The caste system in India is perhaps the best example of the occupational division of labour. The work of farmers, cobblers, carpenters, weavers and blacksmiths isknown as occupational division of labour.

4. Geographical or Territorial Division of Labour:

Sometimes, due to different reasons, the production of goods is concentrated at a particular, place, state or country. This particular type of division of labour comes into being when the workers or factories having specialised in the production of a particular commodity are found at a particular place. That place may be the most suitable geographically for the production of that commodity. This is called the geographical or territorial division of labour. For example, Assam has specialised in the production of tea, whereas the textile industry is localised in Mumbai and the jute production in West Bengal.

Merits and Demerits of Division of Labour:

Division of labour possesses the following merits and demerits:

Its Merits:

Division of labour has the following merits:

1. Increase in Production:

With the adoption of division of labour, the total production increases. Adam Smith has explained the advantage of division of labour with the help of an example that a worker can produce only 20 pins daily. If the making of pins in a modern factory is divided into 18 processes, then 18 workers can produce 48,000 pins in a single day.

2. Increase in Efficiency of Labour:

With division of labour, a worker has to do the same work time and again, and he gets specialisation in it. In this way, the division of labour leads to a great increase in efficiency.

3. Increase in Skill:

Division of labour contributes to the development of skill, because with the repetition of the same work, he becomes specialised in it. This specialisation enables him to do the work in the best possible way, which improves his skill.

4. Increase in Mobility of Labour:

Division of labour facilitates greater mobility of labour. In it, the production is split up into different parts and a worker becomes trained in that very specific task in the production of the commodity which he performs time and again. He becomes professional, which leads to the

occupational mobility. On the other hand, division of labour implies a large-scale production and labourers come to work from far and near. Thus, it increases geographical mobility of labour.

5. Increase in Use of Machines:

The division of labour is the result of the large-scale production, which implies more use of machines. On the other hand, the division of labour increases the possibility of the use of machines in the small-scale production also. Therefore, in modern times the use of machines is increasing continuously due to the increase in the division of labour.

6. Increase in Employment Opportunities:

Division of labour leads to the diversity of occupations which further leads to the employment opportunities. On the other hand, the scale of production being large, the number of employment opportunities also increases.

7. Work According to Taste:

Workers have their own taste in production. For example, a person can take up that type of job for which he considers himself to be the most suitable and which is in accordance with his taste. Division of labour extends the work to such an extent that every person can find work according to his taste and interest.

8. Work for Disable:

Division of labour splits up the production work in small processes and different persons can work at different places with the help of machines. Certain machines can be operated with the help of hands only and others with the help of foot as well. Therefore, the disabled persons can also find work according to their suitability.

9. Best Use of Tools:

In this system, it is not necessary to provide each worker with a complete set of tools. He needs a few tools only for the job in which he can make their best use. Therefore, the continuous use of tools is possible which are used at different stages.

10. Best Selection of the Workers:

Division of labour helps the employers in the best selection of workers.

As the work is divided into different parts and each part is taken up by such a worker who is more suitable for it, the employer can select very easily the man who is best suited for the work.

11. Saving of Capital and Tools:

Division of labour helps in the saving of capital and tools. It is not essential to provide a complete set of tools to every worker. He needs a few tools only for the job he has to do. Thus there is the saving of tools as well as capital. For instance, if a tailor stitches the shirt, he requires a sewing machine, scissors, etc. But on the basis of division of labour, one can do the cutting and the other can stitch the clothes. In this way, two tailors can work with the help of one pair of scissors and one machine only.

12. Goods of Superior Quality:

Division of labour is beneficial in making goods of superior quality. When the worker is entrusted with the work for which he is best suited, he will produce superior quality goods.

13. Saving of Time:

There is no need for the worker to shift from one process to another. He is employed in a definite process with certain tools. He, therefore, goes on working without loss of time, sitting at one place. Continuity in work also saves time and helps in more production at less cost.

14. Right Man at the Right Job:

Division of labour implies splitting up of production into a number of processes. Each person is given the job for which he is best suited. There will be no round pegs in square holes. In this way, a right man is placed at the right job.

15. Reduction in the Cost of Production:

If a shoe-maker makes himself two pairs of shoes daily, then four shoe-makers can make more than eighth pairs of shoes if they work in cooperation with each other. In this way, division of labour increases production which reduces the average cost of production. Saving of capital, tools and machinery, etc. also help in the reduction of cost of production.

16. Cheap Goods:

Division of labour helps in mass production. Thus production becomes less expensive and more economical. Therefore, cheaper goods are turned out, which improve the standard of living of the people.

17. Saving of Time and Expenses in Training:

Under division of labour, a worker has to train himself in a small part of production. There is no need to learn the whole process of production. It ensures saving of time as well as expenses in training.

18. Spirit of Co-operation among Workers:

Division of labour gives chances of working under the same roof and with the cooperation of each other. It further gives rise to the feeling of cooperation and trade unionism in their daily lives. The work cannot be completed unless they cooperate with each other. They help each other at the time of adversities as well.

19. Development of International Trade:

Division of labour increases the tendency of specialisation not only in the workers or industries, but in different countries also. On the basis of specialisation, every country produces only those goods in which it has a comparative advantage and imports such goods from those countries which have also greater comparative advantage. Therefore, division of labour is beneficial for the development of international trade also.

Its Demerits:

The division of labour has also certain demerits which are explained below:

1. Monotony:

Under division of labour, a worker has to do the same job time and again for years together. Therefore, after some time, the worker feels bored or the work becomes irksome and monotonous. There remains no happiness or pleasure in the job for him. It has an adverse effect on the production.

2. Loss of Joy:

In the absence of division of labour, he feels a lot of pleasure on the successful completion of his goods. But under division of labour, nobody can claim the credit of making it. The work gives him neither pride nor pleasure. Therefore, there is total loss of joy, happiness and interest in the work.

3. Loss of Responsibility:

Many workers join hands to produce a commodity. If the production is not good and adequate, none can be held responsible for it. It is generally said that 'every man's responsibility is no man's responsibility.' Therefore, the division of labour has the disadvantage of loss of responsibility.

4. Loss of Mental Development:

When the labourer is made to work only on a part of the work, he does not possess complete knowledge of the work. Thus, division of labour proves to be a hurdle in the way of mental development.

5. Loss of Efficiency:

Division of labour is sometimes accounted for the loss of efficiency. For instance, if a cobbler goes on cutting the leather for a long time, he may lose the efficiency of making shoes.

6. Reduction in Mobility of Labour:

The mobility of labour is reduced on account of division of labour. The worker performs only a part of the whole task. He is trained to do that much part only. So, it may not be easy for him to trace out exactly the same job somewhere else, if he wants to change the place. In this way, the mobility of labour gets retarded.

7. Increased Dependence:

When the production is split up into a number of processes and each part is performed by different workers, it may lead to over-dependence. For instance, in the case of a readymade garments factory, if the man cutting cloth is lazy, the work of stitching, buttoning, etc. will suffer. Therefore, increased dependence is the result of division of labour.

8. Danger of Unemployment:

The danger of unemployment is another disadvantage of division of labour. When the worker produces a small part of goods, he gets specialised in it and he does not have complete knowledge of the production of goods. For instance, a man is expert in buttoning the clothes. If he is dismissed from the factory, it is difficult for him to find the job of buttoning. Thus division of labour has a fear of unemployment.

9. Increased Dependence on Machines:

As division of labour increases, there will be an increased use of machines. Almost all the workers work on different types of machines. It is difficult for them to work without machines. Thus, division of labour increases the dependence on machines.

10. Danger of Over-Production:

Over-production means that the supply of production is comparatively more than its demand in the market. Because of the division of labour, when production is done on a large scale, the demand for production lags much behind its increased supply. Such conditions create overproduction which is very harmful for the producers as well as for the workers when they become unemployed.

11. Exploitation of Labour:

Division of labour is concerned with large scale production in big factories which are owned by the capitalists. No poor worker can afford to start his own production. Therefore, they have to seek employment in big factories of the capitalists. These employers pay less wages to them as compared to their marginal productivity, because there is no other alternative to the workers but to work at very low wages. Therefore, division of labour results in the exploitation of labour.

12. Evils of Factory System:

The modern industrial or factory system has been developed as a result of the division of labour. This system further gives rise to the evils like dense population, pollution, bad habits of gambling and drinking, low standard of living, poor food, clothes and housing, etc.

13. Employment of Women and Children:

Division of labour results in the large scale production in which children and women are also employed. It is because a simple and small part of the whole task can easily be performed by them. Thus the number of employed women and children increases. They are also exploited by the employers by paying them lower wages.

14. Industrial Disputes:

The industrial disputes mean strikes by workers, closure of factory, etc. due to clashes between the employees and the employers. Division of labour results in the division of society into workers and employers. The employer always tries to increase his profits by exploiting the workers and workers form trade unions against the employers to put an end to their exploitation or to make them increase their wages. It gives rise to a severe conflict between the employers and the workers in the form of strikes, closures and lockouts of factories.

Conclusion:

To sum up, we can say that division of labour is beneficial to the workers, to the producers and to the society as a whole. Its merits outweigh its demerits.

EFFICIENCY OF LABOUR :- The working capacity of the labour is called his efficiency being given the same time limit and given the same type of work.

FACTORS DETERMINING THE EFFICIENCY OF LABOUR

1. PERSONAL QUALITIES :- Some people have some personal qualities and they are suitably built foe certain heavy labour. On other hand some people are very suitable for mental labour. Family background also pays very important role in this regard.

2. EDUCATION :- It is the basic and essential element which determines the efficiency of labour. Educated labourer is more efficient as compared to the illiterate worker.

3. TRAINING AND SKILL :- The modern world requires highly skilled labourers. A labourer with sound technical training will be more effective as compared to a labourer who has no training. It increases the efficiency of the labourer.

4. CLIMATIC CONDITIONS :- Climates also plays an important role in increasing or decreasing the efficiency. Hot weather has a vital factor for the low efficiency of labour in Asia and Middle East. On other hand cold weather is an important element for increasing the efficiency in labour in U.S.A and Europe.

5. WAGES AND BENEFITS :- If wages, allowances, bonuses and other frigs benefits are given to the workers, then their working efficiency increases. Labourer works very hard if he has attractive salary. On other hand if wages rate is low then efficiency of the labourer will be also low.

6. COMBINATION OF PRODUCTION FACTORS :- If the other three factors of production combination is ideal then efficiency of labourer will be high otherwise low.

7. WORKING HOURS :- If working hours of labourer are reasonable then the efficiency will be high. If the working time is very long and without extra payment then efficiency of the worker will be low.

8. ENVIRONMENT :- If the working environment is pleasant then efficiency of labourer will be high. It is observed that labourer working in air conditions rooms and healthy conditions are more efficient as compared to others.

9. RACIAL QUALITIES :- By birth some races are very hard working and strong built so they are more efficient as compared to other races.

FACTORS PROMOTING EFFICIENCY OF LABOUR

Following are the important factors which promote the efficiency of labour.

1. INCREASE IN WAGES :- Increase in wages and fringe benefits promote the efficiency of labour. When wages and incentives will increase it will make the labourer hard worker and efficient.

2. TECHNICAL EDUCATION :- Vocational, technical and commercial colleges, should be opened to provide technical skill to the people. Modern industry, agriculture, banking, transport and commerce require highly skilled persons. Such type of training and skill is provided in the colleges and universities.

3. CARE OF HEALTH :- Health facilities should be provided to the labourers. A healthy worker can work more efficiently as compared to sick worker. All the factory owners should opened the health clinics in their factories and regular medical check-up should be compulsory.

4. INCREASES IN ALLOWANCES :- Various types of allowances like dearness and bonus must be increased. Special allownces should be given to the efficient workers.

5. LABOUR LAWS :- Government should also frame the strict labour laws. In case of accident special compensation should be given. In case of industrial dispute courts should be established. This step will provide the security to the labourers and they will work with full concentration.

6. SPECIAL STORES :- To provide the goods on lower rates to the labourers special stores should be opened for the workers.

7. ESTABLISHMENT OF THE CANTEEN :- Lunch and dinner facility should be provided to the workers. On the lower rates food should be provided during the working interval. In this way time of the workers will be saved and their efficiency will increase.

MOBILITY OF LABOUR

Mobility refers to the willingness and actual movement of labour from one place to another-near or far and distant. This mobility may be for searching jobs or for better job prospects. This mobility may be territorial, occupational or intra-regional.

FACTORS AFFECTING MOBILITY OF LABOUR:

1) Means of transport and communication
2) Knowledge and Information
3) Stage of development
4) Family bonds
5) Urge to excel

CAPITAL

Meaning

The term, 'Capital', in economics does not mean merely money as the accountants call it. Capital is that part of wealth which can be used for further production of wealth. According to Marshall, "Capital consists of all kinds of wealth, other than free gifts of nature, which yield income." Therefore, every type of wealth other than land which helps in further production of income is called capital.

In this way, money, machine, factories, etc. are included in capital provided they are used in production. For instance, if a man has an income of Rs 10,000 per month and out of it he invests Rs 6,000 in a business, this amount of Rs 6000 is called capital. In the same way, plough, tractor and other agricultural implements of farmers are also capital. The house in which a man resides is his wealth and the house which is given on rent is his capital.

Characteristics of Capital:

Capital has its own peculiarities which distinguish it from other factors of production. Capital possesses the following main characteristics:

1. Man Produces Capital:

Capital is that wealth which is used in the production of goods. Capital is the result of human labour. Thus, every type of capital such as roads, machines, buildings and factories etc. are produced by man.

2. Capital is a Passive Factor of Production:

Capital cannot produce without the help of the active services of labour. To produce with machines, labour is required. Thus, labour is an active, whereas capital is a passive factor of production. Capital on its own cannot produce anything until labour works on it.

3. Capital is a Produced Means of Production:

The composition or supply of capital is not automatic, but it is produced with the joint efforts of labour and land. Therefore, capital is a produced means of production.

4. Capital is Variable:

The total supply of land cannot be changed, whereas the supply of capital can be increased or decreased. If the residents of a country produce more or save more from their income, and these savings are invested in factories or capital goods, it increases the supply of capital.

5. Capital is more Mobile than other Factors of Production:

Of all the factors of production, capital is the most mobile. Land is perfectly immobile. Labour and entrepreneur also lack mobility. Capital can be easily transported from one place to another.

6. Capital Depreciates:

As we go on using capital, the value of capital goes on depreciating. When machines are used continuously for some time, these depreciate and their value falls.

7. Capital is Stored-up Labour:

Scholars like Marx admit that capital is stored-up labour. By putting in his labour man earns wealth. A part of this wealth is spent on consumption of goods and the rest of it is saved. When saving is invested, it becomes capital. In other words, capital is the result of accumulation of savings of a man. Therefore, capital is stored-up labour.

8. Capital is Destructible:

All capital goods are destructible and are not permanent. Because of the continuous use, machines and tools become useless with the passage of time.

Classification of Capital

The functional classification of capital is as follows:

1) **Real capital and financial capital:** Real capital refers to physical goods (capital goods as they are known to be) used for further production like, equipments, machinery, structure, plants etc. Financial capital is monetary resources available for investment into these physical goods.
2) **Private capital and social capital:** Private capital includes the amount and type of investment made by the private sector, usually, for earning some profits. Social capital, on the other hand, is created and developed by the state, for example, construction of roads, bridges, educational institutions and some such economic organizations.

3) **Fixed and Floating capital:** The long-term capital like plant and machinery is fixed capital whereas cash, inventories required for production is floating or circulating capital.
4) **Tangible and Intangible capital:** Any capital which has physical manifestation like plant and machinery, building etc. is called tangible capital. Intangible capital is not physically existing but contributing to the production of goods and services like goodwill, brand image etc.
5) **Indigenous and Foreign capital:** Such capital having its sources from within the country is called indigenous capital whereas the capital, in any form, brought from abroad is called foreign capital.

Capital Formation

Production is an ongoing process. Whatever amount of goods and services are produced in a certain period of time (usually in a year) are not consumed instantaneously. A part of it is set aside for "Some future use" in production. This keeps on increasing and used for further production sometime somewhere. This 'setting aside of a portion of current production' and used for further production is known as 'capital formation'. We may define capital formation as the surplus of production over consumption in a certain period which is used for further production.

Role of Capital Formation:

1) Capital formation plays a very crucial role in the process of economic development of a country. Higher the rate of capital formation higher will be the growth prospects of the economy. The fact is that capital formation shows the potentials of the economy.
2) Another contribution of capital accumulation (or formation) is that it makes the technology development possible in an economy. Without capital formation, new discoveries, inventions will remain unused and efforts in researching and developing them will go waste.
3) Capital formation also creates job opportunities in the economy both at the level of production of capital and at the level of utilization of such capital.

Stages of Capital Formation:

- **Stage 1:** Savings
- **Stage 2:** Mobilisation of Savings
- **Stage 3:** Investment

ORGANIZATION AND ENTERPRISE (ENTREPRENEURSHIP)

Features of Entrepreneurship

The entrepreneur as an organizer of the process of production is the fore-runner of economic development of a country.

1. Scare human resource

Entrepreneurship is a very scarce human factor as it involves specific talent, organizational capacity, innovative sprit and boldness to bear risk which is not found in every person. In developing countries like India lack of entrepreneurship is a major impediment to development.

2. Heterogeneous factor

Entrepreneurship is a heterogeneous factor of production because efficiency, talents, organizing skills, ability to bear risk, foresights and innovating capacities, etc. vary from entrepreneur to entrepreneur. The nature of enterprise varies with various forms of business organizations like

sole trading, partnership, co-operatives, Joint Stock Company and public undertakings. In a small business, the same person may work as an entrepreneur, manager and capitalist.

3. Indispensable factor

In modern business, entrepreneur is a very important factor of production as he organizes production of goods & services by coordinating the other factors in an optimum way. He is an organiser & owner of the firm. Production is impossible in his absence.

4. Intangible factor

Entrepreneurship is an abstract phenomenon. It is intangible. Entrepreneurial efforts cannot be measured in quantitative terms while we can measure in terms of hours of work and number of days. We can calculate the number of individual workers and their contribution to the firm but it is not possible to measure entrepreneurship.

5. Highly mobile

Of all factors entrepreneur possess a higher degree of mobility as he can easily move from one industry to another or from one region to another. An entrepreneur's ability to move from one industry to another depends upon his knowledge, experience and specialization.

6. Cannot be Bought & Sold

Land labour and capital can be bought and sold in factor markets but it is not possible to deal with entrepreneurs in a factor market. Since enterprise is an intangible factor, it cannot be bought and sold. Hence, like land, labour and capital market there is no entrepreneurial market where entrepreneurship can be bought and sold. Transaction is not possible in case of enterpreneurship.

We cannot derive the demand and supply curves in case of entrepreneur. Hence, the Demand and Supply Theory of value cannot be applied to the factor enterpreneurhip.

7. Residual reward

Entrepreneurship is a reward in terms of profit which is a residual reward, i.e. an income which is left after meeting all business expenses from the total sales revenue.

Functions of an Entrepreneur:

1) Co-ordinating functions
2) Risk bearing functions
3) Innovating functions

Theories of Population:
Malthus Theory of Population

Malthus' Theory:

Thomas Robert Malthus (1766-1834) was the key figure to analyse the population statistics. His formulation on population was a landmark in the history of population theories. He generalized the relationship between population factors and social change.

In his Essay on the Principle of Population (1798) Malthus argued that because of the strong attraction of the two sexes, the population could increase by multiples, doubling every twenty-five years. He contended that the population would eventually grow so large that food production would be insufficient.

Human capacity for reproduction exceeded the rate at which subsistence from the land can be increased. Malthus further wrote 'Population when unchecked increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio.'

Malthus contended that the world's population was growing more rapidly than the available food supply. He argued that the food supply increases in an arithmetic progression (1, 2, 3, 4, and so on), whereas the population expands by a geometric progression (1, 2, 4, 8, and so on).

According to him, the population could increase by multiples, doubling every twenty-five years. He said the gap between the food supply and population will continue to grow over time. Even though food supply will increase, it would be insufficient to meet the needs of expanding population. Moreover, the famine and other natural calamities cause widespread sufferings and increase the death rate, which is nature's check against population.

In brief, Malthus theory states that:

1. Population is necessarily limited by the means of subsistence.
2. Population invariably increases where means of subsistence increased, unless prevented by some very powerful and obvious checks.
3. These checks, and the checks which repress the superior power of population and keep its effects on a level with the means of subsistence, are all resolvable into moral restraint, vice and misery.

Malthus based his above arguments on man's two basic characteristics essential to the maintenance of life:

(i) The need for food, and

(ii) the passion between sexes.

It was the second which led people to marry at a relatively early age and would result in such a large number of births that the population would double itself in few years if unchecked by misery and vice.

Malthus referred to two classes of checks which kept population down:

1. Positive means:

He spoke of famine (hunger), disease or war, pestilence and vicious customs about women.

2. Negative means:

He explicitly demanded artificial means of birth control and suggested as an alternative that birth rate be decreased through preventive measures such as late marriage (postponing marriage until later age), moral restraint, and chastity (abstinence). He contended that without such restraints the world would face widespread hunger, poverty and misery.

The 'positive' and 'preventive' checks which occur in human population to prevent excessive growth relate to practices affecting mortality and fertility respectively. Malthus saw the tension between population and resources as a major cause of the misery of much of the humanity. He was not, however, in favour of contraceptive methods, since their use did not generate the same drive to work hard as would a postponement of marriage.

Malthus argued that the positive and preventive checks are inversely related to each other. In other words, where positive checks are very effective, the preventive checks are relatively less effective and vice versa.

However, in all societies, some of these checks are in constant operation although in varying magnitude of effectiveness. Malthus believed that despite these checks, the inability of increased food supply to keep abreast of population increase always results in some kind of a situation of overpopulation.

Criticism:

Malthus' views have been widely challenged on many grounds. The main criticisms about his theory are as under:

1. The validity of his two sets of ratios has been questioned by his critics. It is argued that population has rarely grown in geometrical proportion and means of production have rarely multiplied in arithmetic progression.

2. Malthus overemphasized the 'positive' checks and did not visualize the role of 'preventive' checks like contraceptives and family planning. Neo-Malthusists argued for the adoption of birth control within marriage. Human inventions in the fields of birth control, health and nutrition and agriculture have helped to a great extent to strike a balance between human reproduction and food supply.

3. Malthus was also severely criticized for ignoring the role of changing technology and the consequent transformation in socioeconomic set-up of a society. He did not fully appreciate the extent to which improved agricultural technology and crop fertilization could sustain large population.

Neo-Malthusians agree that there are absolute limits on food supply, energy and other resources. Furthermore, they suggest that the problem is intensified by the disproportionate consumption of such resources by so-called developed (industrialized) actions. This formulation has been challenged by other researchers.

Yet none would deny that starvation is a very real fact even in 2012. According to International Food Policy Research Institute, out of 79 countries 65 come under the category of alarming level of hunger. Barundi, Ethiopia, Chad, Eritrea and Timor have been categorized as the five hungriest countries in the world. Around the world, we read many reports of starvation death and malnutrition.

With such images in mind, a representative of the World Bank stated in 1981 that the 'ghost of Malthus is not buried yet'. Ironically gains in food supplies do not always lead to progress in the fight against starvation. It puts pressure on food prices that makes it more difficult for the poor to buy the food they need.

4. Both the positive checks of hunger and disease referred to by Malthus do not operate today, except the terrible disaster sometimes caused by Tsunami, Katrina, Rita and floods or rains in desert areas like Banner and Jaisalmer in August 2006.

But catastrophe of this nature in any part of the world is immediately rushed to the affected place from surplus areas all over the world. A marked decline in the death rate even in the developing countries is a significant factor in the context of the population spurt.

5. Moreover, natural calamities referred to above have occurred in under-populated areas also and thus there was no causal relationship between positive checks and overpopulation.

6. Malthus also failed to realize even the biological limitations that a population cannot grow beyond a certain limits.

Marx's Response to Malthus' Thesis:

The debate about the Malthusian theory has continued down to the present. Economists such as J.S. Mill and J.M. Keynes supported his theory whereas others, especially, sociologists, have argued against it. According to them, the widespread poverty and misery of the working class people was,

not due to an eternal law of nature as propounded by Malthus but to the misconceived organization of society.

Karl Marx went one step further and argued that starvation was caused by the unequal distribution of the wealth and its accumulation by capitalists. It has nothing to do with the population. Population is dependent on economic and social organization. The problems of overpopulation and limits to resources, as enunciated by Malthus, are inherent and inevitable features associated with the capitalist system of production.

Marx's contention that food production could not increase rapidly was also debated when new technology began to give farmers much greater 5delds. French sociologist E. Dupreel (1977) argued that an increasing population would spur rapid innovation and development to solve problems, whereas a stable population would be complacent and less likely to progress. During the depression of the 1930s, the debate changed somewhat because the birth rate fell sharply in industrial (western) nations. Some predicted that human species would die out. Schemes were proposed to encourage families to have more children by giving them allowances for each child born. The birth rate rose sharply after World War II, especially in the underdeveloped nations like India, Africa and Bangladesh. Birth control programmes were instituted to control the population so as to eliminate starvation.

Despite the criticisms, the Malthusian thesis gained widespread currency during his lifetime. His ideas had profound effects on public policies, on the classical and neo-classical economists, on demographers and evolutionary biologists led by Charles Darwin.

His principle of population has been successful in highlighting the urgency to maintain a balanced relationship between population growth and means of subsistence. The critics of Malthus failed to realize that it was because of a large measure of truth in Malthusian principle of population that men today feel the need of resorting to contraception to keep their families within reasonable limits. Another main contribution of Malthus was to give a new line of thinking whereby the dynamics of population growth were viewed in the context of man's welfare.

Theory of Demographic Transition:

Demographic transition is a term, first used by Warren S. Thompson (1929), and later on by Frank W. Notestein (1945), referring to a historical process of change which accounts the trends in births, deaths and population growth that occurred in today's industrialized societies, especially European societies. This process of demographic change began for the most part in the later 18th century.

Demographic transition should not be regarded as a 'law of population growth', but as a generalized description of the evolutionary process. In simple terms, it is a theory which attempts to specify general laws by which human populations change in size and structure during industrialization. It is frequently accepted as a useful tool in describing the demographic history of a country.

The theory postulates a particular pattern of demographic change from a high fertility and high mortality to a low fertility and low mortality when a society progresses from a largely rural agrarian and illiterate society to a dominant urban, industrial, literate and modern society.

It is typically viewed as a three-stage process:

(i) That the decline in immortality comes before the decline in fertility,

(ii) that the fertility eventually declines to match mortality, and

(iii) that socio-economic transformation of a society takes place simultaneously with its demographic transformation. The demographic transition theory is characterized by conspicuous transition stages.

The transition from high birth and death rates to low rates can be divided into three stages (some scholars like Haggett, 1975 have divided into four or five stages):

i. Pre-transition stage:

High and fluctuating birth and death rates with little population growth.

ii. Stage I:

High birth rates and declining death rates with rapid population growth**.**

iii. Stage II:

Low birth and death rates with slow population growth.

iv. Stage III:

Birth and death rates both decline appreciably leading to zero population growth. The theory holds that pre-industrial societies were characterized by stable populations which had both a high death rate and birth rate. It postulates a little and slows population growth. The theory states that the high mortality rates characteristic of undeveloped areas will decline before fertility rates which are also high.

In the first stage of transition, death rates (especially the infant deaths) begin to fall as a result of advances in public health and sanitation as well as improvements in nutrition and food supply. Since the birth rate continues to remain high relative to the declining death rate, there is a rapid 'transitional' growth as we find in India today.

In the second stage, changes in social attitudes, the introduction of cheap forms of contraception and increases in life expectancy create social pressures for smaller families and for a reduction of fertility.

The diffusion of knowledge and cheap medical technology has brought many non-industrial societies into this stage of the demographic transition however, these societies have been unable to enter the third stage. The result has been very high rates of population growth in countries that are not experiencing corresponding economic growth.

In the last (third) stage of demographic transition birth and death rates decline appreciably which eventually becomes approximately equal, and in time it will result in zero population growth. Before this stage begins, there can be one more stage in which low birth and death rates lead to slow population growth.

The populations of advanced, urban industrial societies, which have entered the last stage, are now stable with low birth and death rates. In some cases (e.g., Eastern and Central Europe) birth rates have fallen so slow that the rate of natural increase was actually zero or negative. In this stage, the technical know-how is abundant, the deliberate controls on family planning are common and the literacy and education levels are also very high.

The growth pattern of human populations is thus held to be S-shaped, involving a transition from one type of demographic stability with high death rates to another type of plateau with low death and birth rates. Among the later demographers, Coale and Hoover further elaborated upon the role of development and modernization in the process of transition in demographic behaviour, maintained that a society characterized by peasant economy is marked with very high birth and death rates.

Death rates are high because of lack of adequate nutritive food, primitive sanitary conditions and absence of any preventive and curative measures of control over diseases. A high birth rate, on the other hand, is a functional response to high death rates, particularly among infants and children.

In the present-day world, as would be true of any point in time, different countries of the world are at different stages of the demographic transition. In the opinion of Glenn Trewartha (1969), this is largely due to the dual nature of man.

According to him, biologically, man is same everywhere and is engaged in the process of reproduction but culturally man differs from one part of the world to another. It is the cultural diversity of man that gives rise to varying fertility patterns in different areas resulting in different stages of demographic transition discussed above.

Criticism:

Although the theory of demographic transition has been appreciated widely by the demographers, it has been criticized on many grounds also. There are even critics who have gone to the extent of saying that it cannot be called a theory.

The main points of criticism are:

Firstly, this theory is merely based upon the empirical observations or the experiences of Europe, America and Australia.

Secondly, it is neither predictive nor its stages are segmental and inevitable.

Thirdly, the role of man's technical innovations cannot be underrated, particularly in the field of medicine, which can arrest the rate of mortality.

Fourthly, neither does it provide a fundamental explanation of the process of fertility decline, nor does it identify the crucial variables involved in it.

Fifthly, it does not provide a time frame for a country to move from one stage to another.

Finally, it does not hold good for the developing countries of the world, which have recently experienced unprecedented growth in population due to drastic decline in death rates.

In spite of these criticisms and shortcomings, the demographic transition theory does provide an effective portrayal of the world's demographic history at macro level of generalizations. As an empirical generalization developed on the basis of observing the demographic trend in the West, the transition process for any country can easily be understood.

The Optimum Theory of Population

The Optimum Theory of Population appeared as a reaction to the Malthusian theory.

Criticizing the approach of the Malthusian Theory of Population, modern economists Edwin Cannan and Carr Saunders of London School of Economics have developed a new theory known as Optimum Theory of Population.

It is also called modern theory of population. In recent years, Prof. Robbins, Dalton and Carr-Saunders have refined and polished the theory and put it in a more presentable form. This theory is an improvement over the Malthusian Theory.

Statement of the Theory:

The founders of the theory state it as "Given the natural resources, stock of capital and the state of technical knowledge, there will be a definite size of population with the per capita income. The population which has the highest per capita income is known as optimum population".

Optimum Population:

The economists like Carr Saunders considered 'optimum population' as that which produces maximum welfare. On the other hand, Prof. Cannan defined this theory in terms of 'return to labour'. He remarked, "Knowledge and circumstances remaining the same, there is what may be called maximum return when the amount of labour is such that both an increase and decrease in it would diminish proportionate return." Similarly, Bounding has rightly observed, "Optimum population is that at which standard of living is maximum.

1. Under Population:

If the actual population in a country is less than the optimum or ideal population, there will not be enough people to exploit all the resources of the country fully. Thus, the population and the per capita income will be lower. In other words, if the per capita income is low due to too few people, the population is then under population.

2. Over Population:

If the actual population is above the level of optimum population, there will be too many people to work efficiently and produce the maximum goods and the highest per capita income. As a result, the per capita income becomes poorer than before. This is the stage of over population. In other words, if the per capita income is low due to too many people, the population under these circumstances would be over population.

Assumptions:

The optimum theory is based on two important assumptions:

1. The proportion of working population to total population remains constant as the population of the country increases.

2. As the population of a country increases, the natural resources, the capital stock and state of technology remain unchanged.

Diagrammatic Representation of the Theory:

In the diagram I volume of population is shown along OX axis and income per head along OY-axis. OS is the income per head which gives only subsistence wage rate to the population. This level of wages puts the minimum limit to the income per head.

The subsistence income per head can prevail with two levels of population:

1. When population is too small to exploit the country's resources with maximum efficiency. This is the level of OA population.

2. When population is too large and the efficiency falls to give only a subsistence income to the labour force. This is the level of OC population.

OB shows optimum population which uses the available resources to give itself the maximum income per head. For a population less than OB, income per head increases with the increase in population. For a population higher than OB, income per head can increase with the decrease in population through preventive checks.

The dotted curve in the diagram shows the level of income per head with an improvement in technology or expansion of foreign trade. This will help to raise the income curve and generate population growth until wages are once again equal to subsistence level.

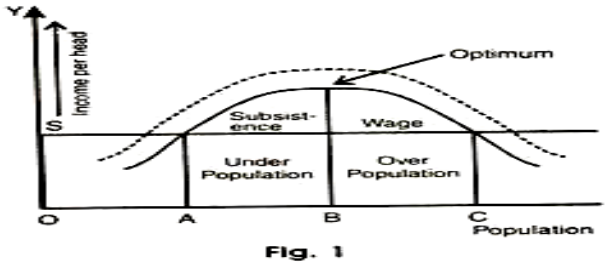


Fig. 1

UNIT-IV

PRODUCTION FUNCTION

1) Production is the process of conversion of inputs into outputs.
2) It is the creation of utility and addition of value
3) Production function is the relationship between inputs & output of a commodity
4) The mathematical expression of production function is –

$Q_x = f(x_1, x_2, x_3, \ldots\ldots x_n)$

$O_x \rightarrow$ Output of commodity X.

f = Function of

$x_1, x_2, x_3, \ldots\ldots x_n \rightarrow$ Inputs

5) The inputs/resources used for production are called factors of production. These are namely land, labour, capital & entrepreneur.

Attributes of production function

7. It indicates a functional relationship between physical inputs and physical outputs. For example, if we have two factors, say, labour (L) and capital (K) then the production function Q = f (L, K)
8. The production function is always in relation to a period of time. It denotes the flow of inputs resulting in a flow of outputs during a particular period of time. This is due to the fact when the firm wants to increase the production, it can either employ "some factors" additionally or increase "all the factors" in accordance with availability of the time period. Later we will study it as short period and long period.
9. The production function can specify either the maximum quantity of output that can be produced by a given set of input or the minimum quantity of inputs required for producing certain level of output.
10. The quantity of inputs is dependent upon the state of technology available and firm's managerial ability to use them. In order to simplify things the state of technology is considered to be given.
11. Production function takes into account the most efficient technology and methodology available at a time.
12. Production function is purely a technology relationship between input and output. It has nothing to do with the nominal relationship between input and output. It has nothing to do with the nominal price of factors; or value of quantity produced by them.

Fixed factors & variable factors:

3) Fixed Factor (FF)

a. Fixed factors refer to those factors of production which cannot be changed during short run.
b. These are used in a fixed quantity in the short run.
c. These factors can be changed only in the long run.
d. Example-land, plant and machinery, factory building etc.

4) Variable Factor (VF)

a. Variable factor refer to those factors of production which can be changed during short period.
b. The quantity of variable inputs varies according to the level of output.

c. Example-labour, raw material etc.

Time Element in Production Function

Short Run and Long Run

Short Run: Short refer to a period of time in which a firm cannot change its fixed factors of production only variable factors can be changed.

Long Run: Long run refers to a time period during which a firm can change all the factors of production. In the long run, all inputs are variable. Therefore the distinction between fixed factors and variable factors will disappear.

Basic Concepts of Production

4. **Total product or Total physical product (TP or TPP)**
   Total product refers to the total volume of a commodity produced by a firm with given inputs during a given period.
5. **Average product or Average physical product (AP or APP)**
   Average product is per unit product of a variable input
   It is obtained by dividing the total product (TP) by the units of a variable factor.
   Symbolically, $\boldsymbol{AP = \frac{TP}{L}}$
6. **Marginal product or Marginal physical product (MP or MPP)**
   Marginal product is an addition to the total product when an additional unit of variable factor (labour) is employed.

Law of Variable Proportions

The Law of Variable Proportions (also called as returns to factor or Laws of Returns) is discussed under the situation of having one factor variable and another factor being used in fixed quantity if there are only two factors of production. This alters the proportions between factors; therefore, it is called as Law of Variable Proportions. The law is applicable for short run. Here Q_x=f(L).

The law can be explained with the help of below table:

Units of Capital (K)	Units of Labour (L)	TP (Units) (Q)	AP $\left(\frac{Q}{L}\right)$	MP $\left(\frac{\Delta Q}{\Delta L}\right)$	
1	0	0	0	0	
1	1	70	70	70	Stage I
1	2	160	80	90	
1	3	270	90	110	
1	4	360	90	90	
1	5	430	86	70	
1	6	498	83	68	Stage II
1	7	546	78	48	
1	8	546	68.25	0	
1	9	522	58	-24	
1	10	470	47	-52	Stage III

First Stage- Stage of Increasing Returns

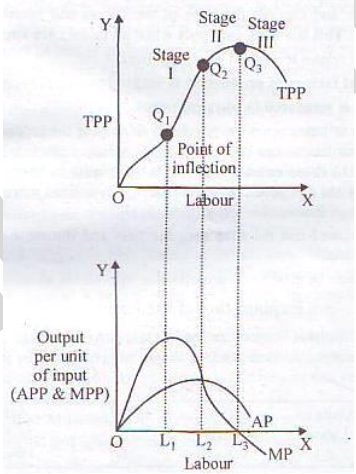
- In this stage as the input of variable factor (labour) increases, marginal product (MP) tends to increase and total product (TP) increases at increasing rate because there is underutilization of the fixed input
- MP also tends to rise alongwith AP.

Second Stage- Stage of Diminishing Returns

- In this stage, increase in the input of variable factor (Labour) is followed by a decrease in MP but it remains positive and TP increases at decreasing rate because there is pressure on fixed input.

Third Stage- Stage of Negative Returns

- In this stage, increase in the units of variable factor (labour) renders MP negative and TP starts declining because there is too much of variable input in relation to the fixed input.



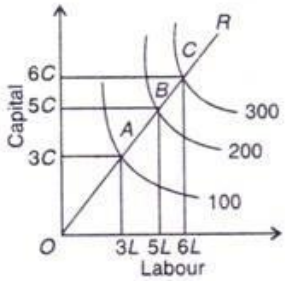
THE LAWS OF RETURNS TO SCALE: PRODUCTION FUNCTION WITH TWO VARIABLE INPUTS

The laws of returns to scale refer to the effects of a change in the scale of factors (inputs) upon output in the long run when the combinations of factors are changed in the same proportion.

If by increasing two factors, say labour and capital, in the same proportion, output increases in exactly the same proportion, there are constant returns to scale. If in order to secure equal increases in output, both factors are increased in larger proportionate units, there are decreasing returns to scale. If in order to get equal increases in output, both factors are increased in smaller proportionate units, there are increasing returns to scale.

Increasing Returns to Scale:

Below figure shows the case of increasing returns to scale where to get equal increases in output, lesser proportionate increases in both factors, labour and capital, are required.



It follows that in the figure:

100 units of output require 3C + 3L

200 units of output require 5C + 5L

300 units of output require 6C + 6L

So that along the expansion path OR, OA > AB > BC. In this case, the production function is homogeneous of degree greater than one. The increasing returns to scale are attributed to the

existence of indivisibilities in machines, management, labour, finance, etc. Some items of equipment or some activities have a minimum size and cannot be divided into smaller units. When a business unit expands, the returns to scale increase because the indivisible factors are employed to their full capacity.

Increasing returns to scale also result from specialisation and division of labour. When the scale of the firm expands there is wide scope for specialisation and division of labour. Work can be divided into small tasks and workers can be concentrated to narrower range of processes. For this, specialized equipment can be installed.

Thus with specialization efficiency increases and increasing returns to scale follow:

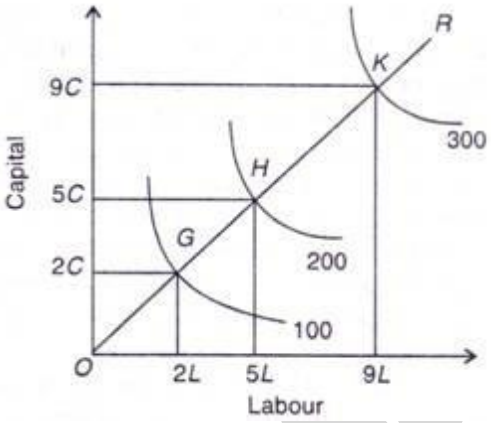
Further, as the firm expands, it enjoys internal economies of production. It may be able to install better machines, sell its products more easily, borrow money cheaply, procure the services of more efficient manager and workers, etc. All these economies help in increasing the returns to scale more than proportionately.

Not only this, a firm also enjoys increasing returns to scale due to external economies. When the industry itself expands to meet the increased long-run demand for its product, external economies appear which are shared by all the firms in the industry. When a large number of firms are concentrated at one place, skilled labour, credit and transport facilities are easily available.

Subsidiary industries crop up to help the main industry. Trade journals, research and training centres appear which help in increasing the productive efficiency of the firms. Thus these external economies are also the cause of increasing returns to scale.

Decreasing Returns to Scale:

Below Figure shows the case of decreasing returns where to get equal increases in output, larger proportionate increases in both labour and capital are required.



It follows that:

100 units of output require 2C + 2L

200 units of output require 5C + 5L

300 units of output require 9C + 9L

So that along the expansion path OR, OG < GH < HK.

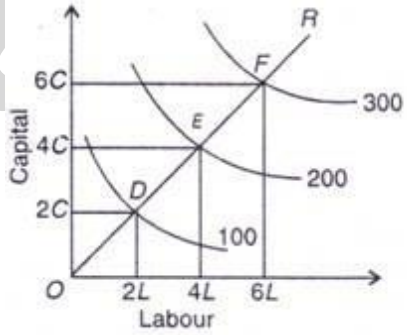
In this case, the production function is homogeneous of degree less than one. Returns to scale may start diminishing due to the following factors. Indivisible factors may become inefficient and less productive. Business may become unwieldy and produce problems of supervision and coordination.

Large management creates difficulties of control and rigidities. To these internal diseconomies are added external diseconomies of scale. These arise from higher factor prices or from diminishing productivities of the factors. As the industry continues to expand the demand for skilled labour, land, capital, etc. rises.

There being perfect competition, intensive bidding raises wages, rent and interest. Prices of raw materials also go up. Transport and marketing difficulties emerge. All these factors tend to raise costs and the expansion of the firms leads to diminishing returns to scale so that doubling the scale would not lead to doubling the output.

Constant Returns to Scale:

Below Figure shows the case of constant returns to scale. Where the distance between the isoquants 100, 200 and 300 along the expansion path OR is the same, i.e., OD = DE = EF. It means that if units of both factors, labour and capital, are doubled, the output is doubled. To treble the output, units of both factors are trebled.



It follows that:

100 units of output require

1 (2C + 2L) = 2C + 2L

200 units of output require

2 (2C + 2L) = 4C + 4L

300 units of output require

3 (2C + 2L) = 6C + 6L

The returns to scale are constant when internal economies enjoyed by a firm are neutralised by internal diseconomies so that output increases in the same proportion. Another reason is the balancing of external economies and external diseconomies.

Constant returns to scale also result when factors of production are perfectly divisible, substitutable, homogeneous and their supplies are perfectly elastic at given prices. That is why, in the case of constant returns to scale, the production function is homogeneous of degree one.

ECONOMIES AND DISECONOMIES OF SCALE

Economies of scale are advantages that arise for a firm because of its larger size, or scale of operation. These advantages translate into lower unit costs (or improved **productive efficiency**), although some economies of scale are not so easy to quantify.

In some markets, firms have to be of at least a certain size to be able to compete at all, because of the minimum level of investment required; economists call this **minimum efficient scale**.

On the other hand, inefficiencies can also creep in because of increased size, known as **diseconomies of scale**

In the correct sense of the term, **economies and diseconomies of scale** relate to advantages and disadvantages of an ***increase*** in the firm's productive capacity – such as moving to a larger factory or installing completely new technology. Do not confuse these terms with **capacity utilisation**, which is the degree to which the***current*** scale of operations is actually being used.

Economies of scale can be 'internal' (specific to an individual firm) or external (advantages that benefit the industry as a whole).

The main kinds of ***internal*** **Economies of Scale** are:

Purchasing – firms producing on a larger scale should be able to *bulk buy* raw materials or product for resale in larger quantities. They may be able to cut out wholesalers by buying direct from producers, and transport costs per unit may also be reduced. The firm might also be buying in large enough quantities to make very specific demands about product quality, specifications, service and so on, so that supplies exactly match their needs.

Technical – it may be cost-effective to invest in more advanced production machinery, IT and software when operating on a larger scale.

Managerial – larger firms can afford to have specialist managers for different functions within a business – such as Marketing, Finance and Human Resources. Furthermore, they may be able to pay the higher salaries required to attract the best people, leading to better planning and decision making.

Specialisation – with a larger workforce, the firm may be better able to divide up the work and recruit people whose skills very closely match the requirements of the job.

Marketing – more options are available for larger firms, such as television and other national media, which would not be cost-effective for smaller producers. The marketing cost for selling 10 million items might be no greater than to sell 1 million items. Larger firms might find it easier to gain publicity for new launches simply because of their existing reputation.

Financial – there is a wider range of finance options available to larger firms, such as the stock market, bonds and other kinds of bank lending. Furthermore, a larger firm is likely to be perceived by banks as a lower risk and the cost of borrowing is likely to be lower.

Risk bearing – a larger firm can be safer from the risk of failure if it has a more diversified product range. A larger firm may have greater resilience in the case of a downturn in its market because of larger reserves and greater scope to make cutbacks.

Social and welfare – larger firms are more likely to be able to justify additional benefits for employees such as pension funds, healthcare, sports and social facilities, which in turn can help attract and retain good employees.

External economies of scale

External economies of scale arise from firms in related industries operating in a concentrated geographical area; suppliers of services and raw materials to all these firms can do so more efficiently. Infrastructure such as roads and sophisticated telecommunications are easier to justify. There is also likely to be a growing local pool of skilled labour as other local firms in the industry also train workers. This gives a larger and more flexible labour market in the area.

Diseconomies of scale

These are inefficiencies that can creep in when a firm operates on a larger scale (do not confuse with high capacity utilisation). The main diseconomies of scale are:

Lack of motivation – in larger firms, workers can feel that they are not appreciated or valued as individuals - see **Mayo** and **Herzberg**. It can be more difficult for managers in larger firms to develop the right kind of relationship with workers. If motivation falls, productivity may fall leading to inefficiencies.

Poor communication – it can be easier for smaller firms to communicate with all staff in a personal way. In larger firms, there is likely to be greater use written of notes rather than by explaining personally. Messages can remain unread or misunderstood and staff are not properly informed.

Co-ordination – a very large business takes a lot of organising, leading to an increase in meetings and planning to ensure that all staff know what they are supposed to be doing. New layers of management may be required, adding to costs and creating further links in the chain of communication.

What is Market?

Meaning

"Market refers to an arrangement, whereby buyers and sellers come in contact with each other directly or indirectly, to buy or sell goods."

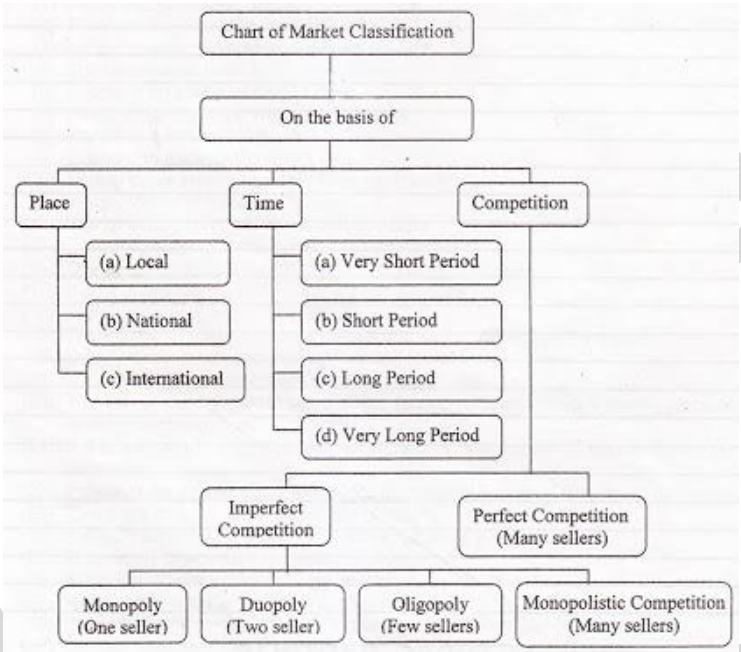
Thus, above statement indicates that face to face contact of buyer and seller is not necessary for market. E.g. In stock or share market, the buyer and seller can carry on their transactions through internet. So internet, here forms an arrangement and such arrangement also is included in the market.

Characteristics of Market

1. Existence of commodity which is to be bought and sold.
2. The existence of buyers and sellers.
3. A place, be it a certain region, a country or the entire world.
4. Communication between buyers and sellers that only one price should prevail for the same commodity at the same time.

Classification or Types of Market

The classification or types of market are depicted in the following chart.



Generally, the market is classified on the basis of:

1. Place,
2. Time and
3. Competition.

On the basis of **Place**, the market is classified into:

1. Local Market or Regional Market.
2. National Market or Countrywide Market.
3. International Market or Global Market.

On the basis of **Time**, the market is classified into:

1. Very Short Period Market.
2. Short Period Market.
3. Long Period Market.
4. Very Long Period Market.

On the basis of **Competition/Market Structure**, the market is classified into:

1. Perfectly Competitive Market Structure.
2. Imperfectly Competitive Market Structure.

(Market structure refers to number and types of firms operating in the industry.)

Both these market structures widely differ from each other in respect of their features, price, etc. Under imperfect competition, there are different forms of markets like monopoly, duopoly, oligopoly and monopolistic competition.

1. A monopoly has only one or a single (mono) seller.
2. Duopoly has two (duo) sellers.
3. Oligopoly has little or fewer (oligo) number of sellers.
4. Monopolistic competition has many or several numbers of sellers.

The suffix poly has its origin from Greek word *Polus* which means many seller.

PERFECT COMPETITION

What is Perfect Competition?

1) Perfect Competition refers to a market situation where there are very large number of buyers and sellers dealing in a homogenous product at a price fixed by the market.
2) Perfect Competition is a market structure where there is a perfect degree of competition and single price prevails.
3) The concept of Perfect Competition was introduced by Dr. Alfred Marshall.
4) Nothing is 100% perfect in this world. So, this states that perfect competition is only a theoretical possibility and it does not exist in reality.

Main Features of Perfect Competition ↓

The following are the characteristics or main features of perfect competition :-

1. Many Sellers

In this market, there are many sellers who form total of market supply. Individually, seller is a firm and collectively, it is an industry. In perfect competition, price of commodity is decided by market forces of demand and supply. i.e. by buyers and sellers collectively. Here, no individual seller is in a position to change the price by controlling supply. Because individual seller's individual supply is a very small part of total supply. So, if that seller alone raises the price, his product will become costlier than other and automatically, he will be out of market. Hence, that seller has to accept the price which is decided by market forces of demand and supply. This ensures single price in the market and in this way, seller becomes price taker and not price maker.

2. Many Buyers

Individual buyer cannot control the price by changing or controlling the demand. Because individual buyer's individual demand is a very small part of total demand or market demand. Every buyer has to accept the price decided by market forces of demand and supply. In this way, all buyers are price takers and not price makers. This also ensures existence of single price in market.

3. Homogenous Product

In this case, all sellers produce homogeneous i.e. perfectly identical products. All products are perfectly same in terms of size, shape, taste, colour, ingredients, quality, trade marks etc.

4. Zero Advertisement Cost

Since all products are identical in features like quality, taste, design etc., there is no scope for product differentiation. So advertisement cost is nil.

5. Free Entry and Exit

There are no restrictions on entry and exit of firms. This feature ensures existence of normal profit in perfect competition. When profit is more, new firms enter the market and this leads to competition. Entry of new firms competing with each other results into increase in supply and fall in price. So, this reduces profit from abnormal to normal level.

When profit is low (below normal level), some firms may exit the market. This leads to fall in supply. So remaining firms raise their prices and their profits go up. So again this ensures normal level of profit.

6.Perfect Knowledge

On the front of both, buyers and sellers, perfect knowledge regarding market and pricing conditions is expected. So, no buyer will pay price higher than market price and no seller will charge lower price than market price.

7. Perfect Mobility of Factors

This feature is essential to keep supply at par with demand. If all factors are easily mobile (moveable) from one line of production to another, then it becomes easy to adjust supply as per demand.

Whenever demand is more, additional factors should be moved into industry to increase supply and vice versa. In this way, with the help of stable demand and supply, we can maintain single price in the Market.

8. No Government Intervention

Since market has been controlled by the forces of demand and supply, there is no government intervention in the form of taxes, subsidies, licensing policy, control over the supply of raw materials, etc.

9. No Transport Cost

It is assumed that buyers and sellers are close to market, so there is no transport cost. This ensures existence of single price in market.

IMPERFECT COMPETITION

It is an important market category wherein individual firms exercise control over the price to a smaller or larger degree depending upon the degree of imperfection present in a case.

A) Monopoly

1. The term monopoly is derived from Greek words '*mono*' which means single and '*poly*' which means seller. So, monopoly is a market structure, where there is only a single seller producing a product having no close substitutes.
2. This single seller may be in the form of an individual owner or a single partnership or a Joint Stock Company. Such a single firm in market is called monopolist. Monopolist is price maker and has a control over the market supply of goods. But it does not mean that he can set both price and output level. A monopolist can do either of the two things i.e. price or output. It means he can fix either price or output but not both at a time.

Characteristics / Features of Monopoly

Following are the features or characteristics of Monopoly :-

1. A single seller has complete control over the supply of the commodity.
2. There are no close substitutes for the product.
3. There is no free entry and exit because of some restrictions.
4. There is a complete negation of competition.
5. Monopolist is a price maker.
6. Since there is a single firm, the firm and industry are one and same i.e. firm coincides the industry.
7. Monopoly firm faces downward sloping demand curve. It means he can sell more at lower price and vice versa. Therefore, elasticity of demand factor is very important for him.
8. No advertisement cost

Classification / Kinds / Types of Monopoly

1. Perfect Monopoly

It is also called as absolute monopoly. In this case, there is only a single seller of product having no close substitute; not even remote one. There is absolutely zero level of competition. Such monopoly is practically very rare.

2. Imperfect Monopoly

It is also called as relative monopoly or limited monopoly. It refers to a single seller market having no close substitute. It means in this market, a product may have a remote substitute. So, there is fear of competition to some extent e.g. Mobile (Cellphone) telcom industry (e.g. vodaphone) is having competition from fixed landline phone service industry (e.g. BSNL).

3. Private Monopoly

When production is owned, controlled and managed by the individual, or private body or private organization, it is called private monopoly. e.g. Tata, Reliance, Bajaj, etc. groups in India. Such type of monopoly is profit oriented.

4. Public Monopoly

When production is owned, controlled and managed by government, it is called public monopoly. It is welfare and service oriented. So, it is also called as 'Welfare Monopoly' e.g. Railways, Defence, etc.

5. Simple Monopoly

Simple monopoly firm charges a uniform price or single price to all the customers. He operates in a single market.

6. Discriminating Monopoly

Such a monopoly firm charges different price to different customers for the same product. It prevails in more than one market.

7. Legal Monopoly

When monopoly exists on account of trademarks, patents, copy rights, statutory regulation of government etc., it is called legal monopoly. Music industry is an example of legal monopoly.

8. Natural Monopoly

It emerges as a result of natural advantages like good location, abundant mineral resources, etc. e.g. Gulf countries are having monopoly in crude oil exploration activities because of plenty of natural oil resources.

9. Technological Monopoly

It emerges as a result of economies of large scale production, use of capital goods, new production methods, etc. E.g. engineering goods industry, automobile industry, software industry, etc.

10. Joint Monopoly

A number of business firms acquire monopoly position through amalgamation, cartels, syndicates, etc, it becomes joint monopoly. e.g. Actually, pizza making firm and burger making firm are competitors of each other in fast food industry. But when they combine their business, that leads to reduction in competition. So they can enjoy monopoly power in market.

Monopolistic Competition

1. Pure monopoly and perfect competition are two extreme cases of market structure. In reality, there are markets having large number of producers competing with each other in order to sell their product in the market. Thus, there is monopoly on one hand and perfect competition on other hand. Such a mixture of monopoly and perfect competition is called as monopolistic competition. It is a case of imperfect competition.
2. Monopolistic competition has been introduced by American economist Prof. Edward Chamberlin, in his book 'Theory of Monopolistic Competition' published in 1933.

Features of Monopolistic Competition ↓

The following are the features or characteristics of monopolistic competition :-

1. Large Number of Sellers

There are large number of sellers producing differentiated products. So, competition among them is very keen. Since number of sellers is large, each seller produces a very small part of market supply. So no seller is in a position to control price of product. Every firm is limited in its size.

2. Product Differentiation

It is one of the most important features of monopolistic competition. In perfect competition, products are homogeneous in nature. On the contrary, here, every producer tries to keep his product dissimilar than his rival's product in order to maintain his separate identity. This boosts up the competition in market. So, every firm acquires some monopoly power.

3. Freedom of Entry and Exit

This feature leads to stiff competition in market. Free entry into the market enables new firms to come with close substitutes. Free entry or exit maintains normal profit in the market for a longer span of time.

4. Selling Cost

It is a unique feature of monopolistic competition. In such type of market, due to product differentiation, every firm has to incur some additional expenditure in the form of selling cost. This cost includes sales promotion expenses, advertisement expenses, salaries of marketing staff, etc.
But on account of homogeneous product in perfect competition and zero competition in monopoly, selling cost does not exist there.

5. Absence of Interdependence

Large numbers of firms are different in their size. Each firm has its own production and marketing policy. So no firm is influenced by other firm. All are independent.

6. Two Dimensional Competition

Monopolistic competition has two types of competition aspects viz.

i. Price competition i.e. firms compete with each other on the basis of price.
ii. Non price competition i.e. firms compete on the basis of brand, product quality advertisement.

7. Concept of Group

In place of Marshallian concept of industry, Chamberlin introduced the concept of Group under monopolistic competition. An industry means a number of firms producing identical product. A group means a number of firms producing differentiated products which are closely related.

8. Falling Demand Curve

In monopolistic competition, a firm is facing downward sloping demand curve i.e. elastic demand curve. It means one can sell more at lower price and vice versa.

Oligopoly

The term oligopoly is derived from two Greek words: 'oligi' means few and 'polein' means to sell. Oligopoly is a market structure in which there are only a few sellers (but more than two) of the homogeneous or differentiated products. So, oligopoly lies in between monopolistic competition and monopoly.

Oligopoly refers to a market situation in which there are a few firms selling homogeneous or differentiated products. Oligopoly is, sometimes, 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.

Example of Oligopoly:

In India, markets for automobiles, cement, steel, aluminium, etc, are the examples of oligopolistic market. In all these markets, there are few firms for each particular product.

DUOPOLY is a special case of oligopoly, in which there are exactly two sellers. Under duopoly, it is assumed that the product sold by the two firms is homogeneous and there is no substitute for it. Examples where two companies control a large proportion of a market are: (i) Pepsi and Coca-Cola in the soft drink market; (ii) Airbus and Boeing in the commercial large jet aircraft market; (iii) Intel and AMD in the consumer desktop computer microprocessor market.

Types of Oligopoly:

1. Pure or Perfect Oligopoly:

If the firms produce homogeneous products, then it is called pure or perfect oligopoly. Though, it is rare to find pure oligopoly situation, yet, cement, steel, aluminum and chemicals producing industries approach pure oligopoly.

2. Imperfect or Differentiated Oligopoly:

If the firms produce differentiated products, then it is called differentiated or imperfect oligopoly. For example, passenger cars, cigarettes or soft drinks. The goods produced by different firms have their own distinguishing characteristics, yet all of them are close substitutes of each other.

3. Collusive Oligopoly:

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

4. Non-collusive Oligopoly:

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

Features of Oligopoly:

The main features of oligopoly are elaborated as follows:

1. Few firms:

Under oligopoly, there are few large firms. The exact number of firms is not defined. Each firm produces a significant portion of the total output. There exists severe competition among different firms and each firm try to manipulate both prices and volume of production to outsmart each other. For example, the market for automobiles in India is an oligopolist structure as there are only few producers of automobiles.

The number of the firms is so small that an action by any one firm is likely to affect the rival firms. So, every firm keeps a close watch on the activities of rival firms.

2. Interdependence:

Firms under oligopoly are interdependent. Interdependence means that actions of one firm affect the actions of other firms. A firm considers the action and reaction of the rival firms while determining its price and output levels. A change in output or price by one firm evokes reaction from other firms operating in the market.

For example, market for cars in India is dominated by few firms (Maruti, Tata, Hyundai, Ford, Honda, etc.). A change by any one firm (say, Tata) in any of its vehicle (say, Indica) will induce other firms (say, Maruti, Hyundai, etc.) to make changes in their respective vehicles.

3. Non-Price Competition:

Under oligopoly, firms are in a position to influence the prices. However, they try to avoid price competition for the fear of price war. They follow the policy of price rigidity. Price rigidity refers to a situation in which price tends to stay fixed irrespective of changes in demand and supply conditions. Firms use other methods like advertising, better services to customers, etc. to compete with each other.

If a firm tries to reduce the price, the rivals will also react by reducing their prices. However, if it tries to raise the price, other firms might not do so. It will lead to loss of customers for the firm, which intended to raise the price. So, firms prefer non- price competition instead of price competition.

4. Barriers to Entry of Firms:

The main reason for few firms under oligopoly is the barriers, which prevent entry of new firms into the industry. Patents, requirement of large capital, control over crucial raw materials, etc, are some of the reasons, which prevent new firms from entering into industry. Only those firms enter into the industry which is able to cross these barriers. As a result, firms can earn abnormal profits in the long run.

5. Role of Selling Costs:

Due to severe competition 'and interdependence of the firms, various sales promotion techniques are used to promote sales of the product. Advertisement is in full swing under oligopoly, and many a times advertisement can become a matter of life-and-death. A firm under oligopoly relies more on non-price competition. Thus, Selling costs are more important under oligopoly than under monopolistic competition.

6. Group Behaviour:

Under oligopoly, there is complete interdependence among different firms. So, price and output decisions of a particular firm directly influence the competing firms. Instead of independent price and output strategy, oligopoly firms prefer group decisions that will protect the interest of all the firms. Group Behaviour means that firms tend to behave as if they were a single firm even though individually they retain their independence.

7. Nature of the Product:

The firms under oligopoly may produce homogeneous or differentiated product.

i. If the firms produce a homogeneous product, like cement or steel, the industry is called a pure or perfect oligopoly.

ii. If the firms produce a differentiated product, like automobiles, the industry is called differentiated or imperfect oligopoly.

8. Indeterminate Demand Curve:

Under oligopoly, the exact behaviour pattern of a producer cannot be determined with certainty. So, demand curve faced by an oligopolist is indeterminate (uncertain). As firms are inter-dependent, a firm cannot ignore the reaction of the rival firms. Any change in price by one firm may lead to change in prices by the competing firms. So, demand curve keeps on shifting and it is not definite, rather it is indeterminate.

Duopoly

Duopoly is a limiting case of oligopoly, in the sense that it has all the characteristics of oligopoly except the number of sellers which are only two incase of duopoly.

Examples are:

Pepsi and Coca-Cola soft drinks.

UNIT-V

Price Determination under Perfect Competition

1. In prefect competition, price is determined by the market forces of demand and supply. All buyers and sellers are price takers and not price makers. Buyer represents demand side in the market. Every rational buyer aims at maximising his satisfaction by purchasing more at lower price and lower at higher price. This is called demand behaviour of buyer i.e. Law of Demand.
2. Seller represents supply side in the market. Every rational seller aims at maximizing his profits by selling more at higher price and lesser at lower price. This is called supply behaviour of seller i.e. Law of supply. But at a common price, buyer is ready to demand a particular quantity of goods and seller is also ready to supply exactly the same quantity of goods to buyer, such common price is called 'Equilibrium Price' and such quantity is called 'Equilibrium Quantity'.

"***Equilibrium Price is a price which equates both demand and supply***".

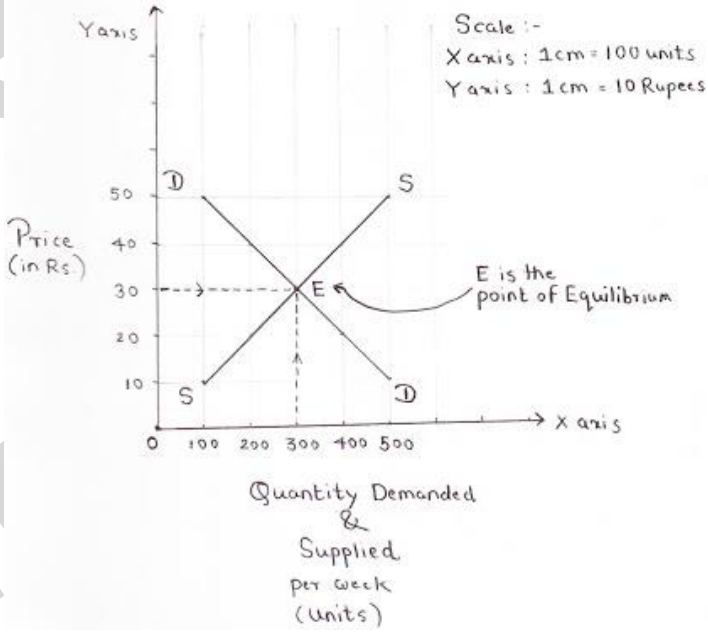
Table - Sample Demand and Supply Schedules

Demand and Supply Schedules

Price per unit of commodity	Quantity demanded per week	Quantity Supplied per week
(Rs.)	(Units)	(Units)
50	100	500
40	200	400
30	300	300
20	400	200
10	500	100

It is the price at which total demand is exactly equal to total supply. Graphically it is the point where DD curve and SS curve intersect each other.

Graph - Equilibrium Price Determination



In the above graphical diagram, the following points have been observed :-

1. On X axis, quantity demand and supplied per week has been given and on Y axis, price has been given.
2. Buyers are purchasing more at lower price and vice versa. This negative relationship is shown by downward sloping DD curve.
3. Sellers are selling more at higher price and vice versa. This positive relationship is shown by upward sloping SS curve.
4. As per the data given in table, Rs. 30 is that price at which demand equates supply (300 units). So, Rs. 30 is an equilibrium price and 300 units is an equilibrium quantity.
5. Suppose, price fails to Rs. 20/-, So this results into increase in demand (as per Law of Demand) and decrease in supply (as per Law of Supply). Since DD > SS, i.e. because of low supply, sellers will be dominant and competition will be among buyers, this leads to rise in price level. (i.e. from Rs. 20 to Rs. 30) Again price will come back at original level i.e. equilibrium price (Rs. 30).
6. Suppose, supply exceeds demand (DD < SS) now buyers become dominant and competition will be among sellers. This leads to downfall in price. (i.e. from Rs. 40 to Rs.30). Again price will come back to original level. i.e. equilibrium price (Rs. 30).
7. Such automatic adjustment by demand and supply forces will keep single price in market.

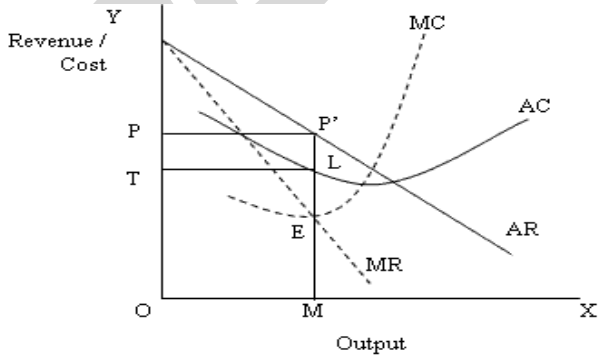
Price Determination under Monopoly

1. *Monopoly is that market form in which a single producer controls the whole supply of a single commodity which has no close substitute.*
2. From this definition there are two points that must be noted:

(i) Single Producer: There must be only one producer who may be an individual, a partnership firm or a joint stock company. Thus single firm constitutes the industry. The distinction between firm and industry disappears under conditions of monopoly.

(ii) No Close Substitute: The commodity produced by the producer must have no closely competing substitutes, if he is to be called a monopolist. This ensures that there is no rival of the monopolist. Therefore, the cross elasticity of demand between the product of the monopolist and the product of any other producer must be very low.

3. A firm under monopoly faces a downward sloping demand curve or average revenue curve. Further, in monopoly, since average revenue falls as more units of output are sold, the marginal revenue is less than the average revenue. In other words, under monopoly the MR curve lies below the AR curve.
4. The Equilibrium level in monopoly is that level of output in which marginal revenue equals marginal cost. The producer will continue producer as long as marginal revenue exceeds the marginal cost. At the point where MR is equal to MC the profit will be maximum and beyond this point the producer will stop producing.



5. It can be seen from the diagram that up till OM output, marginal revenue is greater than marginal cost, but beyond OM the marginal revenue is less than marginal cost. Therefore, the monopolist will be in equilibrium at output OM where marginal revenue is equal to marginal cost and the profits are the greatest. The corresponding price in the diagram is MP' or OP. It can be seen from the diagram at output OM, while MP' is the average revenue, ML is the average cost, therefore, P'L is the profit per unit. Now the total profit is equal to P'L (profit per unit) multiply by OM (total output).
6. In the short run, the monopolist has to keep an eye on the variable cost, otherwise he will stop producing. In the long run, the monopolist can change the size of plant in response to a change in demand. In the long run, he will make adjustment in the amount of the factors, fixed and variable, so that MR equals not only to short run MC but also long run MC.

Price Determination under Monopolistic Competition:

Now the question arises at which price-output level the monopolistic competitive firm will be in equilibrium position? Here we have to remember that every seller, whether a monopolist or one working under perfectly or imperfectly competitive situations, wants to maximise his profits.

The seller will go on producing till the extra receipts to be had from additional production exceed the extra cost incurred in the production process. In other words, profits will be maximised when marginal revenue is equal to marginal cost. So long as marginal revenue is greater than marginal cost, the seller will find it profitable to expand his output, and if marginal revenue is less than marginal cost, obviously it is to his advantage to reduce his output to the point where marginal revenue is equal to marginal cost. In the short run, therefore, the firm will be in equilibrium when it is maximising its profits, i.e., when

Marginal Revenue = Marginal Cost

In the short run, a monopolistically competitive firm may either realise abnormal profits or be faced with losses. But, in the long run, such supernormal profits disappear. This is because we assume that entry is free and new firms will enter the industry if the existing firms are making supernormal profits.

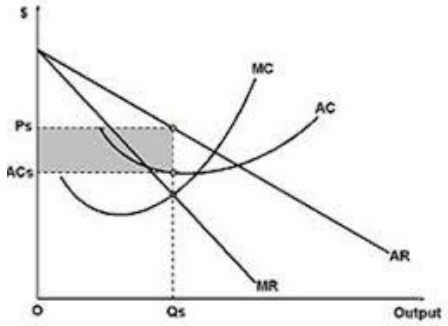
As new firms enter and start production, the demand curve or average revenue curve faced by the firms will fall (shift to the left) and, therefore, the supernormal profits will be competed away, and the firms will be earning only normal profits.

Similarly, if in the short run firms are suffering losses, then in the long run some firms will leave the industry so that the remaining firms are able to earn normal profits. Another point which is to be noted in regard to the long-run equilibrium under monopolistic competition is that average revenue curve in the long run will be more elastic, since large number of substitutes will be available in the long run. Therefore, in the long run, equilibrium is restored when firms are earning only normal profits. Now, profits are normal only when

Average Revenue = Average Cost.

Therefore, equilibrium in the long run under imperfect competition holds when

Average Revenue = Average Cost.



Price determination under Oligopoly:

In an oligopoly, the number of sellers is small as against a sole seller under monopoly and many sellers under monopolistic completion.

Principal Characteristics of Oligopoly

The principal features of oligopoly are as under:

(i) Interdependence:

Owing to a small number of sellers, the price-output decisions of one firm are taken note of by other firms and affect their decisions too.

(ii) Indeterminate Demand Curve:

Since no firm is able to predict the reaction or behaviour of other firms consequent on price output decision of one firm, there is uncertainty, and no firm can be sure of the quantity of the commodity it can sell at a price. The demand curve is thus indeterminate.

(iii) High Pressure Salesmanship:

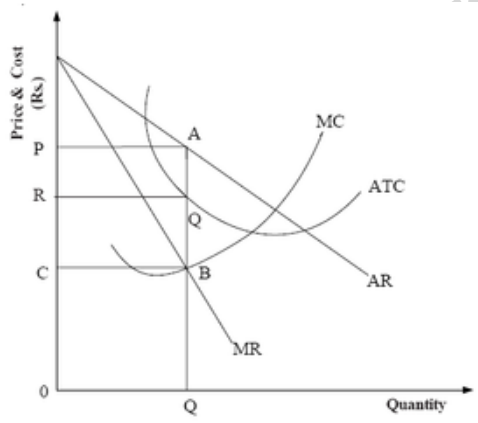
There being only a small number of firms in the field, there is a tendency for a firm in oligopoly to increase its selling costs and indulge in advertisement so that it may capture as much of the market as possible. There is a counter-campaign by the rivals.

(iv) Sticky Prices:

In order to avoid adverse reaction by the rivals, there is a tendency for the firms to avoid changing the price of their products. Hence comparative price stability rules in the oligopolistic market.

How is Price Determined under Oligopoly?

Since price-output decisions by one firm affect the decisions of other firms, nobody can be sure of their reaction. As pointed out above, the demand curve is indeterminate and no single price-output decision is possible.



UNIT-VI
RENT
MEANING OF ECONOMIC RENT

There is a lot of confusion about the meaning of rent. It is so because we use the term 'rent'where we should have actually used the term 'economic rent'. Economic rent is a term which should not be used only in the context of the services of land but for the remuneration of any factor of production which gets an economic surplus, Economic surplus is only a part of the payment made to a factor of production. It is that part which is the difference between the actual remuneration of the factor and the minimum payment that is necessary to keep the factor in its As a result of bargaining or chance, the positive or negative casual economic surplus may be obtained. But rent is s present occupation. generally used for equilibrium surplus because this surplus can accrue even under long-run equilibrium. The term economic rent was first used in connection with the services of land. So it was called economic rent. But today it is used in connection with the services of any factor of production which is in inelastic supply. In the words of Boulding:

"Although first worked out in connection with the services of land (hence the name economic rent), this concept applies to any factor of production which does not have a perfectly elastic supply."

In everyday speech, the word 'rent' is used to mean the hire price of land or buildings. When a person hires a car or a television or a bicycle or a shop or anything else, he has the use of it for a specified period on payment of an agreed sum of amount. This periodic, regular payment is termed rent. Economic rent as a surplus is different from rent in the ordinary sense. 'ECONOMIC RENT'

ORIGIN OF THE TERM

In the early nineteenth century when the British economy was in its infancy, there was a public debate about the high price of wheat in England. Some people argued that wheat had a high price because landlords were charging high rents to tenant farmers. In other words, the price of wheat was high because the rents of agricultural land were high. But David Ricardo, one of the originators of the classical school, argued that the situation was exactly the reverse. The price of wheat was high, he said, because of the shortage of wheat caused by the Napoleonic Wars. Because of the high price of wheat, it became profitable to produce wheat. So there was keen competition among farmers to obtain land to grow wheat. This competition forced up the rent of wheat land. If the price of wheat falls down, its production will not remain profitable leading to a decrease in the demand for wheat land and rent of land will decline. Thus, according to Ricardo, the price of wheat is high not because high rent is paid but high rent is paid because the price of wheat is high. We now examine Ricardo's theory of rent in detail.

RICARDO'S THEORY OF RENT

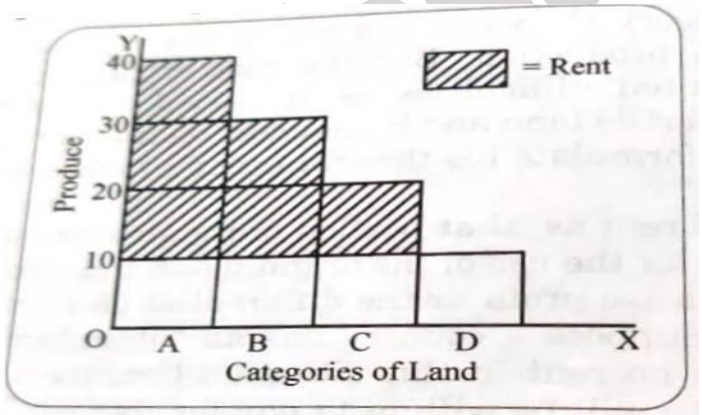
(a) Differential rent: The theory of rent was discussed by Ricardo in his book The Principles of Political Economy and Taxation published in 1817. Like ther classical economists, Ricardo also developed a labour theory of value. According to this theory, the value of a commodity depended on the amount of labour put into its production. But the cost of production of agricultural commodities presented difficulties as it varied according to the fertility ol-lower cost on fertile land and higher cost on inferior quality of land. This problem led him to formulate his theory of rent which is known as the theory of differential rent.

Ricardo defined 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 the relative profit or the differential gain or surplus. It arises in the following way. Suppose a country has an "abundance of rich and fertile land." There will be no no rent in this situation because there being an excess supply of land no one will be willing to pay for its use. In other words, when the demand for land is less than its supply, no payment will be made for its use since it has no price as supply as it is s a free gift of nature. But rich and fertile land is not available in unlimited quantity and all land is not uniform in quality, and Le, all land is not homogeneous. Suppose population increases so much that the produce on the rich and fertile land is not sufficient to feed the rising number of people. It will lead to the cultivation of second degree land. It is because of this that rent arises. "When the land of the second degree is taken into cultivation, rent immediately commences on that of the first quality, and the amount of that rent will depend on the difference in the quality of these two portions of land," says Ricardo. Marginal land is that land which is just worth while to cultivate and so it is at the margin of cultivation. Marginal land, according to Ricardo, yields no rent; it is the no-rent land. More fertile land yields a greater return and the difference between the produce of this land and that of the marginal land is the rent on the more fertile land. The greater the difference between a country's poorest and the best-cultivated land the higher the rent of the best land.

Suppose, from the viewpoint of fertility, there are four categories of land in a country. They are A, B, C and D categories. A is the most fertile category, then comes B and C, while D is the least fertile category. Assume that by using equal doses of labour and capital on a unit of land (say, one acre) of all categories, the yield is 40, 30, 20 and 10 quintals respectively. Further, assume that in order to feed the existing population all the four categories of land are cultivated. Here D becomes the marginal land whose per acre yield is 10 quintals. Other categories of land, the intra or super marginal lands will get rent equal to the difference between the yield of that category and that on the marginal land, as given below:

Category of Land	Yield per acre (quintal)	Rent (in quintal)
A	40	40-10=30
B	30	30-10=20
C	20	20-10=10
D	10	10-10=0

This has been presented graphically in Figure 1.



Ricardo thought that could also arise if the land is cultivated more intensively. As land is cultivated more intensively each additional dose of labour and capital applied to it will yield a less return. The difference between the yield of the first and second doses of labour and capital will be the rent of the first dose.

Differential rent can also arise on account of differences in the location of land- d—equally fertile land being situated at unequal distances from the market. We calculated rent in physical terms above. It can be estimated in monetary terms as well, as shown below. Suppose equal doses of labour and capital are applied to one acre of each category of land. Equal dose is of 1,000. All the four categories of land are at equal distance from the market but of different fertilities. Assume that the farmers sell their produce in a perfectly competitive market. So the price per unit for the owners of all the four categories of land is the same. And in such market, price equals the marginal cost (P=MC). Price will thus equal per unit cost of production of the category D land.

Categories of land	Doses of Labour and Capital (Rs)	Yield per acre (quintal)	Price per quintal (Rs)	Total Value of Product (Rs)	Rent (Rs)
A	1,000	40	100	40,000	40,000-10,000=30,000
B	1,000	30	100	30,000	30,000-10,000=20,000
C	1,000	20	100	20,000	20,000-10,000=10,000
D	1,000	10	10	10,000	10,000-10,000=0
			=(1,000÷10)		

(b) Searcity rent: From the discussion of differential rent, as presented above, it follows that higher rent results from higher price being paid for the produce of land which means higher demand for land. Here Ricardo presents the concept of derived demand. The landlord cannot fix arbitrary rent. How much rent would be charged depends on the relationship between demand for land and its supply. The supply of land is fixed. It was assumed by Ricardo that land had only one use, i.e.. Browing wheat. So the demand for land would be determined by the price of wheat. Higher the price of wheat, more profitable it is to produce it. The demand for land to produce wheat would go up and higher price (higher rent) would be paid for the use of land.

Since the supply of land is per inelastic, it has n 18 perfectly free and non-ren Production cost; it is a no - reproducible natura The fixed nature of the gift of nature. means that demand determinant of land supply of land is the only active passive. The landlord, instead of keeping the land unused, will hire it to peasants on any rent. Since there is no alternative use of land, the entire payment made for the use of land is rent. It has been shown in Figure 2.

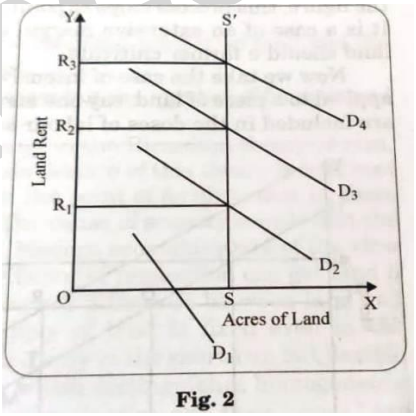


Fig. 2

The fixed supply of land in the figure has been shown by SS. Total supply of land is OS which cannot be increased. Let us assume that the entire land is supplied, i.e., placed in the market whatever be the price. All payments made to this factor is rent because it cannot be transferred to any other use in the event of a fall in price. But it will be wrong to assume that it gets no price, i.e., no rent is paid. Whether rent will be paid or not and if paid how much will be paid depending on the state of demand for land. If the demand for land is D_1, land rent will be zero; that is, the land will be a "free good" because it is not scarce enough in relation to the demand for it to command a price. When the demand for land increases to D2. land becomes scarce, that is, demand is higher than supply. Since the supply of land cannot increase as a result of higher demand for it, competition among farmers for scarce land will cause rent to arise. In technical terms, there is a price effect and no quantity effect when the demand for land rises. Thus in the event of demand being D2, rent arises and is equal to R_1. With further increases in demand to D3 and D4, rent rises to R_2 and R_3

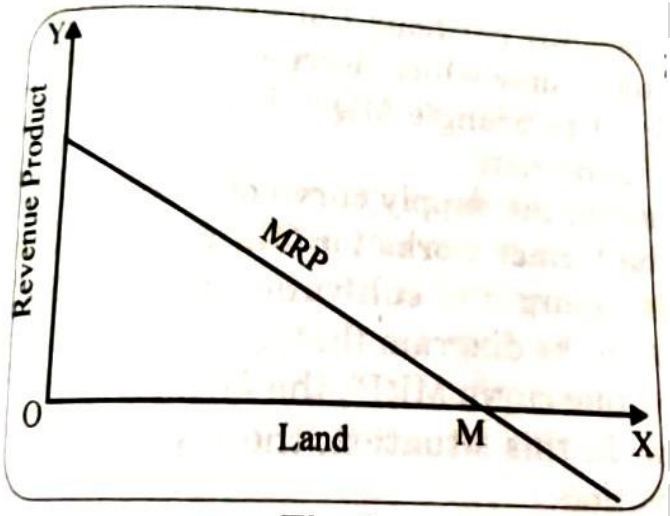


Fig. 3

This analysis of rent gives rise to "scarcity rent". This rent accrues even when all lands are homogeneous, that is, there is no difference in the fertility of the land. The cause of land rent in its scarcity, ie, the supply of land is less than its demand. When the supply of land is more than its demand, as in the case of the demand curve, D, in Figure 2 no rent is paid. Now since the farmers do not have to pay any rent, they will increase the size of their farms. They will continue to do this unless the yield on the excess land causes no increase in their revenue. In other words, they will go on extending cultivation and this process will come to an end when marginal revenue product (MRP) equals the marginal cost of land. Since land is a free gift of nature, it has no cost of production. Consequently, extension of cultivation will stop when MRP is zero. This has been shown in Figure 3. In the figure, this process stops at point M and this is the point of maximum profit, It is a case of an extensive margin of cultivation, that is, how many acres of land should a farmer cultivate.

Now we take the case of intensive cultivation-doses of labour and capital applied to a piece of land, say one acre. Assume further that the doses of capital are included in the doses of labour so that we shall be saying only about doses of labour. In Figure 4, the MRP curve is the marginal revenue product curve of labour. We assume that in the beginning, a farmer applies OL quantity of labour and is in equilibrium. MS is the supply curve of labour which indicates that at a wage of OM only, the labourers are ready to supply their labour. MS is drawn as a horizontal line in order to keep the analysis simple. It

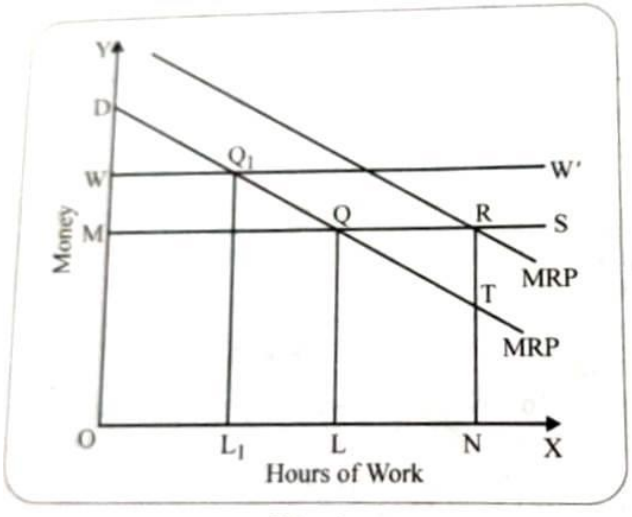


Fig. 4

means that the workers work at a fixed wage. MRP and MS are in equilibrium at the point Q when the OL quantity of labour is. used. If the farmer works longer and it is ON, his revenue declines and is only TN. When he works for OL hours, his income is OM LQ (= RN). So he will work only OL hours. But his intra-marginal doses of work, that is, less than OL hours give him higher revenue. He is prepared to work at OM revenue per hour, but get an income as given by MRP curve. There is a surplus income which accrues to land due to competition. This surplus income is equal to triangle MQD. It is rent. The marginal unit of labour, the OLth unit, gets no rent. W L_1 N X If the farmer desires to work fewer hours, the supply curve of labour will be WW. At the increased wage of OW, the farmer works for OL: hours only, not OL hours. At OL, hours, the intensive margin of cultivation is reached. Now, rent is WQ,D. It has also been shown in the diagram that had the supply of labour curve been MS and marginal revenue curve MRP, the farmer would have worked ON hours and not OL hours. In this situation, there will be an extension of the intensive margin of cultivation.

The above analysis is based on the following assumptions

(i) Supply of land is fixed. Even a rise in rent cannot increase the supply of land.

(ii) All lands are homogeneous. There is no difference in the fertility of land and in its location.

(iii) There is perfect competition between the landlords and the farmers.

(iv) All farmers pay the same amount of rent, Rent is determined by the supply of and demand for land. Increase in rent is possible in the following three conditions

(a) The number of farmers increase but the price of grains and the productivity of land are fixed.

(b) The price of grains goes up but the marginal product of land and the number of farmers remain constant.

(c) The marginal product of land increases but the number of farmers and the price of grains remain constant.

The concept of scarcity rent can be found in the Ricardian theory of rent, though it was not clearly analysed. The main feature of this theory is that rent accrues even if all lands are the same from the point of fertility, that is, there is no difference in the fertility demand for land is greater than f the land. The cause of scarcity rent is that the its supply. Modern economists are of the view that rent does not accrue to land only. Any factor of production can get land if its supply is less than its demand. But there is a difference between land and other factors of production. While the supply of land is fixed even in the long-run, the supplies of other factors are fixed only in the short-run but flexible in the long-run. "It is the fixity of its supply which distinguishes homogeneous land and its scarcity rent from other factors of production and their prices," say Stonier and Hague.

Marshall on Rent

In this context the following views of Marshall must be noted:

(i) He says that "In a sense, all rents are scarcity rents, and all rents are differential rents." In order to explain this, he gives the example of the famous meteoric stones. He says that suppose a meteoric shower of a few thousand large stones harder than diamonds fell all in one place. These stones were equally hard and imperishable. They were all picked up at once and were in the hands of a single authority. Suppose this the authority decided not to use its monopoly power to restrict production so as to raise the price of its services but to work each of the stones to full extent it could be profitably worked. In this situation the prices of the services of stones would have been

determined by the natural the scarcity of the aggregate output of their services in relation to the demand for those services. Rent in this case is the excess of the scarcity price over the expenses of working the stones. It is scarcity rent. But it could have been regarded as differential rent taking it as the differential excess of the total value of the services of the stones over that which would have been reached if all the uses of the stones had been as unproductive as their marginal uses.

The above would be true in that case also when the stones were in the hands of different producers and them, impelled by competition with one another, worked each stone up to the margin at which its further use was n Inger profitable. Thus the differential as well as the "acarcity" routes for estimating rent are independent of the existence of inferior agents of production. It is so because the differential comparison in favour of the more advantageous uses of the stones can be made by reference to the marginal uses of good stones, as clearly as by reference to the use of inferior stones which are

Marshall says that it is also not true to hold that existence of inferior land on the margin of not being worth using at all." tends to raise the rents of the better quality land. The cause for higher rent is the greater demand for the produce of land and not the existence of inferior the land.

(ii) Another famous and oft-quoted statement of Marshall is this the rent of land is seen, not as a thing by itself, but as the leading species of a even large genus.

Rent in the economic sense is a surplus accruing to a specific factor (factor having no alternative uses) the supply of which is fixed. The significance of rent springs from the fact that the supply of a factor which yields rent cannot adapt itself to changes in demand. The supply of such a factor will not diminish, however, low its earnings may fall. And its supply cannot be increased. A ris in the demand for it will increase its earnings without bringing any additional units into existence. The earnings of such a factor are a surplus or rent Changes in these earnings do not lead to changes in the supply of the factor.

The supply of land is fixed. It cannot change from the viewpoint of the onomy, though it is flexible from the point of view of anyone use. The supply (wheat-land, for example, is flexible and it does not yield rent in the sense of of a surplus. But the supply of land as a whole is fixed and does not respond to changes in the demand for land as a whole. The special feature of land as a fixed factor is that it is fixed in the short-run as well as in the long-run. So rent of land is the leading species of a large genus. Rent is a genius because it may accrue to any factor whose supply is inelastic.

There are factors other than land that is fixed in supply and therefore yields rent. This is the case with labour. Total number of workers is more or less fixed. The owner of a mineral spring with special and unique properties, the owner of a historic house or that of a museum, all obtain an income of the nature of rent. Thus the concept of rent can be extended to include many other incomes or portions of incomes. It can be extended to the incomes of factors that are durable. It takes a long time for the supply of durable factors to diminish if their incomes fall. Similarly, it takes a considerable time to produce such a factor and its supply to increase when its price rises. This can be said about human ability too. Such factors to get rent. Such a short period surplus or rent is called quasi-rent.

From the above, it follows that rent is a large genus, while renting of the land is its leading species because it accrues in the long period as well as in the short and does not evaporate like other surpluses.

QUASI-RENT

"When any particular thing, as a house, a piano, or a sewing the machine is lent out, the payment for it is often called Rent," says Marshall. This practice may not be inconvenient to follow when incomes from such things are considered from the viewpoint of the individual traders. But it is better, says that we reserve the term "rent" for the income derived from the free gifts of nature and use the term "quasi-rent" for the income derived from machines and other appliances for production made by man.

In the long-run, the earnings of durable goods, like a house, machinery and so on, will tend to equal the current rate of profit upon their current cost of production. If their earnings are greater than this, more of them will be produced, and this will bring down the prices of their products. In the case of their earnings being less than this, there will be disinvestment, that is, they will not be replaced as they wear out. This will raise the prices of their products. But it takes a long time for the supply of such goods to adjust themselves completely to a change in the demand for their products. The earnings of units of such goods are of the nature of rent and have been termed quasi-rent.

Quasi-rent may thus be defined as the income of the owner of a durable good over and above its opportunity cost when the good is temporarily in fixed supply. The concept was applied by Marshall to the determination of the price of capital in the short-run when the supply of capital is fixed. The owners of capital get a payment which differs from the opportunity cost of using that resource by the amount of the quasi-rent. In the long-run when the supply of the factor adjusts to demand, the equilibrium price will reflect the opportunity cost. Quasi-rent exists because prices in the short-run are not in equilibrium. Alfred Marshall used this concept as an element in his explanation of the rate of profit.

The difference between rent and quasi-rent can be considered this. In the short-run, some factors are fixed, while they become variable in the long-run. The payment to a factor of production which is in fixed supply in the short-run is called quasi-rent because it disappears in the long-run as the factor becomes variable. Thus quasi-rent is an ephemeral income. Rent persists in the long-run..

In order to understand the nature of quasi-rent, we take the help of Figure 5. The figure presents the short-run equilibrium of a firm in a perfectly competitive market. For the price-taker firm, price is TFC OP. The firm maximises its profit by producing OQ output. given by the intersection of MC and MR at point E. The total revenue (TR) of the firm is equal to the area OPEQ. The firm pays OQBC = TVC to the variable factors. The fixed factors earn the residual CPEB and it is the quasi-rent. Thus

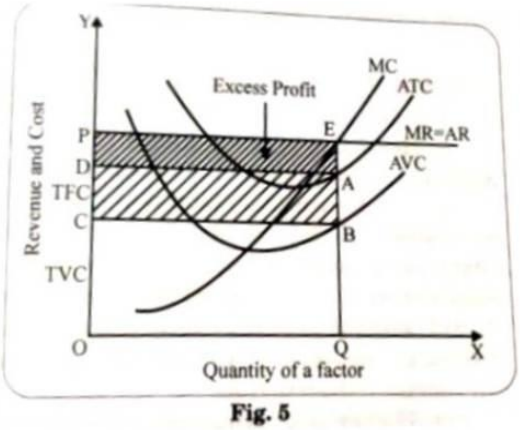


Fig. 5

Quasi-rent- Tital Revenue (TTO)- Total Variable Cost (TVC)

"Quasi-rent of a machine" say, Stonier and Hague, "is its total short period receipts less the total costs of hiring the variable factors used in association with it to produce output, and of

keeping the machine in running order in the shirt-run. Thus quasi-rent is any receipts of a fixed factor in excess of the variable costs of running it. In the long-run equilibrium, quasi-rent becomes were and the firm earns just normal profit. In the words of Marshall, "It is of course just as essential in the long-run that the price obtained should cover general or supplementary costs as that it should cover prime costs."

It should be clear by now that the price of a factor, whose supply is fixed in the long-run, is called rent, while that of a factor, whose supply is fixed only in the short-run, is called quasi-rent. Thus quasi-rent disappears in the long-run as the fixed factor no longer remains fixed but becomes variable. Rent continues to accrue even in the long-run.

Marshall agrees with those who say that quasi-rent is an "unnecessary profit and is "no part of cost". Quasi-rent is an unnecessary profit in the short-run context because of no prime (variable) costs need be incurred for the production of the fixed factor, say, a machine because it is already in existence and waiting for its work. But it is a necessary profit in regard to those supplementary (fixed) costs which must be incurred in the long-run in addition to prime costs.

Quasi-rent has also been described as a sort of "conjuncture or "opportunity" profit. Marshall says that for the time being, "it is a conjuncture or opportunity income; while in the long-run it is expected to, and generally does, yield a normal rate of interest.....on the free capital, represented by a definite sum of money that was invested in producing it."

Koutsoyiannis has derived quasi-rent thus:

Quasi-rent = Total Fixed Costs (TFC) + Excess Profit.

Total fixed cost (area ABCD in Figure 5) is the opportunity cost of the fixed factor and excess profit (area AEPD) is the difference between quasi-rent and TFC.

Criticisms of the Ricardian Theory of Rent

The following are the important criticisms of the Ricardian theory of rent

(i) His theory is based simply on the natural differences in soil fertility of different categories of land. As such, it is an inadequate theory.

(ii) For Ricardo, the land is a specific factor of production there is only one use of land and it is used for growing wheat. He ignored the fact that there might be competing uses of a piece of land as wheat-growing, building construction, factory construction, and so on.

(iii) Ricardo says that there are original and indestructible powers of soil. It is simply not correct. In these days of nuclear physics, no powers of the soil can remain indestructible.

(iv) Higher rent is not the sign of nature's benevolence; it is due to its niggardliness.

(v) Marginal land is not necessarily land at the margin of cultivation. It is no because it is not always the least fertile land that is the first to go out of cultivation ir the supply of the commodity is to be reduced.

(vi) According to Ricardo, there would be no rent at all if all land were of qual fertility, equally well situated with regard to markets and farmed with an equal degree of intensity. We have seen that even homogeneous land can

(vii) Ricardo restricted rent to land. But modern economists have shown that rent can accrue to any factor of production if its supply is inelastic.

MODERN THEORY OF RENT

There are many aspects of the modern theory of rent. Rent or economic rent does not accrue to land alone. Rent is a surplus which can accrue to any factor of production due to its

scarcity. In this sense, any factor can get rent whose supply is inelastic. Indeed land is a factor of production whose supply is inelastic from the point of view of the whole economy. So rent accrues to it. But labour too can get rent, i.e., there is an element of rent in wages. We take an example to explain it:

Wage Rate : rupees per month)	500	550	600	650	700	750
Supply of worker :	1,000	1,100	1,200	1,300	1,400	1,500

In the above example, it has been assumed that with every increase of * 50 in wages, workers' supply increases by 100. When the wage rate is * 500 per month, 1,000 workers are prepared to work. If wages increase to? 550, an additional 100 workers are attracted towards it. If wages increase to ? 600, yet another 100 workers become ready for work. But the additional 100 workers who were ready to work at the wage of 550 now get 600. It means that each one of these 100 workers who were ready to work at * 550 per month now gets 600 per month. So each one of these 100 workers gets an economic rent at the rate of 50 per month. Total rent of 100 workers comes to 5,000. As the wage rate goes up, economic rent of an additional 100 workers who had become ready to work at lower wages would go up and new additions to the employment list would begin to get rent.

While analysing quasi-rent we noted that durable capital goods to get rent in the short-run. Thus economic rent is a broader term; it does not accrue to land only.

Mrs. Joan Robinson has presented a new theory of rent. According to her, rent to a factor of production is the difference between its present income and its transfer earnings. In her words, "The essence of the conception of rent is the conception of a surplus earned by a particular part of a factor of production over and above the minimum earning necessary to induce it to do its work. This minimum earning is called the transfer earnings. Such earnings are thearnings of a factor of production which are just sufficient to keep it in it present employment. Any excess of actual earnings over transfer earnings known as economic rent.

This analysis of rent is based on the assumption that land is not a specif factor of production, that is, it can be used in many alternative ways. The entire price of a specific factor is rent. In Mrs. Robinson's discussion land is non-specife factor capable of more than one use. Let us consider it with the help of an example. Let us assume that on a piece of land sugarcane is being produced which offers an income of t 2,000 to the landlord. Further, assu that the next best alternative use of this piece of land is in growing cotton which offers an income of r 1,500. The transfer earnings of land are ? 1,500 and t present income is ? 2,000, This piece of land has a surplus earning of 270 Le, the excess of present income over transfer earnings (2,000-1,500 500). This surplus income is rent.

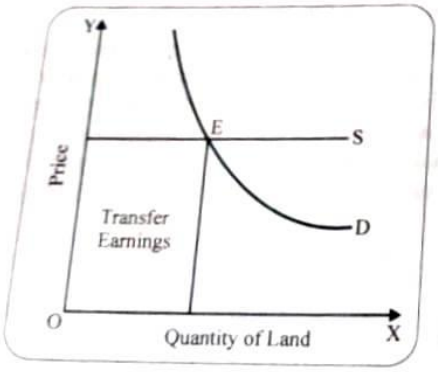


Fig. 6

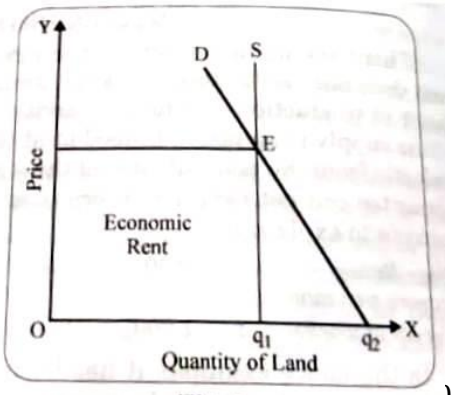


Fig. 7

In most cases, the actual income of a factor is the sum of its transfer earnings and economic rent. But such a situation can be imagined when the actual income only transfers earnings or only economic

rent. Suppose the supply curve of a factor before a firm is perfectly elastic. In this situation, the firm can get all the units of a factor that it wants to purchase at the current price. If the firm does not pay the current price, it does not get any unit of th factor. This situation has been shown in Figure 6. Here the entire price paid to the factor is transfered earnings and no rent is paid.

As against the perfectly elastic supply of a factor, we assume now that the supply of the factor is perfectly inelastic, that is, the supply curve is vertical and not horizontal as in Figure 6. In this the case the whole income of the factor is economic rent. This has been depicted in Figure 7.

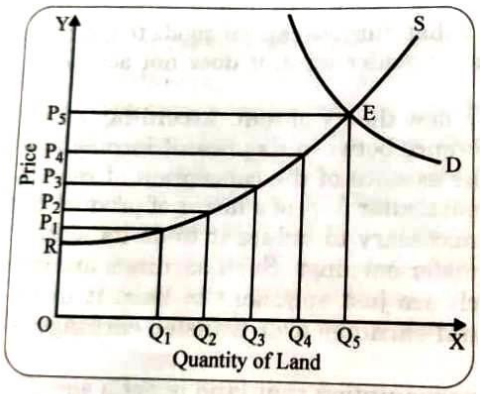


Fig. 8

In Figure 8 we take a normal supply curve which slopes upward to the right. Such a supply curve is S, while D is the demand curve. The two curves intersect at E. Quantity of land brought under cultivation is OQ5 and the price paid for its use is OPs. Total income of the factor, land, is OQ EP_5. the Qath unit is the marginal unit which is prepared to work at the price OP's only, but the intra-marginal units were prepared to work at prices lower than OP For example, if the price is OP_1, then OQ: area of land will come under cultivation; at price OP, the area brought under cultivation is OQ. As the price goes on rising, more and more land comes under the plough. In this situation, the transfer earnings are OREQ, and REP, is the economic rent. It may be noted that the area OREQ is similar to the producer's surplus. (See Figure 8) In the analysis of producer's surplus, the horizontal axis is scaled in units of output, whereas in the discussion of rent this axis is scaled in units of a factor of production. Economic rent exists because all units of the factor receive , for each of the OQs units sold, even though the sellers of land would have been willing to sell all but the last unit at a lower hire-price-down to OR for the first unit sold.

We emphasize again that in the above discussion of rent land may be used for more than one purpose. This is possible when we study the problem from the point of view of the firm. For a firm, the land is capable of being used alternatively and its supply is also not fixed. So in Figure 8, the supply curve is shown sloping upward. From the standpoint of the economy as a whole, the supply of land is fixed and whole the earning of land is called rent.

Rent and Cost

It is a controversial issue whether rent influences cost or cost affects the price. Ricardo was of the view that rent is not included in the cost, that is, rent does not influence price. Rent is determined by price; it does not determine the price. Ricardo explained by saying that corn is not high because rent is paid, but rent is paid because corn is high. Rent income results from the high price of the product or service and does not cause the high price.

The price of corn is determined on the basis of the cost of production on marginal land which is a no-rent land. So rent is not included in the price. It is the price which influences rent. When the demand for corn rises, less fertile land comes under Since the cost of production of corn on such land is high, the price of corn registers an increase. It causes an increase in rent from all classes of land.

Marshall says that an ordinary man is offended by the old phrase that rent does not enter into the price of wheat because he sees that an increase in the demand for land for other uses

manifests itself in a rise of the rental value of all land in his neighbourhood. It leaves less land free for growing wheat. As a result, large crops of wheat come from the remaining wheat-land. This raises the marginal expenses of wheat and its price. A rise in rent serves as a medium through which the growing scarcity of land available for paddy, maize and other crops thrusts itself on the notice of the ordinary man. It is not proper to ask him to go behind these symptoms of change in conditions and find out the real causes. "It is therefore inexpedient to say that the rent of land does not enter into their price. But it is worse than inexpedient to say that the rent of the land does enter into their price: that is false."

Conclusion

Economic rent is a slippery concept that must be used with care. Its magnitude is determined by the range of alternatives considered. The concept of rent as developed by Ricardo and Marshall sees it as the difference between what a factor receives and the payment which would be necessary to lure it into employment. In terms of the transfer earnings concept, economic rent i a payment to a factor in excess of what is necessary to keep it to its present employment. For example, let us assume that a man earns 10,000 in his current job and his next best alternative pays him ? 9,000. The economic rent that he enjoys in his current job is 1,000. Now assume that a man would remain unemployed if offered less than 3,000 but supply his labour at this wage. In terms of Ricardo-Marshall concept, the rent is 7 7,000. According to this view, rent of land is the unnecessary surplus on the ground that land had no alternative use.

WAGES

Wages are the price paid for the use of labour. In other words, the wage in MEANING a sum of money paid under contract by an employer to a worker in exchange for services rendered. This definition of wages requires some consideration about the earnings of independent workers, i.e., of the self-employed. This and some other issues are examined below.

WAGES AND SALARIES

In ordinary usage, a distinction is often made between wages and salaries Wages are said to be payments for manual work, while salaries are paid for non-manual work. Other differences between them are said to be that

- Wages are paid weekly, but salaries are paid at longer intervals:
- Wages are paid for a definite amount of work measured by time or piece with the provision of proportionate deduction if less than full work is done, but salaried workers are subject to no such deductions.

Economically there is no clear line of distinction between wages and salaries. But the second distinction has some economic importance. Wages are a variable cost which varies with output. Salaries are, in the short period, a fixed cost and do not vary with the output. So in discussions of variable and fixed costs only, the distinction between wages and salaries have some importance, otherwise, the two are not to be differentiated but to be used in the same sense for the share of labour in the national income.

Wages of Independent Workers

An independent worker, i.e., a self-employed is one who works on his own account and not for an employer. Income of a self-employed is partly profit on his own capital invested in his own business and partly wages from his personal effort and labour. Some of the independent workers may have large incomes-incomes larger than those of wage-earners, while others have smaller

incomes. It suggests that when considering differences in the earnings between occupations, independent workers must be taken into account. They are also included when considering the supply of workers. But we must not forget that earnings of independent workers fluctuate more, over time than those of employees.

Nominal or Money Wages and Real Wages

Nominal wages, also called money wages, are simply the amount of money received per hour, per day, per week and so forth. In comparing wages at different periods of time it is not sufficient to know that in 1955 few workers received more than ? 25 per week; that their average earnings were 35 per week in 1965, 7 50 in 1975, 150 in 1985 and 7 250 in 1995. Such statements are made and on their basis, we generally infer that the economic position of workers had improved 10 times between 1955 and 1995. Wages are wanted only for what they buy and in this sense real wages are a better term that should use because such wages are wages in terms of the number of goods and services which a worker can obtain with his money wages. Thus real wages are purchasing power of money wages. Whether the economic condition of labour was better or worse in 1995 compared to 1955 can be stated by comparing its real wages. As Adam Smith says, "The labourer is rich or poor, is well or ill rewarded, in proportion to the real, not to the nominal price of his labour."

Real wages depend upon the money wages and the prices of goods and services bought with money wages. The real wage is calculated by dividing or deflating money wage by an index number of the overall price level. Real wage can be expressed as W/P, where W= money wage and P= index of the price level. If the money wage rose by 5 per cent while the price level rose by 10 per ent, the real wage would be lower. It means that less volume of goods and cent, services can be bought now with the new money wage. In our example, the money wage rises but real wage declines because product prices rise more rapidly than does the money wage. Thus money wages and real wages need not to move together.

Besides money wage and the purchasing power of money (i.e., the price level), other factors influencing real wages are payments made in kind as free quarters, cheap rations, free uniform, etc., possibility of supplementary income as private practice by a doctor, income from books, etc., hours of work, regularity of employment, nature of job, future prospects and so forth.

THEORIES OF WAGES

Under the theory of wages, an analysis of the determination of wage rate is presented. This has been done since long. Below a few important theories of wages have been discussed.

(1) Subsistence Theory of Wages

According to this theory, wages tend to keep to a level that provides the workers only with bare subsistence. Physiocrats assumed that there was a natural law of population according to which the wages of labour were kept at the starvation limit. In the words of Turgot, "In every sort of occupation it must come to pass, and in fact, it does come to pass, that the wages of the artisan are limited to that which is necessary to procure him a subsistence..... He earns no more than his living." If wages for a time rise above this level it inevitably leads to an increase in the population and increased competition among workers for employment causes wages to fall again. If wages fall below subsistence level fewer children are born and malnutrition raises the death-rate, so that competition for employment is reduced and wages tend to rise.

Adam Smith worked out this conclusion more fully than the Physiocrats did. Though Ricardo stated that the natural price of labour estimated in food and necessaries was not absolutely fixed and constant but essentially depended on the habits and customs of the people, yet he frequently adopted a mode of speaking similar to that of Turgot and the Physiocrats. "Wagen are fixed and reduced to the lowest level by the extreme competition of the workers said Quenay (1694-1774), the greatest Physiocrat, who first put forward this theory. This law has been called, especially in Germany, Ricardo's "iron or "brazen" law. But the fact is that Ricardo was aware that the necessary or natural limit of wages was fixed by no iron law, but was determined by the local conditions and habits of each place and time.

This law is a combination of the wages fund theory and Malthusian the law of population. The main objections to this theory of wages are :

(1) Wages related to barest subsistence might have been true in eighteenth-century France. It may be so today in some densely populated developing countries. But it was not true of England in the nineteenth century.

During this century real wages almost doubled in spite of an over 2 1/2 times increase in population. The rising real wages did not lead to a rise in the birth-rate; it rather fell from 35 per thousand in 1850 to 28.7 per thousand in 1900.

(ii) This theory approaches the problem of wage determination entirely from the viewpoint of supply. The demand for the labour side is completely ignored. Rise in wages leading to an increased supply of workers may be balanced by increased demand for labour.

(iii) What does the term "subsistence level" mean? This term is ambiguous The concept of the bare minimum for human existence varies between one period and another.

(iv) This theory fails to explain differences in the wages of workers.

(2) The Wages-Fund Theory of Wages

This theory is generally, though somewhat unjustly, associated with the name of J. S. Mill. According to this theory, the amount of wages payable in a country is fixed by the capital in it because (a) labour requires the support of capital, that is of good clothes, etc., that have been already produced and (b) the aid of capital in the form of factories, stores of raw material, etc. In the words of Mill.

"Wages depend mainly upon.....the proportion between population and capital...between number of labouring class.....who work for hire, (and) the aggregate of what may be called the wages-fund which consists of that part of circulating capital....which is expended in the dire hire of labour."

Mill approached the question of wage determination from the side of demand. The demand for labour depended on the amount of capital available for the payment of wages. Production takes time. So producers have to pay wages in advance of the marketing of their products. At the time when the wages-fund theory was being developed, it was thought that a fund of capital had to be accumulated in advance of the payment of wages. This fund set a of the fund was determined by the past accumulation of capital. There are two important implications of this :

a) Wages were not fixed as the subsistence theory showed. They depended on the relation between the wages-fund and the size of the population.

b) Without discarding the Malthusian theory of population, it can be said imit, at any given moment, to the total amount available for wages. The size that in certain circumstances wages

could rise. Wages could be improved (i) by restricting the growth of population or (ii) by an expansion of the wages fund.

Marshall says that "Mill did not make any great advance in the theory of wages beyond his predecessors." He accepted the Malthusian view that a fall of wages caused the labouring classes to lower their standard of comfort. It was only toward the latter part of the 19th century that it could be shown that the increase in wages did not lead to increased population but to the increase in the efficiency of not only those who received them but also of their children and grandchildren. This line of thinking was developed under the lead taken by Walker and other American economists.

This theory has been subjected to the following criticisms :

(i) It is no theory but truism. It says what is self-evident.

(ii) It does not explain differences in wages in different occupations.

(iii) There is no such thing as a fixed fund set apart for the payment of wages.

(3) The Residual Claimant Theory of Wages

The residual claimant theory of wages was propounded by an American economist, Francies A. Walker. According to him, the products of industry are to be divided amongst its four factors as rent, interest, profits and wages. He considered rent and profits alike, pre-fixed payments in the process of production. Walker believed that profits are nothing but rents of ability to an eur, the entrepreneur, marginal 1 entrepreneur getting only wages of management. After rent, interest and profits are paid the remainder or the residue of the product goes to labour in the form of wages. In other words, labour is the residual claimant. Walker wrote: "The wages of a working man are ultimately considered with what he produces after the deduction of rent, taxes and the interest to on capital." The only way, according to Walker, of increasing wages is increase the efficiency or productivity of the workers. The greater the productivity of the workers, the greater is the share of the product they can claim.

Walker's residual claimant theory was in sharp contrast to the Wage-Fund Theory of J.S. Mill. It had important merit in that it recognised the fact that, in the long run, workers can increase their wages by improving their productivity. In this way, the theory struck a note of optimism about the increase in wages while the earlier theories had envisaged a conflict between wages and profits. However, Walker's theory came in for sharp criticism for its assumption of rent, interest and profits being fixed payments. It is the contention of modern economists that the entrepreneur, and not the worker, is the residual claimant.

(4) Marginal Productivity Theory of Wages

We discussed in chapter 9 the marginal productivity theory as the distribution theory. However, this theory is more applicable to an explanation of wage rates than it is to the pricing of other factors of production. There are two explanations of this theory: (a) the traditional or neoclassical approach and (b) the modern approach.

Traditional explanation: According to the traditional explanation of the theory, the price of labour is determined by its marginal product. The demand for labour is a derived demand. It is derived from the demand for finished goods and services which labour helps to produce. The derived nature of demand implies that the strength of the demand for labour depends upon (a) the capability of the workers in producing a good and (b) value of the good produced by them. In other words, the demand for labour depends upon its productivity and the market price of the good, it is producing.

What is labour productivity? Productivity is a measure of the rate at which output flows from the use of given units of labour. Marginal productivity of labour is the change in output which results from changing the quantity of labour by one unit. The marginal productivity of wages is a theory based on the idea that the demand for labour is determined by its marginal productivity and that wage of labour will be equal to the value of its marginal product. It pays a firm to increase the amount of labour it employs until the extra revenue gained by employing one more unit of labour is just equal to its price (wage).

The marginal product of labour is expressed in terms of a physical unit of output, often called the marginal physical product (MPP). If MPP is multiplied by the marginal revenue (MR) of the product when it is sold, we get the marginal revenue product (MRP). Thus MRP = MPP x MR. By multiplying MPP by price (P or AR), the value of marginal product (VMP) is derived. Thus VMP-MPP x P. In perfect competition price equals marginal revenue, so

MRP = VMP

In imperfect competition, price does not equal marginal revenue, so

MRP ≠ VMP

MPP is subject to the law of diminishing returns. It means that it declines when more units of labour are employed by a firm.

The MRP curve of labour is its demand curve. The basic principle of this theory is that firms should equate the additional cost of buying another unit of labour, that is, its marginal cost (MC) with the additional revenue earned by selling the output of that unit, that is, its MRP. A perfectly competitive firm is a price-taker in the product as well as factor market. It means that it can sell all that it produces without lowering price and it can employ any quantity of labour at the given wage, that is, without increasing the wage rate. So the given wage rate is also the constant marginal cost (MC) and average cost (AC) of labour for the firm.

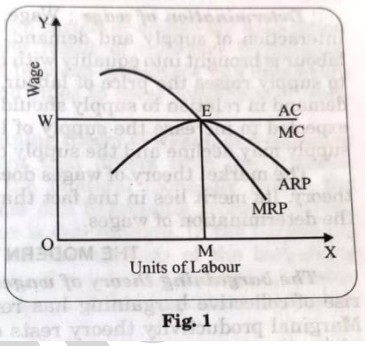


Fig. 1

The equilibrium of the firm in the factor market is shown in Figure 1. The equilibrium is established at the point E. ARP in the figure is the average revenue product which is obtained by dividing the total revenue with the total units of labour employed. At the point of equilibrium E, MRP curve intersects the given wage rate which is also the AC and MC curve of labour. At this point, ARP curve touches the given wage line. So at E.

W = AC MC = ARP = MRP.

The marginal productivity theory of wages has been criticised for the following reasons:

(i) It is too theoretical a concept. It does not agree with what actually takes place.

(ii) It is practically impossible to calculate the marginal product of labour; in fact, the marginal product of any factor of production.

(iii) The productivity of labour does not depend entirely on its own effort and efficiency but very largely on the quality of other factors of production employed.

(iv) Employment of labour by firms does not depend so much on the wage rates as on the business prospects.

(v) Keynes was of the opinion that this theory was valid only in static conditions. If wages are lowered in the depression phase of the business cycle, entrepreneurs would not increase their demand for labour.

(vi) This theory does not determine the wage rate; it only forms the basis of demand for labour. Hicks says that this theory acts as "a regulator of wages, but it does not determine their precise magnitude."

(4) The market theory of wages: The market theory is also called the supply and demand theory of wages. This theory starts with the treatment of wages as a price. Wages are the price of labour. So like all other prices, they are also determined by the interaction of the market forces of supply and demand. Like the commodity market, we can also conceive of factor markets. In the labour market (which is a factor market), the price of labour (wages) is determined, like the price of a commodity in the product market, by the demand for labour in relation to its supply.

Supply of labour Supply of labour can be considered either as the total number of people available for employment or the total number of hours worked. In the case of a commodity, its supply depends on its costs production. It is difficult to know the cost of production of labour as a whole. So no general statement can be made about the supply of labour. It depends on wage rate, training of labour, demographic factors, and so on.

Demand for labour: The demand for labour is a derived demand. It is derived from the anticipated demand for goods and services for the production of which it is required.

Determination of wage Wage, the price of labour, is determined by the interaction of supply and demand. Through the price mechanism supply of labour is brought into equality with demand. An increase in demand in relation to wopply raises the price of labour, that is, pushes up wages, while a fall in demand in relation to supply should cause wages to fall. A rise in wage can be expected to increase the supply of labour generally, but in certain cases, the supply may decline and the supply curve of labour may be backward bending. The market theory of wages does not go against the marginal productivity theory. Ita merit lies in the fact that it considers both supply and demand in the determination of wages.

THE MODERN THEORY OF WAGES

The bargaining theory of wages: Some authors are of the view that the rise of collective bargaining has rendered earlier theories of wages invalid. Marginal productivity theory rests on the assumption of perfect competition, whereas collective bargaining is analysed under imperfect competition. It provides an example of a bilateral monopoly. The trade union is the monopolist seller-the only supplier of labour, the only seller. Employers' association, such as a cartel, is the only buyer of labour-the monopolist.

In the bargaining theory of wages, it is asserted that the level of wages in an industry depends on the bargaining strength of the trade union concerned So the differences in wages in different occupations are caused by differences in the strength of the respective trade unions. The strength of a trade union depends on

- the size of its membership which is declining since the 1990s.
- the size of its fighting fund; and
- the extent of the dislocation that can be caused to the national economy by a strike (stoppage of work).

The trade unions are more powerful in times of full employment. They are, however, weaker in times of economic depression.

The bargaining theory of wages goes beyond the bilateral monopoly model. In this model, as will be noted below, the final outcome of bargaining is indeterminate. But the bargaining theory attempts to arrive at a determinate solution without a stoppage (i.e., strike) caused by an impasse in the collective bargaining process. Important contributors to the bargaining models are De Menil (1971), F. Zenthen (1930), J. R. Hicks (1963) and Ashenfelter and Johnson (1969).

Collective Bargaining and Wages

The perfectly competitive theory of wage determination gives fairly good results. But it cannot explain all aspects of wage determination. Of all the factors of production, labour is a special type of factor; it is different from all other factors. The wage that a worker gets and the circumstances in which he has to work both influence him and his family. This is why the worker is even prepared to fight for a wage. The level of wage does influence labour productivity. It is but one factor. Other factors, such as the owner-worker relationship, too have an effect on productivity. In order to increase their bargaining power in wage determination, workers organise themselves in, trade e, labour) unions, while owners form cartels or employers' association for the same purpose. So wages are the result of collective bargaining. Collective bargaining means negotiations between employees and employers about the establishment of procedures and rules to cover conditions of work and rates of pay

Wages are commonly fixed, in a bargaining theory of wages, in a collective bargaining process. It is an arrangement that differs from the orthodox demand-supply adjustment process. In the bilateral monopoly model, the outcome is indeterminate. But the outcome of a bargaining process between representatives of management and labour is determinate. In the bargaining theory, the primary emphasis is placed on the analysis of the bargaining process, rather than on the general analysis of supply and demand for labour. Collective bargaining may take many forms. A few important models are discussed below,

(i) **One seller and many buyers:** Suppose one trade union has control over all workers in an industry. In this situation, the supply of labour cannot increase unless wages rise. Figure 2 presents this situation. In the figure, curve S shows the marginal cost (MC) of the supply of labour at various levels. The labour union is in fact a monopolist. Knowing well that the demand for labour curve has a negative slope, labour unions restrict the supply of workers to the point where MC of labour equals its MRP. As shown in the figure, labour union agrees s to the supply of labour in Oqz quantity and demands a wage of OW_2. OW1 is the wage determined in perfect competition where wage = marginal cost of labour. Union-determined wage is higher than the competitive wage, but union-determined supply is lower than the perfectively competitive supply.

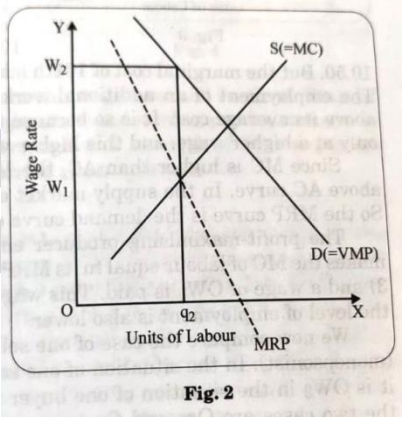


Fig. 2

The form of collective bargaining that was discussed above had been one in which workers sell their labour as a monopolist but the buyers of labour purchase it in the competitive labour market. So the labour union is in a position to raise its wage above the competitive level. However, the union has to pay a price for it in terms of lower employment. At higher wage, the supply of

workers will tend to rise and this will put pressure on the union to cut wage. Only a powerful union can check this pressure.

(ii) One buyer and many sellers Now assume that the workers are not organised in a union; they sell their labour independently and individually. But there is only one buyer of labour. This buyer can be a company supplying electricity in a town. In this situation, the single buyer of labour can pay an arbitrary wage to its employees. Workers will either work at this arbitrary wage or week employment elsewhere. The supply curve of labour in this situation provides only one information which is about the availability of workers to the buyers at any wage. Thus the supply curve in this situation becomes the average cost curve of labour. This has been shown by the curve S (AC) in Figure 3. With the employment of one additional worker, the addition to total cost, i.e., marginal cost will be higher than the average cost. In order to make this point clear, we take an example. Suppose 100 workers are employed at a wage of 10 per worker. The total cost of employing 100 labourers comes to 1,000 and the average cost is ? 10. Now assume that 101 labourers are employed at a higher wage of 10.50 per worker. The total cost of employing of 101 workers comes to ? 1,060.50 101 x 10.5) and average cost rises to 10.50. But the marginal cost of 101th labour is 60.50(= 1,060.50-71,000). The employment of an additional worker places the marginal cost of labour above its average cost. It is so because the additional employment is possible only at a higher wage, and this higher wage is paid to all 101 workers. Since MC is higher than AC, the MC curve in Figure 3 has been drawn above AC curve. In the supply market of labour, there is perfect competition. So the MRP curve is the demand curve of labour. The profit-maximising producer employs that quantity of labour which makes the MC of labour equal to its MRP. So Ogq3 workers are employed (Figure 3) and a wage of OW3 is paid. This wage is lower than the competitive wage: the level of employment is also lower.

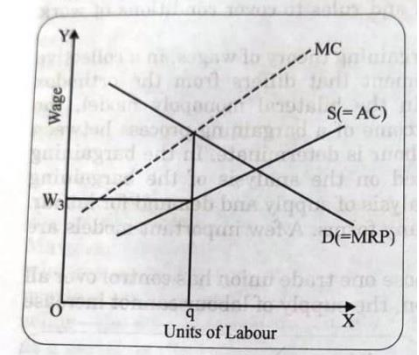


Fig. 3

We now compare the case of one seller (monopoly) with that of one buyer (monopsonist). In the situation of it is one seller wage is OW2 (Figure 2), whereas OWs in the situation of one buyer (Figure 3). The employment levels in the two cases are Oq2 and Oq3 respectively. We are not in a position to tell whether Oqg is higher or lower than Oq3 but both are lower than the level of employment obtained in perfect competition. The second conclusion is that the wage determined by a monopsonist (one buyer) is lower than one determined by a monopolist (one seller).

(iii) **One seller, one buyer: bilateral monopoly:** We now explain a situation of collective bargaining where there is bilateral monopoly, one buyer (a cartel) bargains with one seller (a trade union). Thus there is a monopoly in the market of labour supply as well as in that of labour demand. This case has been explained in Figure 4. In the figure S (=AC) is the supply curve of labour, while. MC is its marginal cost curve. These two curves have taken from Figure 3.. D(-VMP) is the demand curve for labour,

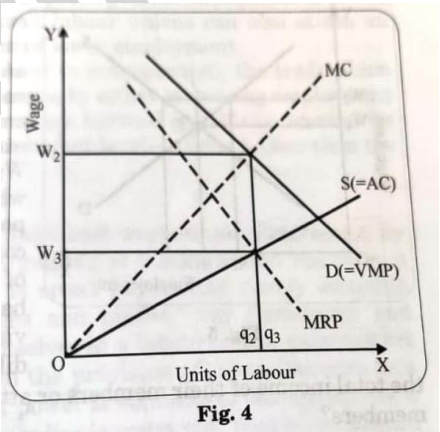


Fig. 4

whereas MRP is its marginal revenue product curve. These two curves have been taken from Figure 2. It can be in the figure that labour union will supply Oq2 amount of labour and demand OW wage. On the other hand, the cartel (the only buyer of labour) will hire Our labour and be prepared to pay a wage of only OWs. There is a big difference between the wages offered by the vartel and that demanded by the labour union. If both parties to the Jargon adopt an inflexible attitude, there will no sale or purchase of workers But there is not much posibility of this to happen. Greater sability is that both parties will art bargaining. Suppose that agreement is reached about the quantity of labour to be employed and both parties agree at Oq2 = Oqs. Now take the case of wages. The cartel is not prepared to pay more than OW wage, whereas the labour union is prepared to accept a wage rate lower han OW2. The wage rate will be fixed samewhere in between these two levels. Fig. 4 Economic theory does not predict where the wage rate will be fixed. Thus in the case of bilateral monopoly, the wage rate is indeterminate. A determinate wage rate will depend upon the relative skill and strength of the two parties and the efforts of the government to arrive at an agreement.

Can Trade Union Raise Wages?

One of the goals of the trade union is to obtain the maximum wage for the initial level of employment. Can the union do it? Classical economists argued that wages can be increased only through a reduction in profits. But a reduction in profit leads to lesser economic activities which result in lower demand for labour. K. W. Rothschild is of the opinion that, given the production technique and capital equipment, the total wage bill cannot be higher than the national income in the short period. No collective bargaining can raise wages above this level. So there will be either a reduction in wages or an increase in unemployment.

It has also been said that wage rate is ultimately determined by economic forces. So the relative strength of the two parties to collective bargaining has no meaning. Jevons was of the opinion that the trade union cannot permanently raise wages. Robbins has said that the view that trade unions can permanently raise wages of their members hardly dies. In most cases, those who hold this view get nothing but disappointment. Henderson holds a similar opinion. Trade unions cannot raise the general wage rate adequately and permanently. In exceptional cases only when higher wages cause an increase in labour efficiency or an accidental increase in producer's efficiency, wages can rise.

We must examine the validity of the above statements as also the interrelationship between the increase in wages and employment. Trade nians are capable of raising wages, but the lons will be of the workers, if it is ignored that the demand of labour alopes downward to the right. In Figure 5, D and S are demand and supply curves of labour, Intersection of these two curves at E determines the wage rate W_1 and employment level q1. If trade unions succeed in raising wage rate to Wa employment level falls from q1 to q2. The excess supply of workers at the wage rate W2 is q2q3. Those members of the unions who continue in employment are in a position to better their condition. But those who are thrown out of employment find themselves very badly hurt from the economic point of view. Thus the trade unions face a dilemma. Should they try

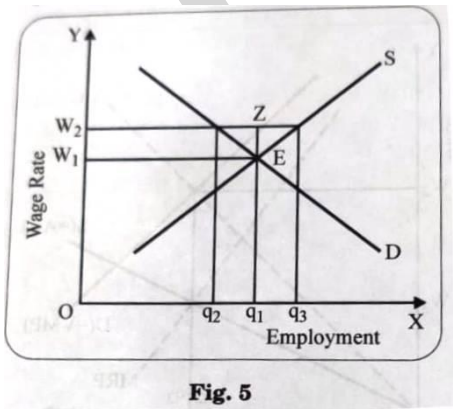


Fig. 5

to maximise the total income of their members or attempt to maximise employment of their economic Employment members?

If the trade union accepts that D (Figure 5) is the demand curve of labour then the optimum level of employment Oqi can be attained at the competitive wage rate W_1. If the objective of the trade union is to raise the incomes of all employed workers, wage rate can be increased in perfect competition when the demand for labour curve is inelastic. But the union is capable of raising wage rate by reducing employment to the level of Oq2.

In some situations, the union can escape from the above dilemma and can bargain for both wage rate and employment.

From the demand curve, we get the information that at what wage rate how much employment is offered by the firm. But the firm may have to employ workers even outside the demand curve. Suppose the union places before the firm the alternative that it will either get a particular amount of workers or not at all. In Figure 5, it has been shown, for instance, that the firm either has to employ Oqi workers at the wage rate of OW2 or face strike. If the first alternative is accepted, the firm will have to move away from the demand curve and go a point like Z. This is possible in the following situations:

(a) If the firm is getting adequate profit, a situation like Z may be acceptable.

(b) A situation like Z may be acceptable during a period of inflation. It is so because the firm can shift the higher burden of wage rise to the consumers by raising the price of the commodity produced by these workers. This possibility is greater under oligopoly.

(c) Higher wages without reducing employment can be paid in that situation also when the labour productivity increases as a result of improvement in managerial efficiency. This improvement in efficiency is called the shock-effect. Some people are of the view that shock-effect has only limited possibility.

From the above analysis of collective bargaining, the following conclusions can be drawn

(i) If the buyers of labour (e., the firm) do not possess monopsonistic power (that is, there is not the only buyer), but labour unions can also attain an increase in the wage rate at the expense of lower employment.

(ii) If there is only one buyer of labour (a monopsonist), the trade union can increase the total wage bill in most cases, by either increasing employment or the wage rate or both. Union members are harmed only if the demand for labour is elastic and wage rate is set at a higher level-a level higher than the pre-union level.

Conclusion

The wages and fringe benefits of unionized workers are determined by collective bargaining. But collective bargaining is a complicated business, a matter of give-and-take. "Much effort is spent negotiating purely economic issues, dividing the pie between wages and profits," say Samuelson Nordhaus. Workers, by organising themselves in a labour union, gain market power by obtaining a legal monopoly on the provision of labour services to a particular firm or industry. The market power is valuable to the union only if the firm's access to alternative labour supplies is restricted, that is, non-union competition is prevented. Like workers, firms (producers) can also be organised in unions, such as, a cartel. This creates a situation of bilateral monopoly-there are one buyer and one seller in the factor market. No economic theory can accurately predict the final outcome of collective bargaining under bilateral monopoly from supplies and demands alone.

There have been some attempts to apply the game theory to collective bargaining. One such attempt was made by De Menil. But the outcome depends, in fact, on psychology, politics and numerous other intangible factors which the recent bargaining theory of wages has tried to incorporate.

The result of raising wages may be unemployment, inflation and distorted resource allocation. Most economists now believe that unions do not redistribute income, by raising wages, from the capital to labour but from non- -union labour to union labour. if unions succeed in raising their wages above competitive levels, their gains come the expense of the wages of nonunion workers," state Samuelson and Nordhaus.

To what extent can a trade union raise the wages of its members? This question should be answered by making a distinction between real wages and money wages. According to the marginal productivity theory of wages, real wages can be increased. only if they are below the value of the marginal product (VMP); real wages cannot exceed VMP permanently. Another way of increasing real wages is the reduction in employment or an increase in the efficiency of labour. It is easy to increase money wages in an inflationary situation but not real wages.

WAGE DIFFERENTIALS: DIFFERENCES IN WAGES

If labour were a homogeneous factor of production and was sold in perfectly competitive markets, every worker would earn the same income in equilibrium. Why, then, do wages vary between one occupation and another? Why some workers get just a bare living, others get modest but adequate income, while yet others earn enough to roll in luxuries? The reason is that labour is not a homogeneous commodity: So there is no such thing as a single labour market there are as many markets for labour as there are types of labour. Further, one type of labour cannot be substituted by another type. If there is a shortage of doctors, the services of lawyers or those of gold-smiths can be enlisted Similarly, butchers cannot be employed to make good a deficiency of accountants.

We may note the following types of wage differentials :

- Incomes vary with the type of jobs: a daily worker earns less than a computer operator.
- Incomes vary with education Earnings of people with university degrees exceed the average earnings of those with primary education only.
- Incomes vary with age: Average earnings rise until a person attaine the age of 45 or so and fall thereafter.
- Incomes vary with sex and race: On average, men earn more than women; and members of some groups earn more than those of other groups even when there be no differences in education and experience.
- Incomes vary with the type of market in which labour sells its services Workers get higher wages in markets dominated by trade unions than similar workers who sell their labour in non-unionised, competitive markets.

These differences are discussed below in some detail:

(i) **Differences in basic human characteristics:** Higher wages are paid for more highly skilled jobs than less highly skilled jobs. A movement from the latter to the former cannot wipe out these differences because such a movement is not possible.

One cause for this lack of movement is that human differences may be inborn. Human ability just happens and is not subject to the market mechanism.

Another reason is that a person may acquire some skills so early in a life that another person without such skills cannot do them in late life.

These factors restrict labour mobility between markets and so wage differences due to differences in basic human characteristics persist.

(ii) Differences due to human capital: "The stock of skills acquired by individual workers is called human capital; investment in this capital is usually costly, and the return is usually in terms of higher labour productivity and hence higher earning power," say Lipsey and Chrystal. Acquisition of such skills is not only costly but also takes a long period of time. The period of special training may be long and expensive. Attendance at a university for three, four or five years may be required. Many parents cannot afford it. More skilled workers get higher wages than less skilled ones.

(iii) Differences due to sex and race: Statistics show that incomes vary by race and sex. Until very recently, non-whites and women were not permitted to take up certain jobs. In such exclusive jobs, the supply of labour is reduced, while in the non-exclusive jobs its supply increases. This raises the wages in exclusive jobs and lowers them in the non-exclusive jobs.

(iv) Differences due to labour market structure: Wages are higher in markets where workers is organised in trade unions than in non-unionised or competitive markets. In a competitive market, the strength of individual workers are lower than that of an employer-firm. But when workers forma trade union, the firm has to deal with a single seller of labour. This enhances the bargaining power of the workers and so can command higher wages.

(v) Differences due to non-monetary considerations: Some occupations provide advantages of a non-monetary nature. Some kinds of work, for example, are more congenial than others because they are carried on under pleasant conditions. In some employments, the worker is permitted a greater degree of freedom than others. In some occupations, workers enjoy a high degree of security from dismissal as in government jobs. Some jobs carry a high degree of prestige that gives satisfaction to the workers. Some jobs are dangerous. In some occupations, workers have to spend long periods away from home.

All these factors may lead to wage differences.

Earnings of Women

Women are generally paid less than men. There are two types of wage differences between men and women. Women may earn less than men in the same job. Women may be excluded from some jobs where wages are higher and forced to do those which are low-paid.

In the past, it so happened that women who were married and not In dependent entirely on their own incomes accepted lower wages which in other situations they would not have done.

The demand for women in many occupations was low because their was thought to be low. It was particularly the case which required product physical strength. But now the thinking is that women are capable of almost all kinds of work which formerly were considered suitable only for men.

The data shows that by the late 1970s, women were paid a little over 70 per cent of the average male wage, whereas it was only 60 per cent up to 1970. The narrowing of this difference has been due to the Equal Pay Act. The remaining differentials of 30 per cent have also been looked at. Researches prove that schooling, discrimination and the lower marginal product of women account for the rest.

In most of the occupations, particularly those that until recently were closed to women, there is no differentiation between men and women with regard to payment. In administrative services, local governments and teaching professions, equal pay now prevails. In some kinds of factory work, there are still different rates of pay.

If men and women do equal work with equal efficiency, they should receive equal pay.

Most girls still look upon the period of employment after leaving schools as a temporary interval until they marry and do not remain long enough to consider making a carrier of it. So employers do not think it to be worth their while to train women for the more responsible positions. "Some employers", says Hansen, "think that men are more reliable than women, and women receive the same pay, prefer to appoint men. It frequently appears that many highly efficient women are less tolerant of human short-comings in others than equally efficient men, and so make less capable managers.

The Royal Commission on Equal Pay (1946) in their majority report favoured differentiation between the earnings of men and women on the men and following grounds:

- men possess greater physical strength;
- men are generally more efficient than women;
- sickness rate is higher among women;
- women are more absent from work, even for trivial reasons;
- women are generally less ambitious than men; and
- women take less initiative in crises.

The principle of equal pay has now been accepted in most occupations.

INTEREST

MEANING OF INTEREST

Income is the payment for services rendered to production. Services are either direct personal services or those of property which provides impersonal services. We can easily distinguish wages as the payment for labour. But rent, interest and profits cannot be so easily assigned to particular factors of production. Elements of rent can be found in each of the other forms of incomes. Interest and profits cannot be easily distinguished in practice. However, inter est has to be distinguished from profit.

Interest is a payment for the use of capital, while profit is the reward c the entrepreneur for his services. Or, interest is the income from "money capital" (or "fluid capital" in terms of Marshall), while profit is the income from "real" capital. Interest is thus payment for the use of a certain sum of money to the for an agreed period of time. "The payment made by a borrower for the use of a loan for, say, a year. expressed as the ratio which that payment bears loan, and is called interest. And this term is also used more broadly to the money equivalent of the whole income which o represent derived from capital.

Interest is commonly expressed as a certain percentage on the capital sum of the loan. This capital is not a stock of things in general, but a stock of one particular thing which is money. Interest then becomes payment for the use of a certain sum of money for an agreed period of time. If a person borrows? 100 at a rate of interest of 10 per cent per annum he will, in one year's time, have to repay 110, 100 that he borrowed together with 7 10 as interest. At present, the chief lenders are commercial banks, building societies, finance companies, money-lenders, insurance companies,

individuals and businessmen. The chief borrowers are governments, businessmen and private persons. Banks and building societies borrow by accepting deposits.

Rate of interest is the difference between what is lent and what is repaid after a specified period. It is expressed as a proportion of the amount lent. Suppose, 100 is lent and 110 is repaid after one year, then the yearly interest rate is $\frac{\text{Rs.(110-100)}}{\text{Rs. 100}}$ =0.10, or, in percentage terms, 10 per cent.

Normally, interest rates are calculated on a yearly basis.

When talking about the interest rate, we should not talk about 'the rate of interest' because there are many different interest rates-higher rates or lower rates, short-period rates or long-period rates, money or market rate and real rate or natural rate, deposit rate or loan rate, and so forth. The reason for differences in these interest rates is the different causes for the existence of interests

Gross Interest and Net Interest

Interest is divided into gross interest and net interest. Net interest is the varnings of capital simply or the reward for waiting simply. Gross interest is net interest plus some other or additional elements as well. Important addi tional elements are:

(i) Payment for risk: All loans are not equally risky or equally riskless. There is a need for making some allowance for insurance against risk. Part of the interest charged on a loan is a payment for risk-the risk that the loan may not be repaid.

(ii) Payment for the trouble involved: When goods are sold on the hire purchase system, a charge is also made for the inconvenience which this type of sale causes to the seller. So "a great part of what appears to the borrower as interest, is, from the point of view of the lender, earnings of management of a troublesome business," Lending money causes the lender a certain amount of work such as keeping a record of the transaction and arranging for the collection of interest. Thus a part of interest is a charge for the lender's trouble.

(iii) Payment for inconvenience In the gross interest there is also an element for the payment of inconvenience resulting from the failure on the part of the borrower to pay interest and return the principal in time. Inconvenience results from the fact that lender may not get back the loan at a time when he needs it most or may get back at a time when the market is depressed and none is prepared to borrow the money.

(iv) Pure or net interest: Any charge additional to payment for risk, for trouble and for inconvenience involved in making the loan is for the use of money. It is a compensation to the lender for allowing the borrower the use of his money for a period. This is pure Thus, net interest.

Gross Interest = Pure interest + payment for risk + payment for trouble + payment for inconvenience

Real Interest and Money Interest

In practice, people almost always deal in terms of money rates of interest. Suppose a bank pays 10 per cent interest. It means that if a person deposits Rs. 1,000 in the bank, he can withdraw 1,100 at the end of the year. But if the prices are beginning 1,100 after a year will not buy as much as 1,000 at the rising, 1,100 of the year, maybe it will buy at the end of the year only as much as * 1,050 at the beginning of the year. If so, the monetary or nominal rate of interest is 10 per cent but the real rate of interest is 5 per cent. Thus

Rate of Real Interest Money rate of Interest - Inflation Rate

or Money Rate of Interest - Real Rate of Interest + Inflation Rate

The second equation states that the money rate of interest equals the real rate of interest plus the anticipated rate of price inflation. Or, the real interest rate equals the money rate of interest minus the anticipated rate of price inflation.

If R the rate of real interest, r rate of money interest and Prate of price inflation, then

$$R=r-P$$

$$r=R+P$$

or

Determinants of the Rate of Interest

Interest rates vary a good deal for a number of reasons. Following are the main reasons :

(i) Risk: Interest rates vary on account of risk. Some loans are subject to high risks and therefore, high interest rates are charged. Low-risk loans attract lower interest rates.

There are two different aspects of risk, namely, default risk and variability risk. Suppose a bank makes a one-year ? 1,000 loan at an interest of 10 per expected cent. Suppose the bank has 99 per cent confidence in the borrower's perfor mance but 1 per cent chance of a complete default. In this case, the or average interest yield for the bank is not 10 per cent but only 8.9 per cent. The difference between 10 per cent and 8.9 per cent is an adjustment for default risk.

There are some shares, such as ordinary stocks, which pay no fixed interest. The returns to the shareholders come in the form of dividends which

(ii) Time preference: Because of the uncertainty of the future, people have a preference for the present. Some person's preference for the present may be high, whereas others may have a low preference. Those who have a high time preference will charge a high interest rate and those with low time preference will charge a low interest rate.

(iii) Time endowment: If most people in an economy expect future income from the endowment to be much greater than current income, the interest will vary substantially from year to year. This is variability risk.

(iv) Time productivity: If the investment is expected to be highly productive rate of interest will be high.

(v) Degree of isolation: If a locality is financially linked with other regions, the interest rate cannot diverge too far. But if it is isolated or insulated from the outside world, the interest rate will be high

THEORIES OF INTEREST

Interest is one of the most controversial subjects in economics. A number of theories have been put forward to explain it. But before coming to discuss them an important point needs to be clarified.

Arthur Hadley, toward the close of the 19th century, stated that "the causes which have produced the system of interest are radically different from those which determine the rate of interest." Schumpeter and Knight discuss why interest exists and do not seem to be directly concerned with the determination of the rate of interest in the market. It means that they have in fact followed

1 The bank anticipates to receive? 1,100 at the end of the year if all goes well (99 per cent probability), or nothing (1 per cent probability). Its expected or average net interest return is 0.99 (1,110)+ 0.01 (70) - 1,000 or 89-a yield of 0.89 per cent on the ? 1,000 principal amount.

a dichotomy in the theory of interest. Harrod also accepts this division in the theory of interest. When dichotomy is accepted, the interest theory is concerned with two questions:

(a) Why interest? i.e., why any rate of interest exists?

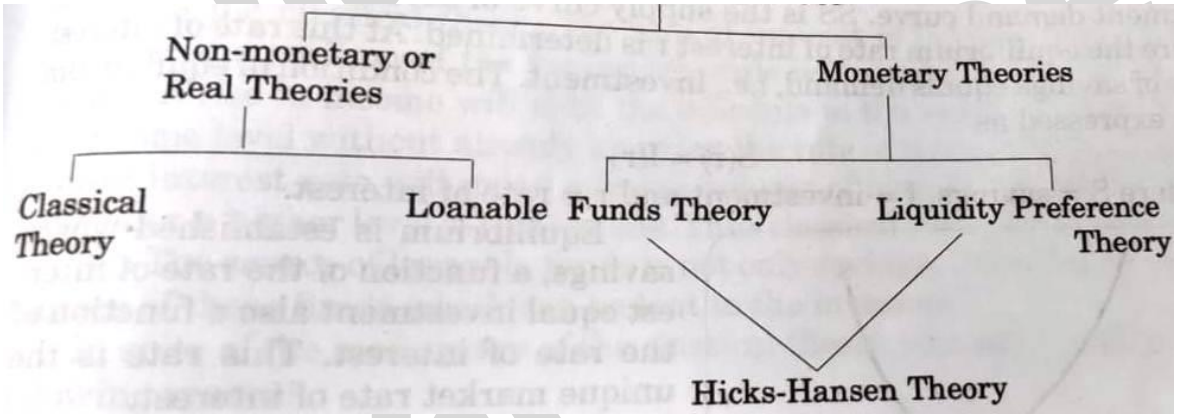
(b) How high interest? i.e., how the rate of interest is determined?

There are many others who think that the above dichotomy is a false one. Fisher is prominent among such writers.

CLASSIFICATION OF THE THEORIES OF INTEREST

It is very difficult to make a comprehensive classification of the many theories of interest that have developed. However, these theories are classified under two broad heads, namely, (a) Non-monetary (or real) theories and (b) Monetary theories. Non-monetary theories do not include any explicit variable for the quantity of money or its velocity. Most of the well-known classical theories of interest are non-monetary theories, whereas both before and after the classical writers monetary theories of interest have been prominent. In the chart given below, the important theories of the above two broad categories have been presented :

Theories of Interest



We now discuss them elaborately below:

CLASSICAL THEORY OF INTEREST

Classical economists had regarded the rate of interest as a real phenomenon. In the early tradition of the classical theory, rate of interest was regarded as simply the rate of return on capital invested by Adam Smith, David Ricardo, etc. It was taken as an income to capital in the same way as rent is to land. Rate of interest was determined by the forces of productivity-the demand for funds for investment purposes and thrift, the supply of savings.

The demand for funds for investment was related to businessmen's expec tations regarding profits. This was connected with the marginal productivity of capital. Capital can never receive more than the value of its marginal product. It is so because the entrepreneur will employ an extra unit of capital only if the additional (marginal) income arising from its employment exceeds what he has to pay for it. For example, suppose a producer borrows 100 at 6 per cent and uses it productively which yields him a return of 10. He will gain? 4 by borrowing. The demand for business loans depends therefore on the marginal productivity of capital in relation to the rate of interest. The marginal productivity of capital or its money equivalent, the marginal revenue product (MRP), is negatively inclined, i.e., the MRP curve alopes downward to the right due to the operation of the law of diminishing returns. The MRP from a capital asset can be regarded as the MRP from money an invested in the capital asset. An entrepreneur will continue to make

investment in capital assets as long as the expected not rate of return or MRP of capital investment is greater than the cost of borrowing money, Le., the rate of interest.

The supply of funds was dependent upon the willingness to save. This I willingness was related to the marginal rate of time preference. Time preference theory was developed by Bohm-Bawerk. People prefer the present to an uncertain future. So they judge how much a rupee is worth to them today compared with a rupee in the future. They make their decision whether to save by comparing the worth of money between now and the future with the rate of interest. A positive rate of time preference describes an upward sloping savings schedule.

The upward sloping savings curve and the downward sloping investment demand curve intersect to determine the rate of interest. This interest can be regarded as a real phenomenon. In Figure 1 is presented the determination of the rate of interest. In the figure, II is the demand curve of saving, i.e., the investment demand curve. SS is the supply curve of saving. They intersect at E where the equilibrium rate of interest r is determined. At this rate of interest supply of savings equals demand, i.e., investment. The condition of equilibrium can be expressed as

$$S(r) = I(r)$$

where S = savings, I = investment and r = rate of interest.

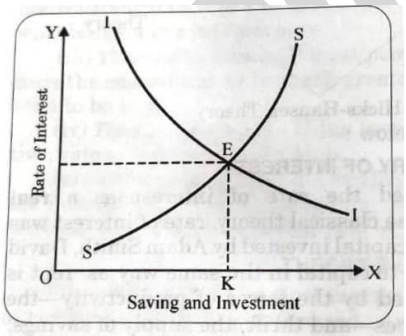


Fig 1

Equilibrium is established where savings, a function of the rate of inter est equal investment also a function of the rate of interest. This rate is the unique market rate of interest.

In this theory money does not come into the picture. The interest rate is influenced only by the saving of the public (determined by their habits of thriftiness) and by capital investment of the entrepreneurs (determined by the productivity of capital). Money plays no role. Real things are deter mined by real forces.

Criticisms

The classical theory of interest suffers from many shortcomings. Chief among them are:

(i) It is based on the assumption of full employment. At this level of employment, all economic resources are fully employed. So if larger units of

The English classical economists have used the word abstinence, i.e., the sacrifice of present pleasure for the sake of future, to describe saving. Marshall has objected to the use of this word, i.e., abstinence for saving. Very rich persons do not abstain from present consumption in order to save for the future. So be used "waiting" in its place which means postponement of enjoyment.

resources are to be used in the production of capital goods, they have to be taken out from their present use. But this will not be the situation if resources are lying idle on a large scale as in a period of depression.

(ii) This theory does not consider the effect of changes in the income level on savings. Keynes did not accept that the level of savings is determined by the rate of interest but by the level of income. So he wrote the savings function as S fly), not as S= flr) as done in the classical theory,

(iii) The classical economists did not consider the effect of low level of consumption on investment demand. The demand for capital is a derived demand. An increase in the demand for final goods

(consumption goods) will cause an increase in the demand for investment and a decrease in consumption will lead to a decline in investment demand.

(iv) In the classical theory investment and savings are assumed to be independent of each other. And the rate of interest is the equilibrating nism. Changes in the rate of interest bring about equality between mechanism. saving and investment. Keynes did not accept this line of reasoning. He maintained that it is through changes in the level of income that savings are brought into equality with investment.

(v) In the classical theory, the rate of interest is indeterminate. Keynes says that the position of the saving schedule will vary with the level of real income. A rise in income will shift the schedule to the right. We cannot know the income level without already knowing the rate of interest. It is so because a lower interest rate will mean a larger volume of investment and so, via the multiplier, a higher level of real income. Thus classical theory offers no solution.

(vi) The source of loanable funds is not only savings. There are many other sources of these funds which can be lent to the investors.

In spite of the inadequacy of the classical theory, its study is useful for the following reasons:

(a) There is no complete theory of interest which does not include the variables studied in this theory.

(b) This theory is in large measure the basic theory of several contem porary economists like Frank Knight and Irving Fisher.

LOANABLE FUNDS THEORY OF INTEREST

Many famous economists like Wicksell, Ohlin, Robertson, Myrdal, Lindahl and Viner state that the rate of interest is not determined by savings and investment but by the supply of loanable funds and the demand for them. Loanable funds represent a flow of money on to the market for loans of all kinds to individuals and institutions. Robertson argued that the loanable funds theory included in its supply of and demand for loanable funds monetary as well as non-monetary elements. These supply and demand functions can include, in addition to saving and investment, net hoarding and net changes. in the quantity of money. So in the chart above this theory has been shown as combining the elements of both monetary and non-monetary theories.

We now analyse the constituents of the supply of loanable funds and those of their demand.

Supply of Loanable Funds

The following are the important sources of loanable funds:

(i) Saving The chief source of loanable funds is aaving. Swedish economists and Robertson take saving in two senses ex-ante or expected saving and ex-post or realised or actual saving. Both types of savings are a function of the rate of interest such that saving increases at a higher rate of interest and declines with lower rates.

Both households and businesses save. Individual or household saving is that part of its income which is not consumed (i.e., income minus consumption), Business saving is the undistributed profit called retained earnings, Le.. the profit which is not distributed as dividend. Such savings may also be influenced by the level of the rate of interest. If the rate of interest is high, businesses, instead of borrowing from the market, will keep the larger volume of un distributed profit. Most of the undistributed profits are, however, utilised by the entrepreneurs themselves; they do not enter the loan market. But they exert an influence on the rate of interest indirectly.

These profits are a substitute for borrowings. To that extent, they reduce the demand for loanable funds in the market.

(ii) Dishoarding: Dishoarding of past savings increases the supply of loanable funds. At low rates of interest, people will prefer to have liquid assets (cash) and so will not dishoard. But at high rates of interest, they will dishoard.

(iii) Bank Money: The banking system too is an important source of the supply of loanable funds. The banks create credit in order to lend to trade and industry. At higher rates of interest, larger volume of credit will be created.

(iv) Disinvestment: Disinvestment occurs when items of capital invest ment-machines, vehicles, etc.-are not replaced as they wear out so that the capital stock is being reduced. This is thus the opposite of invest ment. This tendency is more prominent when the rate of interest is higher than the rate of profit.

The total supply of loanable funds is thus

SL S+ DH+DI+ BM

Where St. = supply of loanable funds; S = saving; DH = dishoarding; DI = disinvestment and BM= bank money.

Demand for Loanable Funds

There are many sources of demand for loanable funds. They are:

(i) Demand for investment: Here we consider the borrowers of the classical theory who wish to use funds for new investment. The rate of interest and investment demand are inversely related.

(ii) Demand for consumption: These are borrowers whose importance has grown sharply since World War II. They are consumer borrowers. They borrow chiefly for purchasing consumer durables like motor-car, houses, television, refrigerator, VCR, VCD and so on. Here too these borrowers will borrow larger sums at lower rates of interest and less at higher rates of interest.

(iii) Demand for hoarding: Since people prefer liquidity, they may borrow to build cash balances. This demand for liquid funds is negatively correlated with the rate of interest.

(iv) Government demand It has been the tradition that government demand for loanable funds is not included in the determination of the rate of interest. But now the government has become an important borrower in the loan market. It borrows to bridge the gap between its expenditure and revenue. But the rate of interest hardly exerts any influence on government borrowing. So it is taken as a fixed quantity.

Total demand for loanable funds is a horizontal summation of its con stituents. Thus

$$D_1 = I+D, + H+ d_2$$

Where D_1 = demand for loanable funds, I investment demand, D. = consumption, H = hoarding and de government demand.

The equilibrium between the supply of and demand for loanable funds indicates the determination of the market rate of interest, as shown in Figure 2. The equilibrium rate interest is determined at E where SL-DL. This rate is r and the supply of and demand for loanable funds are OQ. The condition of equilibrium is:

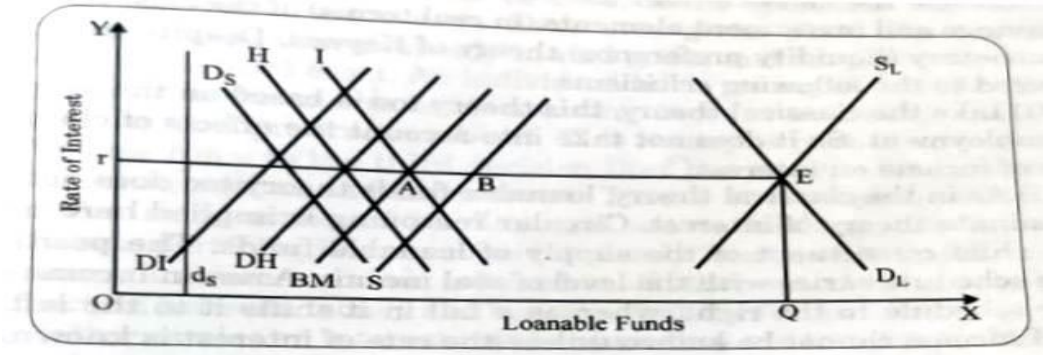


Fig. 2

$$SL = DL$$

or $$DI + DH+BM+S=d,+D, +H+I$$

There is an important consideration about equilibrium that must be noted. At the equilibrium rate of interest of r, the ex-ante investment is rA, while ex-ante saving is rB such that rB>rA. It means that at this equilibrium rate of interest r, expected investment is lower than expected saving. This inequality will have a contractionary effect on income. A fall in income will reduce saving and the rate of interest will change. Thus this interest rate (r) is not the stable equilibrium rate of interest. In order to have such a stable rate of interest, two conditions need to be fulfilled :

$$SL = DL$$

and $$S=I$$

as shown in Figure 3. In this figure, S = I at point A where the equilibrium rate of interest is r. At this interest rate SL = D_1 at point E. So r is a stable equilibrium rate of interest because of both the conditions of equilibrium are satisfied.

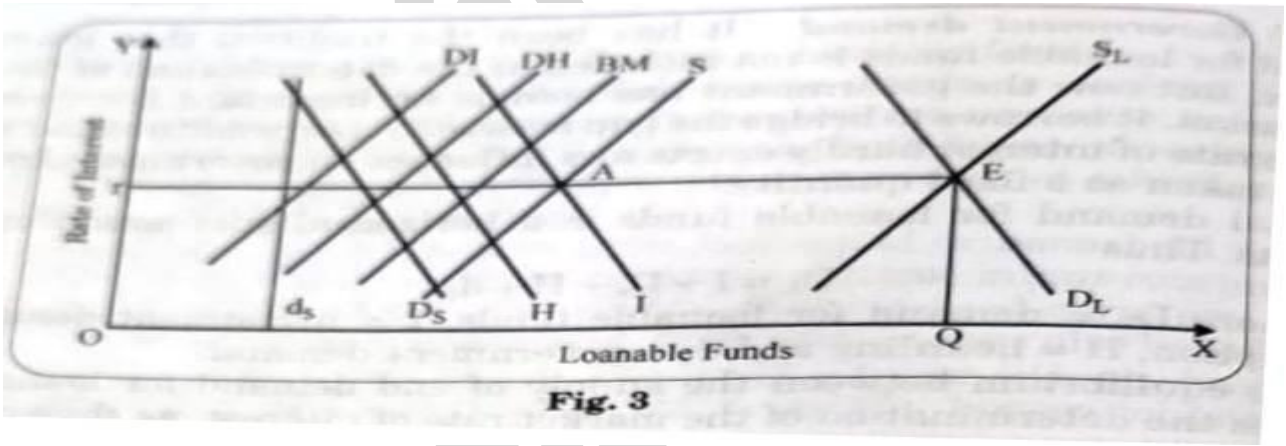


Fig. 3

A Critical Evaluation

The chief merit of the loanable funds theory of interest is that it has tried to synthesize the classical and the Keynesian theories. It takes into account the savings and investment elements (in real terms) of the classical theory and the monetary (liquidity preference) theory of Keynes. Despite this it has been subjected to the following criticisms

(i) Like the classical theory, this theory too is based on the assumption of full employment. So it does not take into account the effects of changes in the levels of income on interest.

(ii) As in the classical theory, loanable funds theory too does not present a determinate theory of interest. Circular reasoning is implied here too. Saving is the chief constituent of the supply of loanable funds. The position of the saving schedule varies with the level of real income. A rise in income shifts the saving schedule to the right, whereas a fall in it shifts it to the left. But the level of income cannot be known unless the rate of interest is known. And the rate of interest cannot be known unless the level of income is known as saving schedule is related to the level of income. Thus we move in circular reasoning No determinate solution is possible. This is the view advanced by Hansen.

Halm does not agree with Hansen that the rate of interest is indeter minate. It is so because the theory is based on the period analysis. The rate of interest is determined with one period time lag. So, according to Halm, it is not circular reasoning to say that income depends on investment, investment on the rate of interest, rate of interest on the flow of loanable funds, loanable funds on the supply of saving and saving on the income of the previous period. This is not circular reasoning.

LIQUIDITY PREFERENCE THEORY OF INTEREST

In his General Theory of Employment, Interest and Money, J.M. Keynes vigorously attacked the classical theory of interest and presented an entirely new theory. Keynesian theory of interest is new in the following respects : (a) In the earlier theories, demand for investment was a central feature of the determination of the interest rate; but in the Keynesian system the rate of interest, determined elsewhere, determined only the quantity of investment.

(b) In the classical theory the second major determinant of the rate of interest was saving; it was not so in the Keynesian system. The rate of interest cannot be a return of saving or waiting," said Keynes.

(c) So Keynes stated, "The rate of interest is not the price which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption. It is the price which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash." In the sub sequent analysis Keynes, therefore, examines the determinants of the demand for and supply of money or liquid asset.

Demand for Money

In investigating the rate of interest in the Keynesian system, we should first note how Keynes divided the decision-making between his model. Firstly, households make a choice between consumption and saving-what part of the income to spend on consumption and what part to save. Secondly, business firms decide regarding their level of investment spending. Consumption, saving, investment and income are flows over given time. They involve no financial transactions, they deal only in real goods and services.

Money is a financial asset. An individual holds money in his folio of assets in the same way as he or she holds a saving account at a bank, shares of a company, equity or a government bond. This money is part of an individual's wealth. We now come to the third decision that has to be made besides those relating to consumption and investment. This is the decision of the public regarding the composition of its financial assets holdings. In the public's financial assets portfolio, Keynes considered only two types of financial assets, namely, money and bonds. Bonds referred to all other assets except money. The chief distinction between money and bonds is that the former

carries no interest while the latter carries an interest rate because they are less liquid than money and are risky assets in the sense that their price varies and the owner can suffer a capital loss if he sells them when their prices are depressed. The holder of money earns no interest but money is a liquid asset. Liquidity is defined as the ability and ease with which an asset can be exchanged for money and with little loss of value. Money is the most liquid of all assets since all assets are transformed into money. It is via the choice between money and bonds that the rate of interest gets determined.

Keynes's theory of the rate of interest determination is called the liquidity preference theory of interest. We saw above that a choice has to be made between spending income and saving. Having made this choice, households and businesses have to decide the specific form in which to hold their savings. Here the basic choice is between money in the form of either idle cash or bank accounts, on the one hand, and bonds, on the other. Idle cash and bank accounts are highly liquid assets. Bonds are less liquid. That part of the savings which is held as bonds flows into the money market as the supply of loanable funds. That part of the savings which is held as idle cash does not flow into the money market. Holders of money earn no interest. Why then people should want to hold cash? In other words, why do people prefer liquidity? Keynes has advanced three reasons or motives why households and businesses prefer liquidity, that in cash rather than bonds. The three motives for liquidity preference are:

(1) Transactions motive: It is one of the motives for holding money rather than bonds. Households, as well as businesses, need a stock of cash on hand to make ordinary day-to-day purchases. It is so because households get income weekly or fortnightly or monthly, but spending is done more or less evenly over time, almost daily. So they have to keep a certain stock of money to bridge the gap between paydays, Money, the most liquid asset, is a more convenient form of assets than bonds in order to meet day-to-day transactions,

Like households or individuals, businessmen to need cash or liquid assets for day-to-day ordinary transactions.

The determinants of the transactions demand for money from the view. point of households and businesses are the following:

(a) Gap between the receipts of incomes and their spending. The longer this gap, greater is the demand for money for transaction purposes.

(b) The greater the expansion of credit facilities, the less the need for cash.

(c) From the point of view of businessmen, it can be said that if the business is carried separately, not jointly, the demand for cash is higher.

(d) The current level of income of the households or the size of the sale of the businessmen also determines the transaction demand for money. The higher the level of income, the higher is the need for money.

(e) The rate of interest may also influence the demand for money for transactions purposes. It might be expected that a rise in the interest rate will lower the demand for liquidity.

Keynes has considered the demand of money separately for households and business firms. So he divided the transactions motive into (a) income motive - the transactions demand for money from the viewpoint of households or individuals and (b) business motive-the transactions demand money from the point of view of business firms.

Keynes assumed that the transactions demand for money is chiefly in fluenced by income. So it can be expressed as L=f(Y), where L = transactions demand liquidity and Y income.

(2) Precautionary motive: Transactions motive is confined to describing the necessity of holding cash to bridge the gap between the receipt of income and planned regular payments. There are certain payments, however, which cannot be called planned and regular, such as paying unexpected bills, making purchases at unexpectedly favourable prices, meeting certain emergencies caused by accident or illness and so on. Cash must be held for such purposes since non-liquid assets (bonds, for example) cannot be readily converted into cash. Cash needs for such purposes are listed under "Precautionary motive" and is postulated to be a function of income as in the case of transactions motive. It needs to be noted that Keynes did not postulate a technically fixed relationship between transactions and precautionary demand for money and the level of income. Precautionary demand for money can be expressed as Le = f(Y).

It has been customary to combine the transactions and precautionary demands for money into one and call it the demand for active balances. Let L demand for active balances, then

$$L_A = L_T + L_P$$

The functional relationship between demand for active balance and nation al income can be put in the equation form as:

$$L_A = KY$$

where k is a fraction. So kY is that fraction of national income Y which is demanded as active money.

(3) Speculative motive Marshall and Pigou had suggested that another factor that might influence the demand for money is uncertainty about the future. This suggestion was formulated by Keynes under his "speculative motive representing the demand for money. He does not consider uncertainty general. The field is narrowed to uncertainty about one economic variable only the future level of the rate of interest. In the financial portfolio, Keynes considered only two financial assets, namely, money and bonds. Money is a financial asset which perfectly liquid but bears no rate of interest. A bond is long-term debt which is not liquid but carries with it the promise to pay its owner a certain income per annum fixed in money terms. The entire portfolio adjustment in the financial sector consists of a choice between money and bonds. In other words, the individual has to decide how much of the financial assets to be kept in the form of liquid money and how much in illiquid bonds. This decision is influenced by the level of the rate of interest. The investor's choice is exercised by comparing the utility to be derived from the liquidity of money and the utility to be gained from the income on bonds. The income on bonds is not a simple thing. It consists of two parts, namely, (a) annual returns on bonds and (b) the change in the price of bonds between their purchase and sale. Change in bond price depends on the future movements of the market rate of interest. A fall in market rate means a higher price of bonds while a rise causes a decline in bond price.

Keynes assumed that when the rate of interest is expected to fall, the demand for money would be low because people hold bonds in anticipation of capital gains. If it is expected that the rate of interest would rise, the demand for money would be greater as people seek to avoid making capital losses on bondholding. But the important question is; when the rate of interest is expected to rise or fall? Keynes's solution to this problem is based on the assumption of a particular rate of

interest that is taken as "normal". If the current rate of interest is above this "normal" people expect it to fall. If it is below the "normal" they expect it to rise. The amount of money demanded speculative purposes in the economy is determined by a comparison of the current level of the interest rate with the normal level (Figure 6).

The speculative demand for money is also known as the demand for idle balances. It can be expressed as

$$Ls=f(r)$$

Where L, = speculative demand for money and r=rate of interest. In terms. of idle the speculative demand for money is $L_1 = f(r)$.

The two types of demand for money have been shown in Figure 4 and 5.

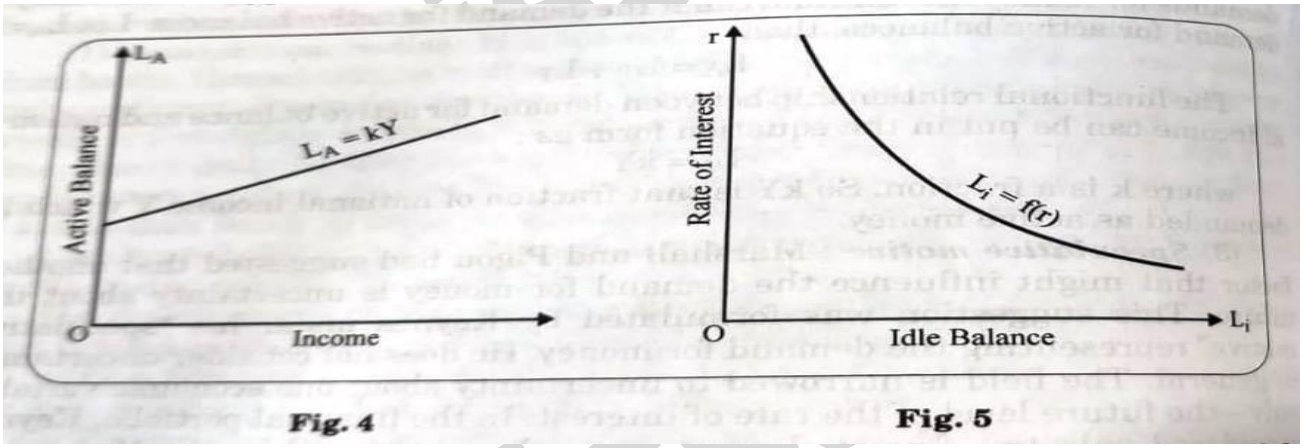


Fig. 4 **Fig. 5**

In Figure 6, the influence of expectations on the speculative demand for money has been shown.

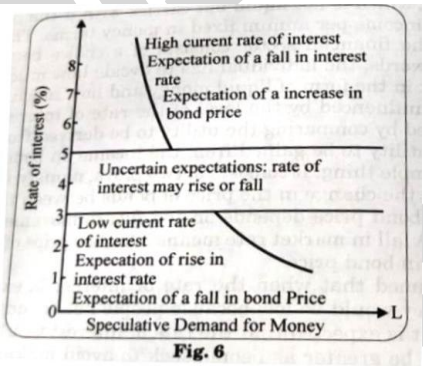


Fig. 6

The total demand for money is the sum of active and idle balances. Thus

$$L=LA + Li$$

Where L = total demand for money, L is a function of both r and Y, that is,

$L= f(r, Y)$.

Supply of Money

It is an exogenous variable, i.e., it is determined outside the system. It is therefore taken as a given quantity. It is responsive neither to the interest rate nor the level of income.

Determination of the Rate of Interest

The rate of inter is determined when the total demand for money, L equals the total supply of money, M, that is,

$$L = M$$

This is the equilibrium rate of interest, as shown in Figure 7.

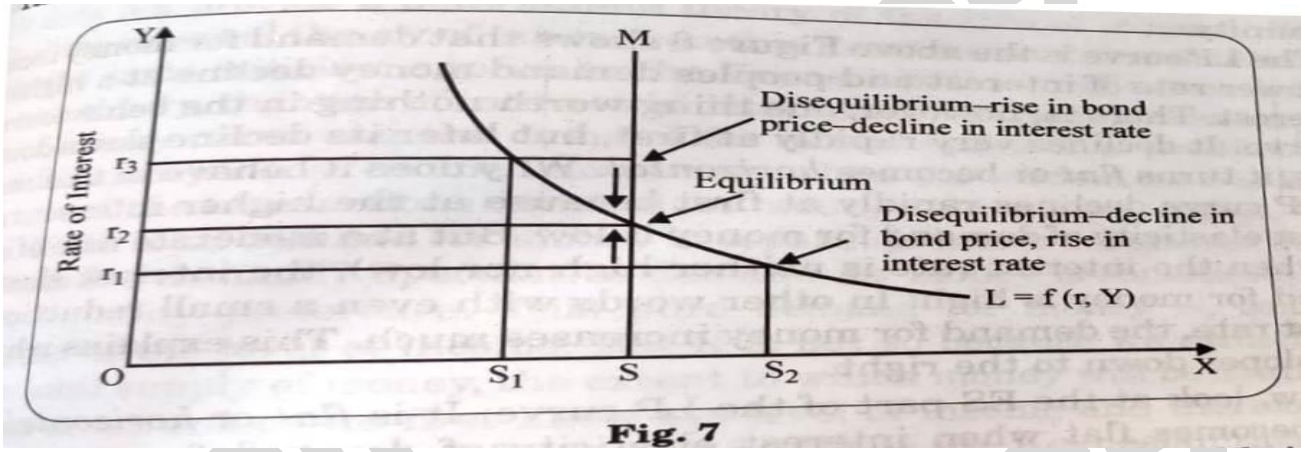


Fig. 7

It can be seen in the figure that the rate of interest is in equilibrium at r where the amount of money demanded equals the fixed supply of money (determined by the central bank). The rate of interest is in equilibrium at r2. because below this equilibrium rate r_2, the demand for money (OS_2) at ri exceeds its fixed supply (OS). If the rate of interest momentarily falls below the equilibrium rate, people would want more money than is available and to sell bonds to get it. The attempt to sell bonds drives bond prices would try to down and interest rate up until everyone is satisfied with his portfolio of money and bonds. This occurs at the equilibrium rate of interest.

When the rate of interest rises above the equilibrium rate and is rs, people would want less money (OS) that is available (OS). They would try to get rid of the excess (unwanted) money balances by purchasing bonds. Bond prices would be driven up and interest rates down until they have disposed of the entire stock of unwanted money, Again a balance is established between the holding of money and bonds in their portfolio at the equilibrium rate of interest.

CONCEPT OF LIQUIDITY TRAP

Liquidity Trap is an important implication of Keyne's liquidity preference theory of interest. According to this concept, although interest rates fall due to an increase of money supply after falling to a considerable level the demand for money increases to such an extent, that the demand curve becomes perfectly elas tic. At this rate of an interest liquidity trap is said to be applicable. In this situa tion, people think that the rate of interest is so low that it is better to keep money with themselves in cash rather than lend ing it to others. At this situation elasticity of demand for money becomes infinite.. This phenomenon of liquidity trap can be explained with the help of the diagram given below:

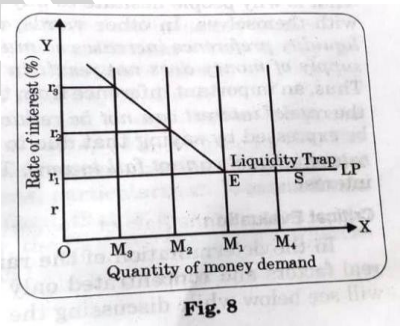


Fig. 8

In the above Figure 8 LP curve represents the liquidity preference of the community The LP curve is the above Figure 8 shows that demand for money increases finterent at a lower rate of

interest and peoples demand money decline at a higher rate of interest. There is, however, one thing worth nothing in the behaviour of the LP curve. It declines very rapidly at first, but later its decline slows down and finally, it turns flat or becomes horizontal. Why does it behave in this manner? The LP curve declines rapidly at first because at the higher interest rate the interest elasticity of demand f for money is low. But at a moderate rate of (Le, when the interest rate is neither high nor low), the interest elasticity of demand for money is high. In other words with even a small reduction in the interest rate, the demand for money increases much. This explains why the LP curve slopes down to the right.

Now, look at the ES part of the LP curve. It is flat or horizontal. The LP curve becomes flat when interest elasticity of demand for money becomes infinity. In other words, the demand for money then becomes perfectly elastic in respect of interest rate. At such a time, people's demand for money (or their liquidity preference) reaches its absolute position. The infinite interest elasticity of liquidity preference curve is sometimes referred to as a Liquidity Trap.

Let us examine why the liquidity preference curve becomes perfectly elastic in respect of interest rate after the point E. As shown in the diagram, the LP curve becomes flat at ri per cent rate of interest what this implies is that at r, per cent rate of interest, even if the supply of mone people shall keep the additional supply of money with themselves in the form of cash balances. They shall not invest even a small part of this increased supply of money in bonds. The reason is that people do not expect the rate of interest to fall below ri per cent, how can the bond prices be expected to rise? As such, there is no possibility of making a profit by investing now in bonds Consequently, the people would not like to buy bonds. On the contrary, the rate of interest at ri per cent is so low that there is very possibility of its rising up in future beyond r_1 per cent. If this materializes, the bond prices will decline heavily. Any one who buys the bonds now shall suffer a heavy loss in future. That is why people hesitate to buy bonds now and wish to keep cash balances with themselves. In other words, at a very low rate of interest, the people's liquidity preference increases so much that even an appreciable increase in the supply of money does not result in a further reduction of the rate of interest. Thus, an important inference from this behaviour of liquidity preference is that the rate of interest can not be reduced below a certain to level. This could also be expressed by saying that due to this peculiarity of liquidity preference the rate of interest cannot fall to zero. This is some thing unique about the rate of interest.

Critical Evaluation

In the determination of the rate of interest, Keynes entirely ignored the real factors and concentrated only on monetary factors. This is wrong as we will see below while discussing the IS-LM curves.

Perhaps the most serious weakness of the liquidity preference theory is that it does not provide a determinate theory of the rate of interest. Keynes attacked the classical theory of interest on this ground that it is indeterminate. Exactly the same criticism applies to the Keynesian theory of interest. In the Keynesian theory, the rate of interest is determined by the intersection of the supply of money curve and the demand for money curve. The position of the demand for money curve can be known only when the income level is known. This is true of the transactions demand for money only, one can report. Where we go if the total demand for money is separated into transactions demand do we go and speculative demand? Speculative demand for money is sometimes called the pure liquidity preference. This pure demand for money is, some say,

independent of the level of income. But it is not so because we cannot know, given the total supply of money, the extent to which money will be available to hold as an asset unless we first know the level of income and therefore how much the transactions demand for money is. "Thus the Keynesian theory like the classical, is indeterminate. In the Keynesian case, the money supply and the demand schedules cannot give the rate of interest unless we already know the income level... Keynes's criticism of the classical theory applies equally to his own theory," says Alvin Hansen.

HICKS-HANSEN THEORY OF INTEREST: IS AND LM CURVES

The liquidity preference theory of interest does not offer a determinate theory of interest; the rate of interest is indeterminate. It was John Hicks who in his 1937 article offered a determinate solution. Hansen made this analysis his basis and constructed a refined theory of interest. It is, therefore known as the Hicks-Hansen theory. It is a synthesis of the classical and liquidity preference theories of interest.

A determinate theory of the interest rate requires the following four elements

(a) saving;

(b) investment;

(c) liquidity; and

(d) quantity of money.

The first two are real factors, while the rest two are monetary factors. The real factor of the economy will be in equilibrium when "saving (S) equals investment (I), that is, I = S. Saving is a function of income, i.e., S = f(Y), whereas investment depends on the rate of interest, i.e., I = f(r).

The monetary sector of the economy comes to equilibrium when the demand for money (L) equals the supply of money (M), that is, L = M. The demand for money is a function of the rate of interest, L= f (r). The supply of money is determined by monetary institutions, particularly, the Central Bank. At a particular point of time it is taken as fixed, that is, M = M.

From the equilibrium of the real sector, the IS curve is obtained, whereas the LM curve is derived from equilibrium in the monetary sector.

IS Schedule

The equilibrium levels of income and interest rate have to satisfy two equilibrium conditions, namely

Equilibrium in the real sector requires equality between investment and and Raving (1-5). Investment is determined by the rate of interest, while saving is determined by income. From it follows that there must be some combination of income and interest which will cause equality between saving and investment. In fact, there can be several such combinations. An IS schedule depicts such combinations, given in Figure 8. All points on the IS curve satisfy investment equals savings equilibrium condition. There are two ways of reading an IS curve.

(1) For a series of alternative rates of interest, IS curve tells us that the income must be such as to make saving equal to investment. For instance, a higher rate of interest would lower investment. Now income must fall so that saving out of a lower income equals lower investment at a higher rate of interest. In Figure 9, when the rate of interest is ri, income is Y_1, so that saving equals investment. A rise in the rate of interest to ry leads to a decline in income to Y_2 so that lower

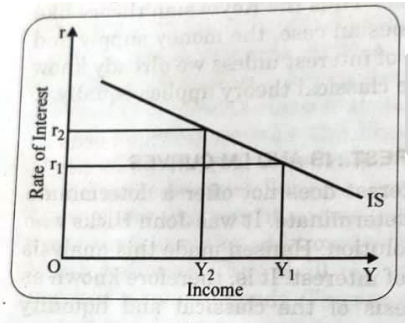


Fig. 9

investment at the higher rate of interest r2 equals lower saving out of reduced income Y2..

(2) We now look at the alternative way of reading the IS curve. For a series of alternative income levels, the IS curve tells us what the resulting interest rate must be to make S= I. Suppose income level goes up. It raises the level of saving. Now interest rate must be lower so that a larger investment is undertaken to make it equal to a larger volume of saving.

The slope of the IS curve is determined by (a) the responsiveness of investment to a change in interest rate and (b) the responsiveness of saving to a change in income. If the investment is highly interest-elastic, the IS curve would steep.

Changes in investment spending that are independent of interest rate changes, Le., autonomous investment, would cause shifts in the IS curve. A lower investment of this nature will shift it to the left, while a higher level of such investment, such as an increase in government spending will shift it to the right.

The LM Schedule

Equilibrium in the monetary sector of the economy requires equality between the demand for and supply of money (LM). The supply of money M is determined by the central banking authorities and is taken as given and expressed as M. Demand for money is determined by the level of income and the rate of interest. As in the case of IS curve, there will be some combination of interest and income which would equate the demand for money to the fixed supply of money, M. And there are several such combinations. The LM schedule depicts all such combinations of interest and in come which show all possible points of equilibrium in the monetary sector as presented in Figure 10. It can be seen in the figure that the money market is in equilibrium when a rate of interest of ri is associated with an income level of Y_1. When the interest rate rises to r_2, the level of income must rise also so that the demand for money is again equal to the fixed supply of money. This needs to be explained. At a higher rate of interest the speculative demand for money is lower so that a larger volume of money is available as active balance (note that M is in fixed supply, i.e., M = M). Since the demand for active balance is determined by the level of income, income level must go up in order to absorb a larger volume of money for transactions purposes. This is why the LM schedule shows that a higher interest rate must be associated with a higher Income

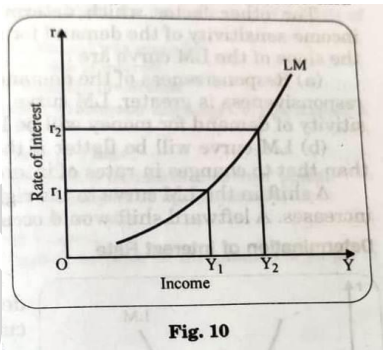


Fig. 10

There are two ways of reading the LM curve. First, it tells what the level of income would have to be if the rate of interest given so that the demand for money (L) equals the fixed supply of money (M). Second, it tells us what the rate of interest must be if the income level is given in order to make L=M. At higher income levels transactions demand for money is higher so the interest rate must go up to reduce the speculative demand for money if the total demand for money is to equal the fixed supply of money.

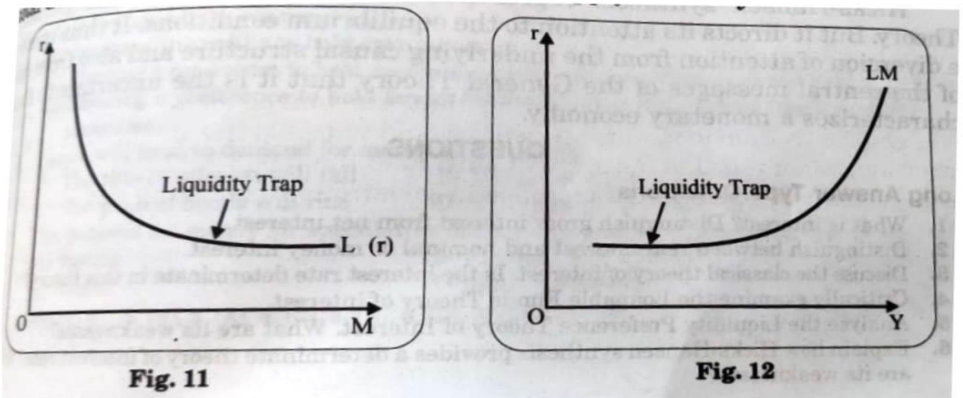


Fig. 11 Fig. 12

The slope of the LM curve is determined by the responsiveness of money demand to changes in the rate of interest. Suppose the demand for money is infinitely elastic to the interest rate as in the case of a liquidity trap. In this situstion liquidity preference schedules become horizontal. LM schedule will assume a similar shape as shown in Figures 11 and 12.

The other factor which determines the slope of the LM curve is the income-sensitivity of the demand for money. Thus the two factors determining the slope of the LM curve are

(a) Responsiveness of the demand for money to changes in income. If this responsiveness is greater, LM curve will be steeper. In this case interest-sensitivity of demand for money will be lower.

(b) LM curve will be flatter if the response to changes in income be less than that to changes in rates of interest.

A shift in the LM curve to the right takes place when the supply of money leftward shift would occur when M is reduced.

Determination of Interest Rate

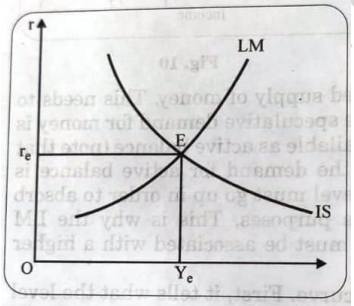


Fig. 13

A determinate rate of interest can be determined with the help of IS and LM curves, as shown in Figure 13. In the figure, LM and IS curves inter sect at E. Consequently, r. is the equi librium rate of interest and Y. is the equilibrium level of income.

Hicks-Hansen Synthesis presents a theory of interest rate determination which is both general and realistic. But the chief weakness of the theory is that it con siders that interest rate is highly flexible. But it is not a realistic assumption. Second weakness of the theory is that it assumes investment as interest-elastic. But it is not always the case. Patinkin and Friedman criticise the theory as being classificatory, it divides the economy into real and monetary sectors. It is an artificial division.

Hicks-Hansen synthesis represents an interpretation of the General Theory. But it directs its attention to the equilibrium conditions. It thus causes a diversion of attention from the underlying causal structure and also from one of the central messages of the General Theory that it is the uncertainty that characterizes a monetary economy.

MEANING OF PROFIT

Economists define profits more narrowly than do businessmen or account ants Businessmen take into account only explicit costs, that is, payments made by the firm to the outsiders. They, therefore, ignore implicit costs, that is, payments made to similar resources which are owned and self-employed by the firm. Economic or pure, profits are what remain after both explicit and implicit wage, rent and interest costs and a normal profit have been subtracted from a firm's total revenue. Economic profits may be either positive or negative (lOsses).

Implicit or imputed cost is the opportunity cost of inputs owned by a firm which it supplies to itself, and which have alternative uses. The owner of a firm may supply certain factors of production such as land, that is, use of a site he owns, finance for investment, managerial services, etc. In practice he may not be paid the price of each of these inputs, that is, rent for land, the wage for labour and interest on finance. But any input supplied by the owner may have an alternative

use with a corresponding price. This price represents the effective cost of using that input in the firm in question. Hence we could attribute a price or cost to each input supplied by the owner of the firm, even if no explicit price is in fact paid. Such a price is called the implicit or imputed cost of the input. Implicit costs include implicit rent (rent on the land supplied by the owner for which he charges no explicit rent), implicit wage or salary (salary for managerial services supplied by the owner for which he charges no explicit salary) and implicit interest (interest on finance supplied by the owner on which he charges no explicit interest). Economic profit is the difference between the sales revenue of the firm and total costs of production, that is, the sum of total explicit costs and total implicit costs. In other words, if the sales revenues remaining after payment of all actual expenses exceed the total imputed costs, then the firm is earning an excess which is super-normal Profit

ACCOUNTING PROFIT AND ECONOMIC PROFIT

The two important concepts of profit that figure in business decisions are 'accounting profit' and 'economic profit'. It will be useful to understand the difference between the two concepts of profit.

Accounting Profit

Accounting profit refers to the total earnings of an organisation. It is a return that is calculated as a difference between total revenue and costs, including both manufacturing and overhead expenses. The costs are generally explicit costs.

Total revenue is simply the total income of the firm in an accounting period. Explicit costs include wages and salaries, rent, interest, taxes and the cost. of all raw materials, intermediate goods and services purchased by a firm. In short, explicit costs include payments for all imputes except management.

Economic Profit

The concept of Economic Profit' differs from that of 'accounting profit. Economic profit takes into account also the implicit or imputed costs. The implicit cost is an opportunity cost. Opportunity Cost is defined as the payment that would be necessary to draw forth the factors of production from their most remunerative alternative employment.

Alternatively, an opportunity cost is the income foregone which businessman could expect from the second best alternative use of his resources. For example, if an entrepreneur uses his capital in his own business, he foregoes interest which he might earn by purchasing debentures of other companies or by depositing his money with joint stock companies for a period.

Further more, if an entrepreneur uses his labour in his own business, he the more, foregoes his income (salary) which he might earn by working as a manager in other firms. Similary by using productive assets (land and building) in his own business he sacrifices his market rent. These foregone incomes-salary, inter est and rent are called opportunity cost or transfer costs. Accounting profit does not take into account the opportunity cost.

The economic profit is calculated as:

Economic profit= Total Revenue - (Explicit Cost + Implicit Costs)

Alternatively, economic profit can be defined as follows:

Pure profit = Accounting profit - (Opportunity cost + unauthorise payments, such as bribes)

Economic profit is not always positive, it can also be negative, which is called economic loss. Economic profit indicates that the resources of a business is efficiently utilized, whereas economic less indicates that business resources can be better employed elsewhere.

The difference between the accounting profit and economic profit is shown is the table given below:

Table: Difference between Accounting Profit and Economic Profit

Accounting Profit that is determined	Economic Profit
Refers to the profit that is determined as per Generally Accepted Accounting Principles (GAAP)	Refers to the profit that is determined by economic principles.
Includes explicit costs only.	Includes explicit and implicit costs.
Helps in accounting taxes and the financial performance of a business.	Helps in determining entry, stay or the exit of an organisation.

Important Issues pertaining to Profit

The development of the theory of profit has been an attractive chapter of the history of economic thought. In 1921 Frank H. Knight published his famous book "Risk, Uncertainty and Profit". He discussed all the theories of profit that had developed by that time. Since then some more books have been published and few articles also came in economic journals. The important topics that have been analysed in them are

(1) Uses of the theories of profit in economic analysis;
(2) Nature of risk and uncertainty;
(3) Origin or source of profit;
(4) Empirical testing of the theories of profit;
(5) Innovation, enterprise and profit;
(6) Profit and monopoly power,
(7) Profit and quasi-rent;
(8) Profit and incomes of different social groups;
(9) Optimum profit; and
(10) Profit and marco-economics.

THEORIES OF PROFIT

Important theories of profit are examined here:

(1) DYNAMIC THEORY OF PROFIT

The American economist, J. B. Clark, was the propounder of the dynamic theory of profit. He was of the view that profit could not arise in a static economy; it emerges in a dynamic economy only.

In a purely competitive, static economy pure profit would be zero. By a static economy, we mean one in which all the basic data, such as, resources and their supply, technical knowledge, consumer taste, size of the population. business organisation, etc., are constant and unchanging. A static economy is a changeless one in which all the determinants of cost and supply data, on the one hand and demand and revenue data and on the other are constant. In this economy, the economic future is perfectly foreseeable, economic uncertainty does not exist. The outcome of price and production policies is accurately predictable. Astatic economy precludes any innovational change. Under perfect competition, any profit existing before will disappear with the entry or exit of firms in the long-run. All costs-explicit as well as implicit will be covered in the long-r -run. So no residual is left in the form of economic or true or pure profit. In the words of Knight, "In the static state each factor secures what it produces and since cost and selling prices are always equal, there can be no profits beyond wages for the routine work of supervision.

Two types of factors make an economy dynamic. They are internal and external causes. Internal changes are introduced by the entrepreneur himself, such as innovations, whereas other changes are brought about by external forces. There are two types of external changes, namely, (i) trade-cycle type of regular changes which affect all types of profit; (ii) irregular changes arising out of fire, earthquake, flood, strikes, change in taste, change in government policy.

(2) RISK-TAKING THEORY OF PROFIT

In a dynamic economy, the future is always uncertain. This means that the businessman has necessarily to assume risks. But most people are risk-averse. So they keep away from the business. Greater the risk of business higher must be the expectation of income because only then they will engage themselves in business. So profits can be thought of as a reward for taking business risks.

The risk-taking theory of profit is associated with the name of F. B. Hawley. He says that profit is the reward for taking business risk and responsibility.

Drucker has distinguished four types of risks. They are (a) replacement, (b) risk proper. (c) uncertainty and (d) obsolescence.

Replacement, which is also called depreciation, is generally foreseeable and is included in the cost.

Though it is difficult to know obsolescence, yet it is provided for in the cost. Risk proper, that is the risk of selling at a profit in the market and uncertainty are not traditionally costs. They get a profit. It may be said to be the cost of remaining in the business Fire accident, etc. can be insured against and so they are included in the cost. There are certain risks which cannot be insured. No provision can be made them beforehand. Profit is the reward for such risks.

This comcept of profit has been citicised by some economics on the ground that profit is not entirely not the reward for risk-bearing. "Profit is made not because risks are borne but because they are avoided.

(3) UNCERTAINITY BEARING THEORY OF PROFIT

F.H. Knight says that the special function of the entrepreneur is not to take risks but to bear uncertainty Profit is the a There are certain risks which can be anticipated therefore provisions can be made for them. Death, accidents, fire, etc. are some of the risks whose probability can be statistically calculated. Their occurrences can be measured.

Insurance companies bear such risks and receive premium instead. The amounts paid as premia are added to the cost of production. Entrepreneurs do not get profits for such risks, they are borne by the insurance companies.

True economic risks pertain to fluctuations in sales arising out of changes in demand. Production takes place in anticipation of demand, a time-interval must elapse between the taking of decision about production and the beginning of the outflow of goods to the market. No entrepreneur can be sure about the eventual demand for his product. This uncertainty is present which gives rise to risks. These risks cannot be foreseen. These risks cannot be insured. For bearing non-insurable risks or uncertainty, profit is the reward.

As waiting is considered a factor of production in relation to capital, similarly, uncertainty-bearing is treated as a factor of production. Uncertain sa supply price like that of other factors of production. It ty-bearing too has a means that unless there be expectations of reward, nobody will be ready to bear risks. The supply of entrepreneurs bearing uncertainties depends on the following factors

- nature of the entrepreneurs;
- total capital at his disposal; and
- the per cent of this capital which he is prepared to invest in risky ventures.

If an entrepreneur is a rich person and is prepared to spend on investment programme , he can bear high risks.

In a situation of uncertainty, total revenue may not equal total costs because expectations are not fulfilled. It needs some elaboration. Factors of production may be divided into two groups. One group comprises those factors whose reward in fixed by contrict even before the results of production are available. These are known as hired factors of production. They get income as contracted. The other type of factors is the one whose income depends on the result of production. It is not a hired factor. It gets residual income, not according to contract

Table: Profit in Alternative Situations

Degree of In- formation	**Class**	**Stochastic Situation**	Uncertainty.	**Profit**
Incomplete	(1)	No	Yes	Yes
Incomplete (1.1)		No	Yes	Yes
Incomplete	(2)	Yes	Short period-Yes Long period-No	Short period-Yes Long period-No
Complete	(3)	Yes	Short period-Yes Long period-No	Short period-Yes Long period-No
Complete	(4)	No	No	No

The entrepreneur bears only those risks which cannot be insured against The difference between insurable and non-insurable risks must be clearly understood. Insurable risks are those the probability of whose the occurrence can be predicted statistically, whereas non-insurable risks are probability of occurrence cannot be so predicted. Non-insurable risks which cannot be calculated and predicted relate to questions like these: such whose

(i) Will it pay to introduce a new product?
(ii) Will it pay to build a new plant?
(iii) Will consumers buy the new product?
(iv) Will a new advertising company prove profitable?
(v) What its cost conditions will be?
(vi) What the demand conditions will be?

(4) INNOVATION THEORY OF PROFIT

Joseph Schumpeter propounded this theory in his book, "The Theory of Economic Development", published in 1912.

Schumpeter said that the source of profit was economic innovation. Innova tion is the introduction of new products or production processes. It is different vention. Innovation is, in fact, the last stage in the the important process from inventio of invention and development.

Invention is the discovery or devising of new products and processes. This is done by scientists.

Development is the process by which the ideas and principles thrown up at the stage of the invention are embodied in concrete products and techniques of production leading to innovation.

Innovation is economically the most important of these stages because it is only when this stage is completed that the fruits of invention and development are reaped.

An entrepreneur is the focal point of Schumpeter's theory. An entrepreneur is the innovator. Schumpeter's innovator is the forceful pioneer, the entrepreneur par excellence. He exploits new products and processes commer cially. He is not content simply by satisfying the demand for existing products more effectively by installing new production methods or by satisfying old wants with new goods. He is concerned with creating entirely new demands.

Innovation consists of radical alterations in production methods, in management and an organisation. It means the introduction of new products and the exploitation of new markets or sources of raw materials. The introduc tion of new methods of production or of more scientific management no doubt increases the quantity of output dramatically, but the advent of new products. transforms the whole human life.

Profits arise because of innovation. The entrepreneur who introduces it as a pioneer gets profits. Gradually, however, other entrepreneurs begin to imitate the pioneer and so profits disappear. If innovation goes on continuously, profits will accrue continuously. Innovation is very important socially. The entrepreneur is the means of economic development and profits provide the incentive for continuous innovation leading to economic development.

Innovation may be introduced in the following ways:

(i) introduction of a new commodity;
(ii) a new method of production, either through new machines or through a new management technique;
(iii) new sources of the market;
(iv) new sources of raw materials; and
(v) radical changes in the business organisation.

Knight's Theory Compared with Schumpeter's Theory

There are many similarities between the two theories. Uncertainty and innovation are related to one another. One source of uncertainty is innovation, though it is not the only source.

The innovator bears uncertainty. The innovator has to tread a new path by leaving aside the old and known road. It is a path where he has incomplete information to take any decision. But those who are not innovators have also to face uncertainty. Both Knight and Schumpeter make an elaborate discussion of an entrepreneur. Knight's entrepreneur takes uncertainty related decisions and it is he who has to bear the consequences of such decisions. Schumpeter's entrepreneur introduces innovation. It is such an act in which uncertainty is implied and which is also a source of uncertainty. Knight emphasizes the fact that enterprise depends basically on human decisions. Innovation can be delegated to others. In his later book, Capitalism, Socialism and Democracy Schumpeter states that "Innovation itself is being reduced to routine. Tech nological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work in predictable ways."

The above statement of Schumpeter compels us to reconsider the theory of profit. There is the need for a reconsideration of the functions of profit. It is income which provides economic incentives for production activities. The na ture of income is the same as the payments for other factors of production. Accepting these facts, Harrod says that "In value theory, it has proved ex pedient to relate profit specifically to uncertainty bearing ability to direct a business being easily

assimilable in theory to the category of highly skilled labour." Machlup makes a similar statement. In his words, "The high profit made by the entrepreneur who performs these services himself is really nothing but an implicit wage or an implicit rent."

(5) MONOPOLY AND PROFITS

In a purely competitive, static economy pure profits are zero, A static economy is a changeless economy in which all cost and demand data are constant. So in such an economy, economic future is perfectly foreseeable and economic uncertainty is non-existent. All costs are covered by revenue in the long-run leaving no residual in the form of economic profits.

From the above, it follows that the pressure of profit is linked to the dynamic nature of the economy and associated uncertainty. There is another source of profits too. It is the presence of some degree of monopoly power.

The existence of a monopoly in some form or another is also a source of pure profits. Since the monopolist can restrict entry, he may persistently receive economic profits, provided demand is strong relative to costs. Monopoly profits thus arise for two reasons:

(a) monopolist's ability to restrict output by preventing entry; and

(b) capacity to fix the price of the product to his own advantage.

By exercising his monopoly power, a monopolist is in a position to reduce uncertainty or manipulate its effects. A competitive firm cannot do this because it is exposed to the vagaries of the market. The monopolist can control the market and so offset or minimize the potentially adverse effects of uncertainty.

Innovation is an important source of monopoly power. There may be some uncertainty in introducing new techniques or new products in the short-run. Such short-period uncertainty may be borne by the monopolist in order achieve a measure of monopoly power in the long-run.

The difference between profits arising from uncertainty and those f monopoly is based on the social desirability of these two sources of profit. Risk-bearing is inherent in a dynamic and uncertain economic environment and so undertaking of innovations is a socially desirable function. It cannot be said so about monopoly profit which is based on output restriction, fixation of higher than competitive prices and a contrived misallocation of resources.

SOURCES OF ECONOMIC PROFIT

Economic profit, a return to entrepreneurship, is only a temporary reward in competitive markets. However, it can be maintained over longer periods, when a monopoly exists or when barriers to entry prevent new firms from entering markets.

From a discussion of the theories of profit, we can identify three sources:

(i) Innovations and anticipation of consumer demands: This is a source of short-term profit and it holds even under perfect competition. Temporary profit is earned by those entrepreneurs who introduce new products in the market and also by those shrewd ones who anticipate changes in the pattern of consumer demand. As Schumpeter writes, "Occasionally,..... a fourth type of return, of an essentially temporary nature..... accrues to the businessmen, namely, the return he derives for a time from the first introduction into the economic process of a novel improvement such as a new machine."1 Profit is thus not a permanent return at all; it emerges each time an entrepreneur's decision in conditions of uncertainty proves successful.

(ii) Risk taking: Innovation is associated with risk. So it can be stated that profit should be regarded as payment to entrepreneurs for risk taking. Invest ing and starting new enterprises are almost like gambling and their rewards may be viewed as profit.

(iii) Exercise of monopoly power: Long-term profit in an industry can be viewed as the exercise of monopoly power. As Schumpeter states,"..... whatever their nature in other respects, entrepreneur's gains will practically always bear some relation to monopolistic pricing ..... there are means available to the successful entrepreneur-patents, strategy; and so on-for prolonging the life of his monopolistic or quasi-monopolistic position and for rendering it more difficult for competitors to close upon him."2 In other words, monopolists erect a barrier to entry in the industry in order to prevent the market from becoming competitive and thereby prolong the life of profit.

FUNCTIONS OF PROFIT

Profit is the primary objective of all business organisations. The expecta tion of earning higher profits of business organisations induces them to invest money in new ventures. This results in large employment opportunities in the economy which further raises the level of income. Consequently, there is a rise in the demand for goods and services in the economy. In this way profit generated by business organisations play a significant role in the economy.

Main functions and justification for profit can be explained as follows:

1. Tool for measuring performance: Refers to the fact that profit generated by an organisation helps in estimating the effectiveness of its business efforts. If the profit earned by an organisation is high, it indicates the efficient management of its business. However, profit is not the most efficient measure of estimating the business efficiency of an organisation, but is useful to measure the general efficiency of the organisation.

2. Source of covering costs: Profit helps organisations to cover various costs and costs related to other risks and uncertainties. An organisation needs to earn sufficient profit to cover its varible costs and survive in the business.

3. Aid to ensure future capital: Profits assures the availability of capital in the future for various purposes. For example, if the retained profits of an organisation are high, it may invest in various projects. This would help in the business expansion and success by the organisation.

4. Investment in research and development Leads to better technology and dynamic efficiency. An organisation invests in research and development. activities for its further expansion if it earns high profit. The organisationl would lose its competitiveness if it does not invest a research and development activities.

5. Aid for economics: Implies that profits are helpful for economics. If organisations generate high profits, they would be able to cope with adverse economic situations, such as recession and inflation. This results in stability of economics even in adverse situations.

6. Reward for shareholders: Profit includes dividends for shareholders. If an organisation earns high profits, it would provide high dividends to shareholders. As a result, the organisation would attract more investment, which are crucial for the growth of the organisation.

7. Tool to stimulate government finances: Implies that if the profits generated by organisations are high, they are liable for paying high taxes. This helps the government to earn high revenue and spend for social welfare.

In this way, we see that profits perform many functions which are useful for the economy.