

UNIT-1

MANAGERIAL ECONOMICS

Managerial Economic Managerial Economics is economic applied in decision - making. It is that branch of economics which serves as a link between abstract theory and managerial practice. It is based on economic analysis for identifying problems, organising information & evaluation alternatives.

Economics as a science is concerned with the problem of allocation of scarce resources among competing ends. These problems of allocation are regularly confronted by individuals, households, firms as well as economies. Economics is able to provide a number of sophisticated concepts and analytical tools and understand and analyse such problems managerial economics when seen in this lights, may be taken as economics applied to problems of choice of alternatives of economic nature and allocation of scarce resource by the firms. In other words managerial economies involves analysis of allocation of these resources available to a firm or a unit of management among the activities of that unit.

Definitions:

1. Managerial economics is the use of economic modes of thought to analyse business situation” McNair and Meriam.
2. Managerial economics is the integratic of economic theory with business practice for the purpose of facilitating decision making and forward planning by management - Spencer & Siegelman.

NATURE OF MANAGERIAL ECONOMICS

Managerial economics is concerned with the business firm and the economic problems that every business management need to solve. Spencer and Siegelman point to the fact that “Managerial Economics is the integration of economic theory and business practice for the purpose of facilitating decision - making and forward planning by management. Before we look into this integration aspect let us first study the nature of economic theory considered relevant for managerial decision making.

Macro - economic Conditions: We know that the decisions of the firm are made almost always with in the broad framework of economic environment within which the firm operates, known as macro-economic conditions with regard to these conditions, we may stress three points.

Positive approach concerns with what is was or will be while normative approach concerns with what ought to be. The statement a government deficit will reduce unemployment and cause an increase in prices is a hypothesis in positive economics, while the statement in setting policy unemployment ought to matter more than inflation is a normative hypothesis.

Integration of Economic Theory & Business Practice: A critical look (a) with the help of economic theory one can understand the actual business behaviour. This does not mean that in economics there is always a theoretical construct present for every business behaviour. In fact, economic theory is based on certain assumption, and sometimes very simplified assumptions.

b) managerial economies attempts to estimate and predict the economic qualities and relationships. The estimation of elasticity of demand, production relation, are all necessary for the purposes of forecasting by the firm. Similary predicting about the demand, cost, pricing etc is needed for decision making.

SCOPE OF MANAGERIAL ECONOMICS:

Managerial economics has a choice connection will economic theory (micro-economics as well as micro-economics) operations, research, statistics, mathematics, and the theory of decision - making - managerial economics also draws together and relates ideas from various functional areas of management like production marketing, finance and accounting project management etc.

In so far as managerial economics is concerned, the following aspects constitute its subject-matter.

- i) Objectives of a business firm
- ii) Demand Analysis and Demand forecasting.
- iii) Production and cost.
- iv) Competition

- v) Pricing and output
- vi) Profit
- vii) Investment and capital budgeting and
- viii) Product policy, sales promotion and market strategy.

MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH

In general the relation between managerial economics are concerned with taking effective decisions. Given the firm's objectives, both are concerned with what is the best way of achieving them. The difference, however, is: managerial economics is a fundamental academic subject which seeks to understand and to analyse the problems of business decision-taking, while operations research is an activity carried out by functional specialists for solving decision problems.

MANAGERIAL ECONOMICS AND TRADITIONAL ECONOMICS:

In general the relation between managerial economics and economic theory is very much like the relation of engineering to physics & of machine to biology. It is in fact the relation of an applied field to its more fundamental & conceptual counterpart. Economics provides certain basic concepts and analytical tools which are applied suitably to a business situation.

Further, while economists mainly concentrate on the study of types of markets, managerial economists are concerned more with problems like the impacts of market or technological changes on competitive position of the firm and the likely reactions of their own actions in the market. But managerial economist can get answers of the questions regarding the working of market mechanism only when they analyse the problems from a broader perspective of an economist.

Thus, the two main contributions of economics to managerial economics are:

- * To help in understanding the market & the general environment with which the firm operates.
- * To provide a philosophy for understandings & analyzing resource allocation problems.

MANAGEMENT ECONOMICS AND MATHEMATICS

Mathematics provides us with a set of tools which help in the derivation and exposition of economic analysis. Mathematics is closely related to managerial economics. This is mainly because the managerial economics, besides conceptual, is also material. It derives its material property from the fact that an individual function of managerial economics is to estimate and predict the relevant economic factors for decision making and forward planning.

MANAGERIAL ECONOMICS AND STATISTICS

Statistics is widely used by managerial economists. Managerial economics aims at quantifying the past economic activity as well as to predict its future course. This is needed for a correct judgement and decision-making.

MANAGERIAL ECONOMICS AND THE THEORY OF DECISION MAKING

The theory of decision making is relatively a new subject that has significance for managerial economics. Much of economic theory is based on the assumption of a single goal maximization of profit for the firm or maximization of utility of a consumer.

RESPONSIBILITIES OF MANAGERIAL ECONOMIST

The most important of the obligations of a managerial economist is that his objectives must coincide with that of the business. Since in most of the cases the firms try to maximize profits on their invested capital, the managerial economist must also help in achieving this goal. So long as he maintains that conviction and helps in enhancing the ability of the firm to maximize profits he will be a successful managerial economist.

The other most important responsibility of a managerial economist is to try to make as accurate forecasts as possible. We know that every decision a management takes normally has implications going beyond the present while, on the other hand, future is rather uncertain. It is, therefore, necessary and obligatory for a managerial economist to make future forecasts in such a manner that the risks involved in the uncertainties of future are minimized for the firm.

If a managerial economist can keep on providing successful forecasts at the required time, he is bound to be a successful executive. Here a couple of important points need be mentioned. First if the managerial economist finds that due to some sudden and unaccounted factors, the presented forecast has undergone a change. It is duty to work out the new forecast and present it at the earliest possible time.

ELASTICITY OF DEMAND

We have seen that changes in product, income of the households, prices of related goods, tastes and expectations, advertising, expenses etc. effect quantity demanded of a good. This indicates only directional impact of the changes in the factors influencing demand. Since change in any demand determinant does not affect the demand of every good to the same extent (e.g. a change in income level of the consumers do not affect their demand for clothing equally)

This ability to predict revenue is crucial as without an adequate level of sales relative to costs the firm cannot be successful. Fortunately, the economist has a tool to measure the effect of changes in any one of the determinants in the demand function, which helps us in providing a quantitative value for the responsiveness of the quantity demanded change in each of the determinants in the demand function. Elasticity of demand (ED) is defined as the percentage change in quantity demanded caused by one percent change in demand determinant under consideration, while other determinants are held constant. The general equation for the measurement of elasticity of demand is.

E = Percentage change in quantity demanded of goods

Percentage change in determinant Z

The larger the (absolute) value of this elasticity, the more responsive is quantity demanded to changes in the determinant under consideration. If we look at the demand function, we can notice that certain determinants of demand are completely beyond the control of the firm. The firm cannot possibly make any significant difference to average annual income of the consumers, the number of consumers or the prices of the related goods.

TYPES OF ELASTICITY OF DEMAND AND THEIR MANAGERIAL USES

Elasticity of demand is the degree of change in demand caused by change in price. This concept was introduced by Alfred Marshall. But he applied this concept only to the price demand.

According to Alfred Marshall: The elasticity of demand is great or small according as the amount demanded increases much or little for a given fall in price and diminishes much or little for a given rise in price.

Elasticity demanded proportionate change in demand.

Proportionate change in price

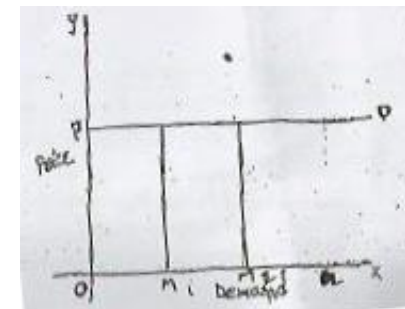
$$\frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

The concept of elasticity of demand was later developed by modern economists who applied this concept to the income and gross demands.

TYPES OF ELASTICITY OF DEMAND

The price elasticity of demand is of 5 types.

1. Perfectly elastic demand: It is that situation where a small change in price brings about an infinite change in demand. It commonly appears in perfectly competitive market. The Demand curve is parallel to "X" axis as shown in the following diagram.

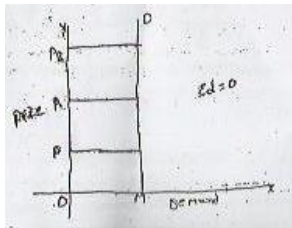


In the above diagram P, D is the demand curve. At OP price OM, OMI, Omn are the quotation of demand. The value of

perfectly elastic demand is α

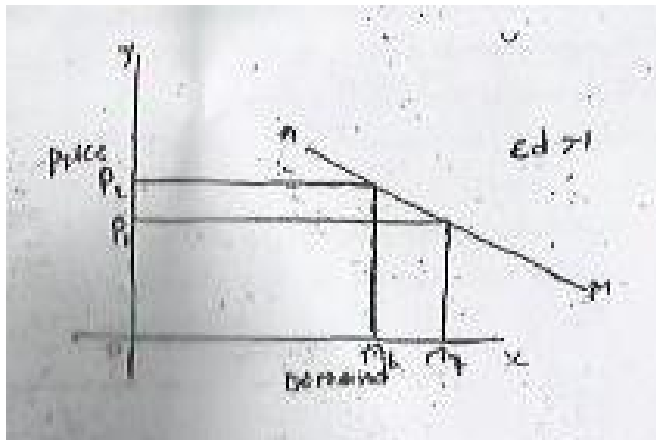
$Ed = \alpha$

2. Perfectly in Elastic demand: If a great change in price causes no change in demand. It is called perfectly in elastic demand. The demand curve is parallel to "y" axis.



In the above diagram M_1D is the demand curve. At OP , OP_1 , OP_n price levels the quantity of demand is constant to M . The value of perfectly in elastic demand is 0.

3. Relatively Elastic Demand: If the proportionable change in demand is greater than proportionate change in price. It is called relatively elastic demand. It prevails in monopolistic competition. The demand curve is flat as illustrated in the following diagram.



In the above diagram DD is the demand curve change in price PP_1 change in Demand = mm_1 . The elasticity of demand can be analyzed in the following equation.

$$PP_1 = P_1, MM_1 = \Delta D$$

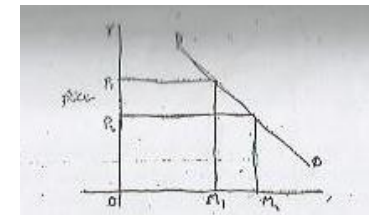
$$MM_1 > PP_1$$

$$\Delta D \text{ is } > \Delta P$$

$$Ed = \frac{\Delta D}{\Delta P}$$

Therefore $Ed > 1$

4. Relatively in Elastic Demand: If the proportionate change in price is greater than proportionate change in demand. It is called relatively in elastic demand. It prevails under monopolistic market.



$$Ed = \frac{\Delta D}{\Delta P} = Ed = \frac{50\%}{0\%}$$

$$PP_1 = \Delta P, MM_1 = \Delta P$$

$$PP_1 \text{ is } > MM_1$$

$$\text{Therefore } \Delta P > \Delta P$$

$$Ed = \frac{\Delta D}{\Delta P}$$

Therefore $Ed < 1$

exactly. The best the firms can, therefore, do is to obtain their forecasting as precisely as possible.

Forecasts can broadly be classified in two categories.

1. Passive Forecasts: Where prediction is about future is based on the assumption that the firm does not change the course of

its action and

2. Active Forecasts: Where forecasting is done under the condition of likely future changing in the actions by the firm.

FORECASTING DEMAND FOR NEW PRODUCT

Joel Dean has suggested a number of possible approaches to the problem of forecasting demand for new products.

1. Project the demand for the new product as an outgrowth of an existing old product.
2. Analyse the new product as a substitute for some existing product or service.
3. Estimate the rate of growth and the ultimate level of demand for the new product on the basis of the pattern of growth of established products.
4. Estimate the demand by making direct enquiry from the ultimate purchasers, either by the use of samples or on a full scale.
5. Offer the new product for sale in a sample market, eg. By direct mail or through one multiple shop organisation.

CRITERIA FOR A GOOD FORECASTING METHOD

1. Accuracy: It is necessary to check the accuracy of past forecasts against present performance and of present forecasts against future performance. Some comparisons of the model with what actually happens and of the assumption with what is borne out in practice are more desirable. The accuracy of the forecast is measured by
 - a) The degree of deviations between forecasts and actual, and
 - b) The extent of success in forecasting directional changes.
2. Simplicity and Ease of Comprehension: Management must be able to understand and have confidence in the technique used. Understanding is also needed for a proper interpretation of the results. Elaborate mathematical and economic procedures may be judged less desirable if management does not really understand what the forecast is doing and fails to understand

the procedure.

3. Economy: Costs, must be weighted against the importance of the forecast to the operations of the business. A question may arise:

How much money and managerial efforts should be allocated to obtain a high level of forecasting accuracy?

4. Availability: The techniques employed should be able to produce meaningful results quickly. Techniques which take along time to work out may produce useful information too late for effective management decisions.
5. Maintenance of time lines: The forecast should be capable of being maintained on an up-to-date basis.

THEORY OF DEMAND

The law of demand is another development in neo-classical economic analysis. The law of demand was stated by Alfred Marshall.

Meaning of Demand: The quantity of commodity purchased at a given price, at a given time in a given market is called demand. Thus the ability and willingness to pay the price is called demand.

Definition: A rise in price of commodity or service is followed by a reduction in the demand and a fall in the price is followed by an increase in demand for a commodity - Alfred Marshall.

When other things being equal the quantity demanded increases with a fall in price and decreases with a rise in price P.A. Samuelson.

DETERMINANTS OF DEMAND

The demand for a commodity is determined by the following factors.

1. Price of product.
2. The income of buyers.
3. The prices of related goods.
4. The tastes and habits of buyers.

5. Climatic conditions.

Any change in the above factor will bring about a corresponding change in the demand for a commodity.

Demand function: The functional relationship between the demand for a commodity and its various determinants may be expressed mathematically in terms of demand function it can be explained by the following equation.

$$D_a = f(p_a, p_x, p_y, \dots, p_n, Y, T \& N)$$

D_a = Demand for a commodity

f = Function

$(p_a, p_x, p_y, \dots, p_n)$ = Prices of other goods

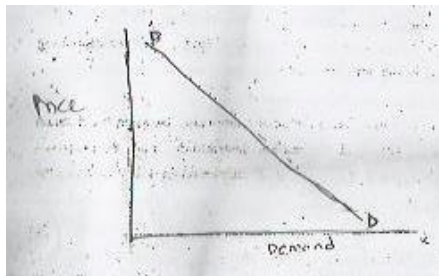
Y = incomes of the buyers

T = tastes and habits of buyers.

N = number of buyers.

Along with above climatic conditions population will also have an impact on the demand for a commodity. From the above equation obvious that the demand for a commodity "a" depends not only upon its price but also, on the prices of other related goods, and tastes of the buyers.

Demand curve. The demand curve slopes downwards from left to right. It indicates inverse relationship between price and demand. It is depicted in the following diagram.



In the above diagram demand is sloping downwards from price left to right, indicating that a fall in price brings about a fall in demand.

REASONS FOR DOWNWARD SLOPING DEMAND

The demand curve slopes downwards from left to right because demand extends as price falls. The following are the reasons behind the downward sloping demand curve.

1. **New buyers:** A fall in the price of a commodity attracts new buyers. People who could not buy when the price is high will now tend to purchase this commodity because of the decrease in price. Thus the advent of new buyers brings about an expansion in demand for that commodity. As a result, the demand curve slopes downwards from left to right.

2. **Old buyers:** The fall in the price of a commodity involves the old buyers increasing their purchase. So old buyers will buy more of the commodity when price falls.

3. **Income Effects:** A fall in the price of a commodity brings savings to customers. This saving is additional income or an increase in the real income of the consumers. So consumers continue to purchase until the marginal utility of the commodity is equal to its price. This is called the income effect.

4. **Substitutional Effects:** When the price of a commodity falls, it will become relatively cheaper than its substitutes. Generally, people will substitute cheaper goods for dearer goods. When the price of coffee falls, it will become relatively cheaper than tea. When people will purchase more coffee than tea, it is called substitutional effects.

5. **The law of Diminishing marginal utility.** The marginal utility derived from a commodity depends upon its price. When the price of a commodity increases, the marginal utility derived from that commodity diminishes. As a result, people will decrease their consumption or purchase when the price of it increases. This proves an inverse relation between price and demand.

UNIT-III

PRODUCTION FUNCTION

The term production function refers to the relationship between the inputs and outputs produced by them. The terms factors of production and resources are used. Interchangeably with the term inputs. The relationship is purely physical or technological character that is it ignores the prices of inputs & outputs. The study of the production function is directed towards establishing the maximum output which can be achieved with a given set of resources or inputs and with a given state of technology.

The production function can be expressed in the form a schedule Table 1 shows two inputs, labour (x) that is number men capital (y) that is, size of machine (in terms of horse power), the output (Q) that is the number of tonnes of iron are produced the various combinations of inputs.

Production function table

Labour (x) Number of Workers	Capital (y) - size of machines (in horse power)				
	S.No.	250	1000	1500	2000
	1	2	20	32	26
	2	4	48	58	88
	3	8	88	110	100
	4	16	110	120	110
	5	32	120	124	120
	6	58	124	126	124
	7	88	126	128	126
	8	100	126	130	130
	9	110	126	130	132
	10	104	124	130	134

The production function can be stated in the general form of an equation.

$$Y = f(x_1, x_2 \text{ etc})$$

Where y, the units of output is a function of the quantity of two or more inputs with x_1 including units of labour, for

example, and x_2 units of machinery. some factors of production may be consumed as fixed (i.e not varying with changes in output) such factors will not enter the equation. The production function can be estimated by the method of least squares.

In economic theory we are concerned with three types of production functions viz.

1. Production function with one variable input.
2. Production function with two variable inputs and
3. Production function with all variable inputs.

LAW OF VARIABLE PROPORTIONS

INTRODUCTION: The law of variable proportions in the process of production is one of the fundamental laws of economics. A French economist explained this law for the first time.

the production can be increased in two ways

1. By changing all factors of production.
2. By changing some factors keeping one factor constant.

Our law of variable proportion belongs to 2nd method. The law deals with the behaviour of production in the short run. The factors of production are of two types.

1. Fixed factors of production.
2. Variable factors of production.

The law of variable proportions shows the production function with some factors variable with other factors constant. It explains production increases more than proportionate increase in factors in the first stage. And in the 2nd stage increase in the production and factors is equally proportionate. In the 3rd stage increase in production is less than proportionate to the increase in the factors of production.

DEFINITION

Alfred Marshall: An increase in the amount of labour on capital applied in the cultivation of land causes in general a α proportionate increase in the amount of produce raised, unless

it happens to coincide with the improvement in the arts of production.

Explanation of the law: The law can be explained with the help of an example of cultivating a limited area of land. If the former goes on increasing the labour and capital in cultivation of land. That result in 3 stages of output.

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

As the application of labour and the capital increases first the marginal product & then the total product will diminishes. the average product is maximum where it equals to the marginal product. This can be explained by the following table.

N. of laboures	Total product (T,F)	Average Product (A.P)	Marginal product T.P.
1	7	7	-
2	16	8	9
3	27	9	11
4	36	9	9
5	40	8	4
6	42	7	2
7	42	7	2
8	40	6	0
9	36	4	-4

T.P.= Total product, it is the product produced by total laboures.

A.P. = Average product it is the product by each labour.

AP = TP / No. of laboures

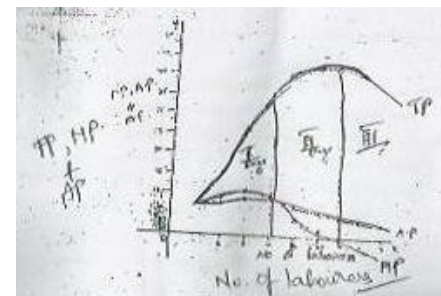
M.P. = Marginal product it is the additional product.

M.P. = Δ T.P. change in total product.

In the above table total product slowly increases becomes maximum between 6th & 7th laboures, constant and diminishes later average product is slowly increasing and maximum at the

4th labourer and later decreasing. M.P. is maximum at the 7th labourer. And negative there after.

When T.P. is maximum the value of M.P. is 0. when T.P. is diminishing the value of MP is negative. The above table can be cepicted in the following diagram.



In the above diagram T.P, M.P., A.P. total, average and marginal product curves respectively. T.P. increases rapidly upto the 4th labour. It is maximum and constant between 6th & 7th labourer. The point of inflection it reached on the T.P. curve straight to the 4th labourer. The AP is slowly increasing and maximum at the 4th labourer, and it is also equal to the M.P. at this point.

The M.P. is maximum at the 3rd labourer at it decreases, becomes 0 at the 7th labourer and later it is negative. When T.P. is maximum the value of M.P is 0 and when T.P. is diminishing the value of M.P. is negative.

Thus in the process of cultivation increasing constant and diminishing returns affair in 3 stages.

The law of diminishing returns is based on the following assumptions.

ASSUMPTIONS

1. It is possible to increase the labour and capital keeping land constant.
- 2 All the inputs of factors of production are equally efficient.

3. There is perfect competition among the factors of production.
4. The factors of production are perfectly among the various uses.
5. The state of technology remains unchanged.
6. This law is applicable only to the short period.
7. the prices of factors of production do not change.

LIMITATIONS OF THE LAW

The law has the following limitations.

1. This law is not applicable to the virgin soil. An increase labour and capital applied in cultivation of virgin soil causes morethan proportionate increase in production.
2. Modern economists believe that where labour and capital are less than the optimum proportion to the land the productivity of labour & capital may increase.

PRODUCTION ANALYSIS

Introduction: Introduction analysis begins with the analysis of demand. Once demand for a given prdouct or service has been determined, management decides the most profitable way to employe the firms resources to rpdouce that good or service. Such decisions involve an understandings of what economists call production function.

A production function is simply or input output relationship. It is analysed and quantified during a production study. The goat of production study is to determine the most economical input of resources to obtain a given level of output. Or conversely, it involves the determination of the maximum output obtainable from a give level and mix of inputs. A production study may pertain not only to the production of goods (such as automobiles calculators, or pet foods) but also to the production of services (such as TV repair, hair styling government assistance & health care).

ISO QUANTS

Production function with two variable inputs and laws of returns.

Let us consider a production process that requires two inputs capital (C) and labour (L) to produce a given output (Q). there could be morethan two inputs in a real life situation, but for a simple we production function based on two can be expressed as

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

Where C refers to capital L is labour

Normally, both capital and labour are required to produce a product. to some extent these two inputs can be substituted for each other. Hence the producer may choose any combination of labour & capital that gives him the required number of units of output (see diagram 1) For any given level of output a producer may hire both capital and labour, buthe is free to choose any one combination of labour and capital out of several such combination. The alternative combinations of labour and capital yielding a given level of output are such that if the use of one factor input is increased, that of another will decrease and vice versa. However, the units of an input foregone to get one unit of the other input charges, depends upon the degree of substitutability, between the input factors. Based on the techniques or technology used the degree of substitutability may vary.

ISO Quaris: ISO means equal, quant means quantity - ISO quant means that the quantities though at a given ISO Quant are equal. ISO quants are also called ISO prdouct curves. An ISO quant curve shows various combinations of two inputs factors such as capital and labour.

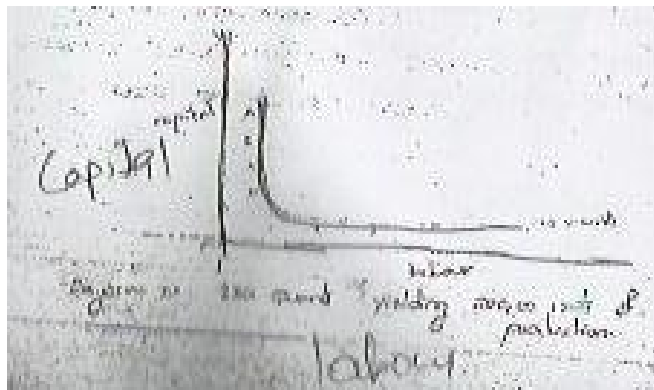
As an ISO quant curve represents all such combinations for the manufacture. Since he prefers all these combinations equally, an ISO quant curve is also called product in difference curve.

The concept of ISO quant is explained in Table (1) and diagram (1)

Table (1) An ISO Quant

Combinations	Capital (Rs. In Lakhs)	No. of Labourers
A	1	20
B	2	15
C	3	11
D	4	8
E	5	6
F	6	5

Table (1) shows the different combinations of input factors to yield an input of 20,000 units and output. As the investment goes up, the member of labourers can be reduced. the combination of A show 1 unit of capital and 20 units of labour to produce say 20,000 units of output. All the above combinations of inputs can be plotted on a graph, the locus of all the possible combinations of inputs can be plotted on a graph, the locus of all the possible combinations of inputs shows up an ISO quant as shown in diagram (1)



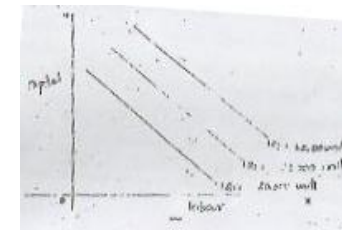
FEATURES OF AN ISO QUANTS

1. Downward sloping: ISO quants are downward sloping curves because, if one input increases, the other one reduces. there is no question of increase in both the inputs to yield to

given output. A degree of substitution is assumed between the factors of production. In other words, an ISO Quants cannot be increasing, as increase in both the inputs does not yield same level of output. If it is constant it means that the output remains constant though the use of one of the factors in increasing, which is not true. ISO Quants slope from left to right.

2. Convex to origin: ISO Quants are convex to the origin. It is because the input factors are not perfect substitutes. One input factor can be substitutive by offer input factor in a diminishing marginal rate. If the input factor were perfect substitutes, the ISO Quant would be a falling straight line.

Diagram (2)(a) when the inputs are used in fixed proportion, and substitution of one input for the other cannot taken place, the ISO quant will be L shaped diagram (3 b)



3. Do not interest: Two ISO products do not interest with each other. It is because, each of these denote a particular level of output. If the manufacturer wants to operate a higher level of output he has to switch over to other ISO quant with a higher level of output and vice versa.

Diagram (3b) ISO Quants where input factors are not perfect substitutes.

Do not touch axes: the ISO Quant touches neither X-axis nor Y-axis, as both inputs are required to produce a given product.

COB-DOUGLAS PRODUCTION FUNCTION

Cob and Douglas put forth a production function relating output in America manufacturing industries from 1899 to 1922 to labour and capital inputs. they used the following formula.

$$P =$$

Where P is the total output.

L is the index of employment of labor in manufacturing.

C is the index of fixed capital in manufacturing.

the exponents a and 1-a are the elasticities of prdouction. These measure the percentage response output to percentage changes in labour and capital respectively.

the function estimated for the USA by Cob and Douglas is

$$P = 1.01L^{0.75}C^{0.25}$$

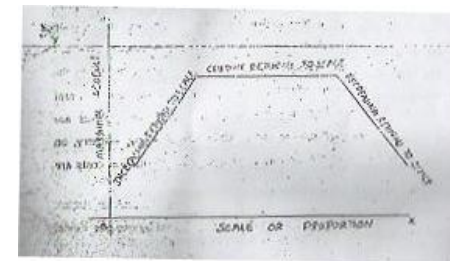
$$R^2 = 0.9409$$

The production function shows that one percent change in labour input, capital remaining the same, is associated, with a 0.75 percent change in output. Similarly, one percent change in capital, labour remaining the same is associated with a 0.25 percent change in output. The coefficient of determination (R^2) mean that 94 percent of the variations on the dependent variable (P) were accounted for by the variations in the independent variables (Land C). It indicates constant returns to scale which means that there smal scale plants are considered equally profitable in the US manufacturing industry, on the assumption that the average and marginal production costs are constant.

Though Cobb doglas production function was based on macro-level study, it has been very useful for interpreting economic results. Later investigation revealed that the sum of the exponents might be very slightly larger than unity, which implies decreasing costs, but the difference was so marginal that constant costs would seem to be a safe assumption for all practical purposes.

RETURNS TO SCALE

The law of returns to scale explain how a simultaneous and proportionate increase in all the inputs effects the total output. The increase in output may be proportionate, more than proporitinate or less than proportionate. If the increase in output is proportionate to the increase in inputs if it is constant returns to scale. If is it is few than proportionate it is diminishing returns to scale. the increasing returns to scale comes in operation first then constant and then diminishing returns to scale, and it was shown in the diagram.



1) Increasing returns to Scale Increasing returns to scale is the stage of production when a proportionate increase in all factors of production. Results in a more than proportionable increase in output. It s the first stage of production. The marginal output increases at this stage. The increase in efficiency resulting in increased output in due to the better utilisation of plant or higher degree of specialisation. The factors of production which are already in use may be some indivisible unis. the nature of production in such that large investments must be made in these indivisible units before production starts.

The increase returns may be due to the increased

specialisation. Increase in output helps to adopt higher scale of specialisation leading to increased efficiency and falling costs. It may be now able to use large and expensive machines, and the services of experts or of highly skilled labour which will result in fall in marginal cost.

2. Constant Returns to scale. The increasing returns to scale stage will not continue indefinitely. The firm gradually loses all those economies of production. Now the firm enters a stage at which total output tends to increase at a rate which is equal to the rate of increase in inputs. That is when the inputs are doubled it results in a doubling of output. This stage comes to operation. When the economies of large scale production are neutralized by the diseconomies of large scale operation.

3. Diminishing Returns to scale: If the firm continues to expand beyond the stage of constant returns, the stage of diminishing returns to scale starts operating. A proportionate increase in all the inputs in this stage results only in a less than proportionate increase in output. This is because of the diseconomies of large scale production. When a firm grows in size beyond a certain scale the management becomes difficult. Thus inefficiency creeps in.

ECONOMICS OF LARGE SCALE PRODUCTION

When a firm increases all the factors of production and enjoys some advantage of economies of production. The economies of scale are classified as:

1. Internal economies and
2. External economies

Internal economies: Internal economies are economies where are available to a particular firm and this will be different for different firms. This is due to the expansion of the size of the firm. Internal economies may be classified as

a) Technical economies: A large size firm can afford right type of machinery or various specialized machineries. A small firm cannot afford modern highly specialized machines and the

advantages of modern advanced technology. Though its installation involves high cost, it helps to bring out more output of a lesser cost thus reducing the cost per unit.

b) Labour Economies: When the firm expands its scale operation it absorbs more and more workers with different qualifications. Thus these workers can be divided according to their qualification and skill and be placed in the proper operations.

c) Managerial economies: A large size firm can employ specially qualified persons to look after various sections like, production, financing, marketing, personnel etc. This specialization in managerial staff increases the efficiency of management. Moreover the sales co-ordination through wholesale will be more effective and less expensive.

d) Marketing economies: The large size firm can make bulk-purchases of raw materials etc. at better terms. It can enjoy the discount on bulk purchasing which smaller firms cannot enjoy. It can appoint expert buyers and expert salesman. It can secure the economies of large scale selling.

e) Economies in Transport and Storage: The large size firm can afford its own transportation system. This helps to reduce the transportation cost and avoid delay in transportation. Large scale firms can keep their own godowns in various centers thus reducing the storage cost.

2. External economies: An individual firm is not responsible for this when many firms in an industry expand in a particular area they all may share in same advantages. The expansion of all the firms in region may make possible the development of transport and communication of that region. Cheaper systems of transportation like railway may be introduced.

UNIT-III

PROFIT

Introduction: In common parlance profit means the net income of a businessman. It is calculated by deduction from the total receipts. The total expenditure incurred in a business venture. But profit in the above sense is not the something as defined by economists. Economists regard profit as a factor-return like wages, interest and rent to them profit is a return to the entrepreneur for the use of his entrepreneurial ability. It becomes important to know what we mean by return for entrepreneurial ability. Since the return for his routine management is wages, he must do something other than routine management to earn profit. Essential there are two things an entrepreneur does:

1. He divides when where and how he is to use his limited resources. He also plans how much quality of inputs he is to use for production. Each of these decisions is taken at a movement of time, but there certainly govern the future. Conduct and performance of business.
2. His second job is that of innovation. In attempting to make profit the entrepreneur must search around for new methods of production, new ways of business organisation, new marketing technique and approaches and the like.

MEASUREMENT OF PROFIT

Economic profit is quite different from accounting profit. Economic profit includes opportunity cost, which is not easily identifiable. A measurable on the other hand, the accounting costs, both direct and indirect are easily identified and recorded. There are three specific aspects of profit measurements where the use of accounting profit and of economic profit give different results.

1. Depreciation: An accountant measures the cost of depreciation by several methods like, straight line method, diminishing-balance method, Annuity method, service unit method. For economist these methods are of no use. He looks at depreciation in terms of opportunity costs and uses the asset

replacement costs rather than the original or historical costs of the assets. The replacement investment is needed to keep capital stock intact. The opportunity costs of not taking timely replacement increasing level and rate of depreciation and obsolescence.

2. Inventory Valuation: This is another area of profit measurement where accounting conventions and economic concepts give different results. Inventory or stocks refer to goods in pipe line - difference between production and consumption. When production exceeds consumption, the stocks pile up. Such inventory building or stock filling would have posed no problems of valuations, had prices remain stable, materials costs change and therefore the valuation of stocks must change. The accountant uses some standard methods viz. FIFO, LIFO weighted average etc. The economist feels that recorded value of business income in different periods may differ considerably, depending upon, the methods of valuation chosen. For above measure of valuation the net business income should be measured at constant prices.

3. Unaccounted value changes: There may be certain items of business expenditure which may not have any impact on current business income, but which may in case future income of the firm. The accountant does not consider the future value of the present expenditure on items like Research and Development, advertisement requirement of skillful managers etc. In the process the accountant may undertake current profit and overstate future profit.

PROFIT MAXIMIZATION Vs WEALTH MAXIMIZATION

As we know that profit maximization is fundamental objective of the business. Wealth maximization also one of the objectives of the business firm. Accumulated profits can be converted into sales maximization or wealth maximization. If the advertisement expenditures is increased, then it will help in increase of sales. If profits are converted into reserves, or purchase of new equipment or purchase of new machinery, it will be leading to wealth maximization. Any businessman wants

to rise in wealth of business however if he neglects sales maximization then it will hamper success of business.

Profit maximization is also depends on the achievement of sales targets. To achieve the expected targets, business firms will try to attract consumers by offering discounts, free gifts, bundle-pack offers etc. Sometimes prices may be reduced for a certain period of time to increase sales. In such cases, profits may to be declined, however the firms will be able to compete with the rivals and elimination of rivals can be possible by practicing various sales strategies.

Wealth maximization depends on investment decisions of the business. By taking best projects with the help of capital budgeting techniques like net present value method or internal rate of return, the firm maximizes its value of investment. The higher returns will give higher value to the organisation. The value of firm is also depends upon goodwill, quality of the product, and social commit of the firm. Hence every business firm aims to achieve value of wealth maximization as well as profit maximization.

Equations: Profit = Total revenue - total cost

$$TR = TC$$

Profit maximization:

$$MR - MC$$

$$MR = \frac{dTR}{dQ} \text{ differentiating revenue / cost function}$$

$$MC = \frac{dTC}{dQ}$$

$$P = \frac{dTR}{dQ} - \frac{dTC}{dQ}$$

WHAT IS COST

The expenditure incurred on manufacturing a product i.e. material, labour and other overhead is called “cost” of that particular product mathematically cost function can be written as:

$$C = f(d, T, PF, K)$$

C = Total cost

X = output

T = Technology

PF = Price of factors

K = Fixed cost

Elements of cost:

a) Prime cost: Direct materials + Director labour + Direct expenses.

b) Factory cost: Prime cost + Factory expenses

c) Cost of production: Factory cost + administration expenses.

d) Total Cost : Cost of production + selling and distribution expenses.

Definition of cost:

1. Cost is a measurement in monetary terms of the amount of resources used for some purpose. Anthony & Wegen.

2. The foregoing in monetary terms, incurred or potentially to be incurred in the realization of the objective of management which may be manufacturing of a product of rendering of a service > committee on cost terminology of American Accounting association.

COST OUTPUT RELATIONSHIP

The concept of cost analysis is has a great significance in modern business world. Every business firm has to forecast. He future cost conditions so as to determined the optimum output and adopt an appropriate price policy. The theories of production

are also based on the analysis of costs.

Procedures aim to achieve maximum output at minimum of cost. The relationship between cost and output enables the producer to study the quantity of cost at various levels of output. The cost analysis and its study is conducive (helpful) to fix the quantity of output at minimum cost of production procedure has to study the relation between cost and output so as to co-ordinate the factors of production in an optimum manner.

The relation between cost and output is of two types.

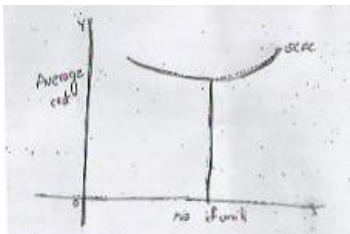
1. Short run relation.
2. Long run relation.

1. Short run relation: In the short run the costs are divided into two types.

- a) Fixed costs.
- b) Variable costs.

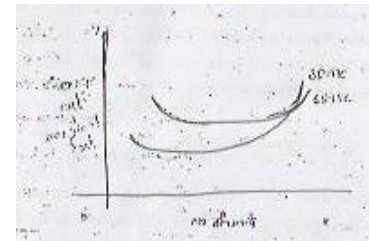
The fixed factors of production are constant and only variable functions change in the short run. In this period the firm does not have enough time to change its scale of operations hence the costs decrease and increase very rapidly in this period. The variable cost curves are completely "U" shaped.

2. The Average cost and output: The cost incurred by the producer to produce each unit of output. This can be obtained by dividing the total cost with no of units. Thus the average cost (A.C.) = Total Cost (T.C.) / No. of units. The average cost first decreases reaches its minimum and later increases thus the A.C. is U shaped as shown in the following diagram.



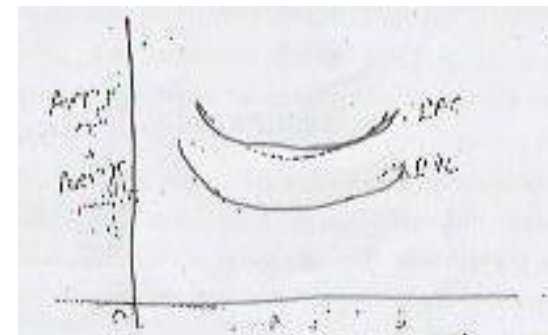
In the above diagram SRAC is the short run average cost curve. It is minimum at the point "S" the output produced at the point "S" is called the optimum output. The firm produces output at this is called the optimum firm.

2. Marginal cost and output: The additional cost incurred by the producers to produce additional unit of output is called the marginal cost. It is indicated as a change (or) increase in the total cost ($MC = \Delta TC$). It also decreases in beginning, reaches its minimum and later increases thus the MC curve is also "U" shaped as shown in the following diagram.



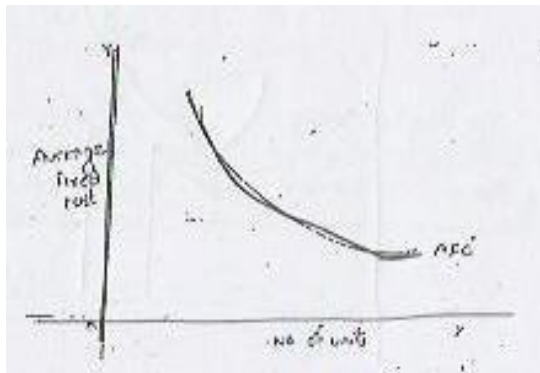
SRMC intersects SRAC at its minimum point. The MC decreases before decrease in AC and increases before increase in A.C. Thus the MC becomes equal to AC when AC is minimum.

3. The average variable cost and output: It is the cost incurred by the producer on the variable factors to produce each unit of output. The A.V.C. follows the AC curve as it also "U" shaped as depicted in the following diagram.



The distance between AC & AVC is greater in the first stage later the AC curves comes closer to the AC curve. thus the AVC curve follows the AC

4. The average fixed cost and output: the fixed cost will be distributed among the units as output grows hence the average fixed cost will be slowly diminishing and the AFC curve slopes downwards from left to right as illustrated in the following diagram.



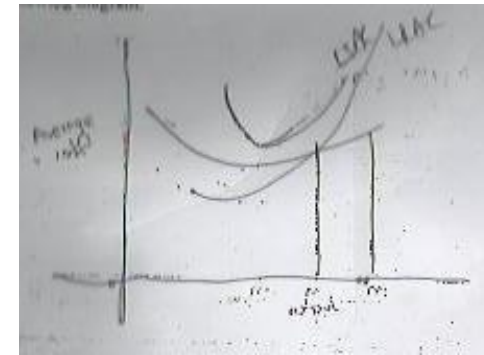
The AFC curve is rectangular hyperbole shape. It indicates slowly diminishing the average fixed cost.

LONG RUN RELATION

Long run is a period which the firm has enough time to change its scale of operations. In this period the firm can change even its fixed factors of production. Hence the cost of production can be brought to a minimum level which is lower than that is the short run when AC is minimum.

The Long Run Average Cost Curve (LRAC): The long average cost curve is the combining of all the minimum points of the short run average cost curves. The LRAC is tangent to the minimum points of SRAC's. Hence it is called the envelop curve which are the planning curve as it is enveloping all the SRACs.

The long run relation between cost and output is illustrated in the following diagram.



The L.R.A.C is L_1, L_2, L_3 at M_1, M_2, M_3 output. To produce on output in plant the LRAC & SRAC is M. To produce OM1 output in plant2 the LRAC is M_1 , & SRAC M_1K_1 . In the long run both the SRAC & LRAC are at M_2, L_2 at OM₂ output. Thus the in the long run the LrAC is lower than the SRAC.

COST CONCEPTS

Introduction: A managerial economist must have a proper understanding of the different cost concepts which are essential for clear business thinking. The several alternative bases of classifying cost and the relevance of each for different kinds of problems are to be studied. The various relevant concept of costs used in business decisions are given below.

1. Opportunity cost and outlay cost:

This distinction is made on the basis of the nature of sacrifice made. Outlay costs are those expenses which are actually incurred by the firm. These are the payments made for labour, material, plant, building, machinery, travelling, transporting etc These are all those expense items appearing in the books of accounts.

Opportunity cost means the earnings that could have been obtained from forgone choices opportunities. The business manager wants to know the cost of following a particular line of action.

The outlay concept is applied if the inputs are bought from

the market. But many a time the inputs may be made by themselves.

2. Past and future costs: Past costs are the actual costs incurred and recorded in the books of accounts. They are otherwise called historical costs. These costs are useful only for evaluation and not for decision-making. As the cost is already incurred no alteration or correction is possible. You can only evaluate and see whether the cost is justifiable or not. But it is not useful for decisions made for future.

Future costs are costs that are expected to be incurred in the future. They are not actual costs. They are the costs forecasted or estimated with rational methods. Future cost estimate is useful for decision making decisions are made for future.

3. Out of pocket and book costs: Out of pocket costs involve current cash payment. Wages, rent, interest etc. are examples of this. The out-of pocket costs are also called explicit costs. Book costs do not require current cash expenditure. Unpaid salary of the owner manager, depreciation, unpaid interest, cost of owner's own fund are examples of book costs.

4. Short run and long run costs: This cost distinction is based on the time element. Short run is a period during which the physical capacity of the firm remains fixed. Any increase in output during this period is possible only by using the existing physical capacity more intensively. Long run is a period during which it is possible to change the firm's physical capacity. All the inputs are variable in the long run short run cost is that which varies with output when the physical capacity remains constant.

5. Incremental and Sunk costs: Incremental cost is the additional cost due to a change in the level or nature of business activity. The change may be caused by adding a new product, adding new machinery, replacing a machine by a better one etc.

Sunk costs are those which are not altered by any change. They are the costs incurred in the past. This cost is the result of past decision, and cannot be changed by future decisions.

6. Escapable and unavoidable costs: Escapable costs are the costs which can be reduced if the business activities of a concern are detailed. For ex: if some workers can be retrenched with a drop in a product - line or volume or production the wages of the retrenched workers are escapable costs.

The unavoidable costs are otherwise called sunk costs. There will not be any reduction in this cost even if reduction in business activity is made.

7. Historical and Replacement costs: These are the two methods of valuing assets for balance sheet purpose, and to find at the cost figures from which profit can be arrived at. Historical cost is the original cost of an asset. Historical cost valuation shows the cost of an asset as the original price paid for the asset acquired in the past.

Replacement cost is the price that would have to be paid currently to replace the same asset.

UNIT - IV

MARKET STRUCTURE PRICE AND OUTPUT DETERMINATION UNDER PERFECT COMPETITION

Introduction: A perfectly competitive market is that in which large no. of buyers & sellers compete among them in buying and selling of homogeneous product. The products are identically equal to each other + perfectly substitutes. These goods are sold at equal price level at all over the market. When ever price is determined in the industry should be accepted by the seller. Hence the seller is called the price taker. The perfectly competitive market is limited to few conditions & services.

EQUILIBRIUM PRICE DETERMINATION

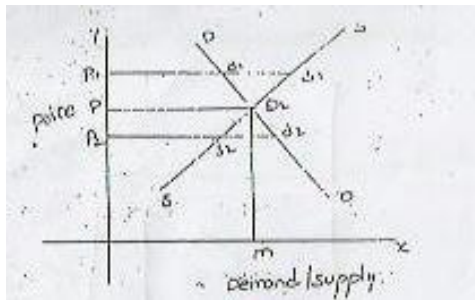
According to Marshall the price under perfect competition is determined by the interaction of demand & supply curves.

Marshall compared the forces of demand and supply with the blade of a scissors. He said that both the forces of demand & supply play an important role & equal role as how the cost & value play in the determination of price.

If it is in the short period demand plays an important role. If it is in the long period supply plays an important role in the determination of price.

1. Change in price: When demand & supply are constant if price changes alone, the effect of changes in price will disturb the equilibrium. But due to the adjustments among price, demand & supply the former equilibrium price will be re-established.

The effect & changes in price is illustrated in the following diagram.



In the above diagram Q is the equilibrium point where demand curve DD & supply curve S_3 are intersecting each other when price increases from OP to OP_1 , the quantity of demand & supply are as follows.

At OP_1 price supply exceeds demand which results in fall in price. Then price reduces at OP_2 .

At OP_2 price level the demand & supply are as follows.

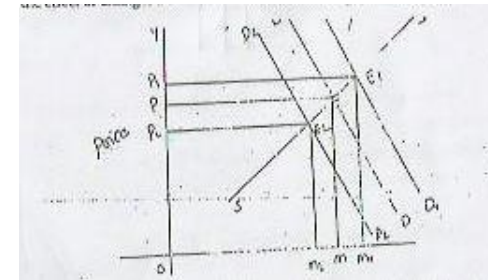
$$P_2 d_2 = \text{demand } P_2 d_2 > P_2 S_2$$

$$P_2 S_2 = \text{supply therefore } D > S = P$$

At OP_2 price demand exceeds supply which results in rise in price. The price increase at OP_2 to OP. Thus former equilibrium price is re established.

2. Changes in demands: The effect of changes in demand is significant in the determination of price. Demand plays an important role in price determination in the short run.

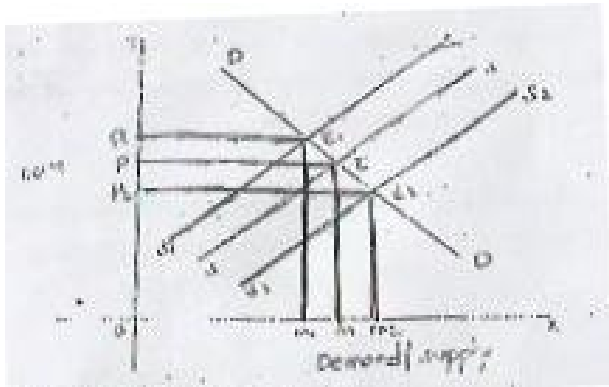
When price and supply are constant if demand changes alone, the effect of changes in demand will disturb the equilibrium price.



In the above diagram E is the equilibrium point where demand curve DD & supply curve is intersecting each other at this point OP is the equilibrium price when demand increases from DD to D_2D_1 price is also increased from OP to OP_1 demand curve falls from D_2D_1 to D_2D_2 because of increase in price. Owing to fall in demand price also reduced from OP_1 to OP_2 at the point E_2 . Thus fall in price shifts the demand curve towards right side

again at the point-E former equilibrium price OP is reestablished.

3. Changes in supply: Supply place an important role in the long run when price & demand are constant in supply changes alone, the effect of changes in supply will district, the equilibrium price.

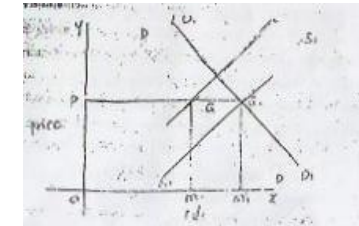
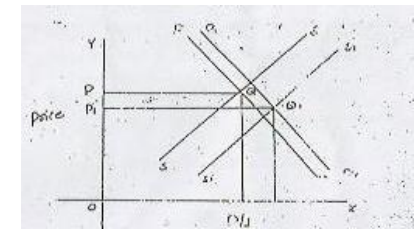
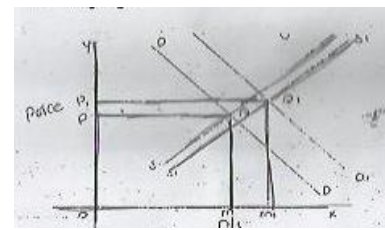


In the above diagram OP is the equilibrium price at the point E. When supply decreases to SS_1 price raised from OP to OP_1 . This increase in price results in increase in supply. Supply curve shifts to S_2S_2 . Thus former equilibrium price OP is re-established at the point E.

4. Combined effects of changes in demand & supply:

In the long run simultaneously changes in demand supply are inferential. When demand of supply simultaneously change. He equilibrium price will depend on the degree of changes in demand & supply.

1. If increase in supply is greater than increase in demand the price will fall.
2. If increase in demand is greater than increase in supply the price will arise.
3. If increase in demand & supply are equal the price will be constant.
4. Combined effects of changes in demand supply are illustrated in the following diagram.



MONOPOLISTIC COMPETITION

Introduction: Monopolistic competition is one of the realistic market situations which come across in our daily life. It is an important across in our daily life. It is an important market division under perfect competition prof. Chamberlin developed their concept & applied it to the realistic market.

Definition: Monopolistic competition is that market situation in which large no of buyers & sellers compete among them in buying & selling of differentiated products.

Example of this market: Tooth pastes, soaps, creams, clothes etc.

FEATURES

This market is characterised by the following features.

1. Large no. of sellers: There exists large no. of sellers competing in selling differentiated products. Both each sellor produces & sells a small quantity of total output hence a single individual sellor can influence the market by his individual actions. There is also competition among the buyers in buying the differentiated products.
2. Product differentiation: Product differentiation is a salient feature of monopolistic competition. The products are closed substitutes but not perfectly substitutes of each other. The products are differentiated in the sense that they differ in their

quality, quantity, price, fragrance, physical appearance, workmanship, longevity etc. The product differentiation is by adopting copy rights, patent rights & other techniques the firms register their brand names, chemical combinations, designs & packaging.

3. Free entry exists of firms: The firms are free to enter or leave the group. When the group of firms enjoys abnormal profits new firms enter the group similarly if the group is suffering from losses the existing firms may leave the group. The process of entry exists of firms is applicable only in the long run.

4. Independent price policy: Each firm outputs its own price policy on the basis of demand for its product. Firms consider the cost of production market demand companies reputation while determining the price. In this case cost plus pricing, skimming up pricing, penetration price policy are some of the policies adopted by the firms.

5. Selling cost: The cost of selling cost was introduced by Prof. Chamberlain. According to him selling cost are those costs which are incurred by the firm in order to alter the shape of the demand curve. The costs are in the form of advertisements, free gifts incentives, lucky coupons etc.

6. Market imperfections: Monopolistic competition is characterised by market imperfections both the buyers & sellers do not have complete knowledge about the market conditions. The buyers & sellers do not have knowledge on price, supply of demand for the substitutes in the market.

7. Imperfect Mobility of factors: The factors of production are perfectly mobile among various uses. The factors will stick on the existing group without changing their place, process of production etc. Similarly the prices of factors of production are different from each other. An efficient unit of factors can earn more than what the other factors remuneration.

EQUILIBRIUM PRICE OUTPUT DETERMINATION

Equilibrium is said to exist when a firm does not have any tendency to change its output. A firm, at its equilibrium, earns

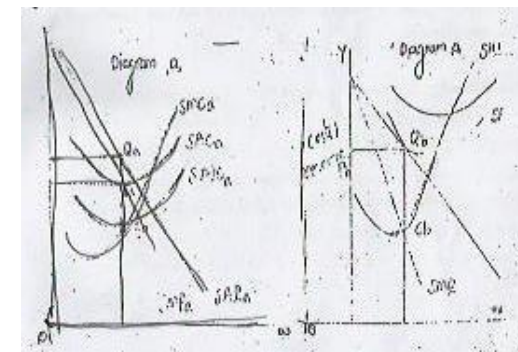
maximum profits where its marginal cost is equal to its marginal revenue.

The firm reaches its equilibrium where the MC is equal to MR & MC curve intersects the MR from below only.

The group of firms, under monopolistic, is not called the industry because the firms produce the differentiated products. Hence all the firms in the market are combinedly called the group.

The equilibrium price output determination under monopolistic competition is depicted in the following diagram.

Short run equilibrium point



In the short period the firms do not have enough time to enter or leave the group. Hence the supply, cost of production & the scale of operations can be changed in this period i.e. why some firms enjoy abnormal profits & some other may incur losses.

In the diagram A, the firm reaches the equilibrium at the point Ea producing Oma at Opa price. At this price level the firm's costs & revenue conditions are as follows:

$MaQa \Rightarrow AR$ (Average Revenue)

$MaJa \Rightarrow AC$ (Average Cost)

$MaTa \Rightarrow AVC$ (Average Variable cost)

$MaQa \Rightarrow MaJa$

Therefore $AR > AC$ & AVC

$QaSa$ = Profit per unit

$PaQaSaRa$ = Total profit OMa output.

On the diagram B "EB" is the equilibrium point of the firm producing Omb output at 6 OPb price at this price level the firms costs & Revenue condition are as follows:

$MbQb$ = AR & AVC

$MbSb$ = AC

$MbSb > Mbab$

Therefore $AC > AR$

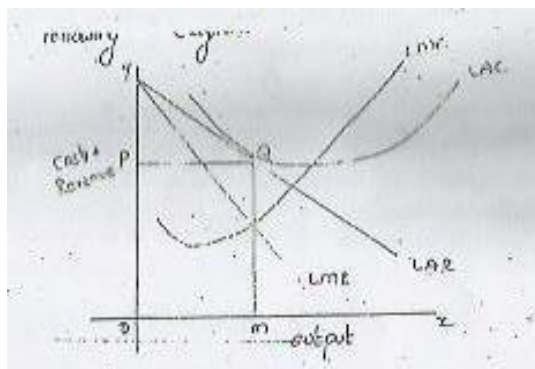
$SbQb$ = loss of each unit

$PbQbSbRb$ = total loss area of the firm B on Omb output.

LONG RUN EQUILIBRIUM

Long run is the period in which the period firms have enough time to enter (or) leave the group supply can be adjusted to the extend of changer in demand & price hence all the firms in the long run, earn normal profits only.

The LRMC interests the LMR from below brings the firm to its equilibrium. the long run equilibrium of a firm under monopolistic competition is illustrated in teh following diagram.



In the above diagram LRAC & LRMC are the long run average & marginal cost curves. LAR & LMR are the long run average marginal Revenue curves.

The firms affairs its equilibrium at point E where $LMR = LRMC$. At this point the firm produces OM output at OP price. The firm costs & Revenue conditions are as follows.

$MQ = AR = AC = \text{Price (OP)} \Rightarrow$ Normal profits hence all the firms in the long period earn normal profits only.

MONOPOLY: Monopoly is that market situation in which single seller rules entire market, he produces & sells his products to his maximum advantage. There are no close substitutes for the monopolists product.

Definition: Under pure monopoly there is single seller. Monopolists supply is the market supply. The seller is the price maker. Pure monopoly suggests no substitute situation.

EQUILIBRIUM PRICE - OUTPUT DETERMINATION

Equilibrium is said to exist when a firm has a no tendency to change its output. Generally the firm reaches its equilibrium when marginal cost (MC) is equal to marginal Revenue (MR) & the MC curve interests the MR curve from below. At this point the firm enjoys maximum profits. The firm neither changes its output nor changes its price at the equilibrium point.

1. Single seller: Under pure monopoly there is single seller for the entire output. The monopolistic phases no competition on the part of production, selling & distribution of his products. There is absence of competition under monopoly.

2.No close substitutes: There are no dose substitutes for the monopolists product hence he fixes maximum price for his product producing minimum output. Complete absence of substitutes substantiates pure monopoly.

3. Either price (or) supply can be determined: The monopolist can determined either the price or the output. He can not determined price output simultaneously. If he fixes the price supply will be left to market forces (or) if he determines the

supply price will be determined by the market forces.

4. No difference between firm & industry: The entire supply available in the market belongs to a single seller this substantiates that the industry output is equal to the firm's output. Hence there is no difference between the firm and industry.

5. Price discrimination: The concept of price discrimination was introduced by Mrs. Jagan Robinson according to her. An art of selling the same article at different prices, at different markets, to the different buyers is known as price discrimination.

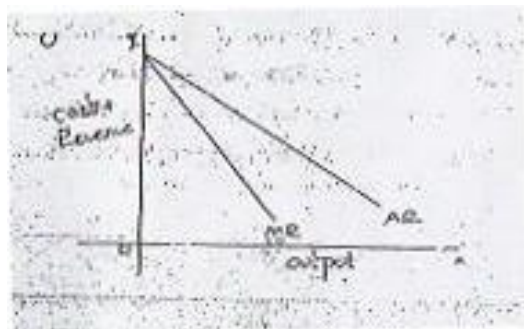
Only monopoly can participate in price discrimination by introducing differences in fixed ability of his products. He adopts this technique on the basis differences in the elasticity of demand for his product.

6. Relatively in elastic demand ($AR > MR$): The monopolistic faces a determinate demand curve which is steep down words from left to right. As the seller has to decrease the price to sell additional unit increases in total revenue & marginal revenue with fall. Hence the AR is greater than the MR.

EQUILIBRIUM PRICE - OUTPUT DETERMINATION

Equilibrium is said to exist when a firm has no tendency to change its output. Generally the firm reaches its equilibrium where marginal cost (MC) is equal to marginal revenue (MR) & the MC curve intersects the MR curve from below. At this point the firm enjoys maximum profits. The firm neither changes its output nor changes its price at the equilibrium point.

The equilibrium price output determination under monopoly is illustrated in the following diagram.



In the above diagram AC & MC are the average marginal cost curves AR & MR are the average marginal revenue curve respectively. The firm reaches its equilibrium at the point "E" where $MC = MR$. At this point the firm produces OM output of OP price. On this output the firm's cost & Revenue are as follows:

$OQPM = ORSM = PQSR \Rightarrow$ Total profit of its are enjoyed by the monopoly firm.

Thus the monopolistic enjoys maximum profit at the highest price by selling lower output when compare to the other markets.

PURE AND DISCRIMINATING

DUOPOLY: As early as in 1938, a French economist cannot analyzed a special case of competitive business behaviour with only two firms in an industry. The assumption are quite strict but considering the time at which the formulation was developed, they cannot be faulted with too much. It is assumed that each member in this two - firm industry produces a homogeneous product, treat the rivals output as given and maximizes profit. We shall illustrate the equilibrium. Price-volume combination for each firm taking simple example. The rival firms output behaviour with respect to one firm's output is called conjectural variation. Courante assumed a zero conjectural variation;

$$P = 100 - 0.5Q$$

Since the entire output is shared by just two firms, this can as well be written as

$$P = 100 - 0.5 (Q_1 + Q_2)$$

Firm number 1 for example has a constant cost function represented by

$$C_1 = 5Q_1$$

Firm number II is having an increasing cost function represented by

$$C_2 = 5Q_2$$

Firm number II is having an increasing cost function.

$$C_2 = 0.5Q_2^2$$

Firm 1's profit = Total revenue - total costs.

$$= PQ_1 - 5Q_1$$

$$= (100 - 0.5(Q_1 + Q_2))(Q_1 - 5Q_1)$$

$$= 95Q_1 - 0.5Q_1^2 - 0.5Q_1Q_2$$

The solution of a duopoly equilibrium crucially depends on the nature of the reaction function of each duopolist. The equilibrium is reached when the values of Q_1 and Q_2 are such, that each firm maximizes its profit, given the output of the other and neither desire to alter the respective output. However for a common solution, both the firms must achieve maximum profits and the same time have no incentive for changing respective output levels. Such a solution is obtained at the intersection point of two linear reaction functions.

OLIGOPOLY

Introduction: When only a few sellers of a product are found in the market it is called oligopoly. It is competition among a few sellers, each selling either differentiated or homogeneous products. The term a few sellers implies a number small enough to enable an individual firm to influence the market price. Each seller commands a sizeable proportion of the total market supply. The basic characteristic of an oligopolistic situation is the fact that every seller can exercise an important influence on the price - output policies of his rivals.

The products sold by the oligopolist may be differentiated or homogeneous. If they sell homogeneous product, it is known as perfect oligopoly, and if they deal with differentiated products, it is known as imperfect oligopoly compared with perfect competition, the number of oligopoly is much smaller. Oligopoly differs from monopoly and monopolistic competition.

CHARACTERISTICS OF OLIGOPOLY

The main features of oligopoly are:

1. Few firms: there are only a few firms in the industry. Each firm

contributes a sizeable share of the total market. Any decision taken by one firm influences the actions of other firms in the industry. The various firms in the industry compete with each other.

2. Interdependence. As there are only few firms any steps taken by one firm to increase sales, by reducing price or by changing product design or by increasing advertisement expenditure will naturally effect the sale of other firms in the industry.

3. Indeterminate demand curve: The interdependence of the firms make their demand curve indeterminate. When one firm reduces price other firms also will make a cut in their prices. So the firm cannot be certain about the demand for its product.

4. Advertising and selling costs: Advertising plays a greater role in the oligopoly market when compared to other market systems. According to prof. William J. Baumol it is only under oligopoly that advertising comes fully into the picture.

5. Price rigidity: In the oligopoly market price remains rigid. If one firm reduces price it is with the intention of attracting the consumers of other firms in the industry.

METHODS OF PRICING

Introduction: A firm is to take into consideration the price elasticity of a product in fixing its price. If the demand for the product is inelastic the management can increase its price and increase the profit. As the demand is elastic an increase in price will not decrease the present demand.

1. Cost-plus pricing: This is a very common method of determining the selling prices of products. It is also known as average cost pricing or full cost pricing or margin pricing or markup pricing. The selling price is found out by adding a certain percentage markup to the average variable cost. The markup contribution margin contributes towards fixed cost and profit.

$$\text{Price} = \text{AVC} + \text{CM}$$

Suppose the variable cost per unit (AVC) is Rs.8. The management decides to have a markup of 25%. Then Rs.10 is the

markup or margin. This is Rs.2 per unit contributes towards fixed cost and profit.

$$\begin{aligned} P &= AVC + CM \\ &= 8+2 \\ &= \text{Rs. } 10 \end{aligned}$$

This method of pricing helps to cover the total cost and to ensure 'fair' profit percentage. Here, cost is the important factor in fixing the price of a product and the demand aspect is taken into consideration.

DEFECTS OF THIS SYSTEM:

- 1.It ignores the influence of demand on price. There is essentially no relationship between cost and what people will be ready to pay for a product.
- 2.The market price and competition are not adequate taken into consideration.
3. Here cost is considered as the main factor influencing price.
4. The cost concept made use for ascertaining cost may not be relevant for pricing decisions.

Advantages:

1. It helps in fixing a fair price.
2. It can be applied easily.
3. This method is of very much help when the firm is uncertain about demand.
4. This method of pricing does not postpone the recovery of fixed costs. The total costs curves both fixed and variable costs.

MARGINAL COST PRICING

Introduction: Under the marginal cost pricing the price of a product is determined on the basis of marginal or variable cost and the fixed costs are not considered fixed costs are the results of past decisions and hence fixed costs are historical and sunk costs. This past cost has little relevance in pricing as pricing

decision, involves planning into the future.

Merits:

1. This method is more useful when the demand conditions are slack.
2. The price determined on the basis of this method is more competitive.
3. Marginal cost concept helps to ascertain the changes in cost due to a pricing decision.
4. When compared to the full cost pricing marginal cost pricing helps to adopt a more aggressive pricing policy.

Limitations:

1. an accountant who is not fully conversant with the marginal costing technique finds it difficult to apply this.
2. In a period of business decision the firms applying this method may reduce the price the price which will call other competitive firms also to reduce their prices.

DIFFERENTIAL PRICING:

a.Skimming: When a new product is introduced in the market, the firm fixes a price much higher than the cost of production. This consumers are ready to pay a high price to enjoy the pleasure of being the first users of the product. The high price charged to skin the cream off the market at a time when there is no competition. This is possible because the newly introduced product reached. The hands of the consumers after a long waiting and by the time it comes to the market a heavy demand for the same as accumulated.

The firm makes a huge profit by price skimming. The price skimming policy is followed as long as there is heavy demand without any competition from a rival. The principle behind price skimming is to make hay while sun shines.

Under the following situations the price skimming policy can be easily followed.

1. The new product is a novel item which can attract customers

and is having no competitors at present.

2. The product is meant for the higher income group whose demand is inelastic.

a) There are heavy initial promotion expenses and firm wants to realize it from the customers before other competitive firms enter

The firm, after squeezing the enthusiastic buyers, goes on reducing the price step by step so that it can reach the various sections of consumers who are willing to buy it at lower prices.

b) Penetration: The fixed price is relatively a lower one. this pricing is resorted to when the new product faces a strong competition from the existing substitute products. When the new firm enters an existing market where there are a number of firms to has to penetrate the market and achieve an acceptance for its product. In order to attain this it will charge only a very low price initially, hoping to charge a normal price later when it is established in the market. For example firm may, when it introduce a new batch soap in the market, give a 100 grams piece free when consumers buy two 200 grams pieces at a time. Later when it picks up sales it takes out the initial discount. In a foreign market a new country may have to penetrate. Through a highly competitive price.

The penetration price may be sometimes below the cost of production. this can be justified in the following cases.

- a. The lead time is production is short.
- b. Increased production will result in reduced cost of production.
- c. The product is meant for mass consumption.
- d. The product is one where brand loyalty costs.
- e. The product cannot be protected by patent.

UNIT-V

Macro Economic concepts: The term 'macro' was first used in economics by Ranger Frisch in 1933. But as a methodological approach to economic problems, it originated with the mercantilists in the 16th and 17th centuries. They were concerned with the economic system as a whole. If the 18th century, the physiocrats adopted it in their table Economique to show the circulation of wealth (i.e. the net product) among the three classes represented by farmer landowners and the sterile class. Matthus, Sismondi and Marx in the 19th Century dealt with macro economic problems. Walras, Wicksell and Fisher where the modern contributors to the development of macroeconomic analysis before Keynes, certain economists, like cassel, marshall, pigou, robertson, Hayelc and Hawtrey, developed a theory of money and general prices in the decade following the first world wear. But credit goes to Keynes who finally developed a general theory of income, output and employment in the wake of the Great Depression.

NATIONAL INCOME

Introduction: The concept national income is used to measure the economic growth of a country. By comparing the national income figures of different periods a country can know whether its economy is growing or not. The concept of national income helps the policy makes and planners of a country to know whether they are able to attain success in their attempts to promote growth and if so, to what extent thus national income is a measure, or indicator of the economic growth of a country.

National income is the money value of all the goods and services produced by a country during a year. The goods may be of different sizes and shapes. The milk produced measured in liters and the cotton produced measured in meters from part of national income of a country. Likewise the services are of different types such as those of doctors, engineers, teachers, lawyers, chartered accountants, cooks etc.

Definition: AC Pigou in his book "Economics of welfare defined national income as that part of the objective income of

the community, including of course income derived from abroad, which can be measured in money”.

MEASUREMENT OF NATIONAL INCOME

The three methods used for the calculation of national income are:

a) Production or output method: This method is otherwise called inventory method or census method. This method of computation is done from the output side. The market value of all goods & services produced in an year are found out. From this value of raw materials purchased from other producers ie.. the value of intermediate goods are deducted.

b) Expenditure method: Under this method all the expenses incurred on goods and services during a year are totaled. These expenses may be for consumption purpose or for investment purpose.

c) Income method: This method is an approach from the distribution side. All the incomes received by the individuals in the form of wages, interests, rents and profits are added here. The income of self employed people who are considered here.

USEFULNESS OF NATIONAL INCOME ESTIMATES:

The present day world is increasing recognising the significance of national income figures of for economic analysis. National income estimates means not only a single figure showing the national income, but also its components. The national income figures and the details regarding its various components give a clear picture of the functioning and performance of the economy.

The uses of national income estimate are as follows:

First, as the national income estimates are based on the production of a country in a year it gives an idea of the production trend of the economy.

Secondly, if the national income estimates over along period are available it will help to assess the trends in a country's economic growth and also the factors responsible for this trend.

Thirdly the national income estimates reveal the share contributed by the different sectors of the economy such as agriculture, manufacturing industry trade etc.

GROSS NATIONAL PRODUCT (GNP)

GNP is the total measure of the flow of goods and services at market value resulting from current production during a year in a country, including net income from abroad. GNP includes four types of final goods and services.

1. Consumer's goods and services to satisfy the immediate wants of the people.
2. Gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories finished and unfinished goods.
3. Goods and services produced by the governments.
4. Net exports of goods & services produced by the government i.e. the difference between value of exports and imports of goods and services, known as net income from abroad.

In this concept of GNP there are certain factory that have to be taken into consideration.

First GNP is the measure of money, in which all kinds of goods & services produced in a country during one year are measured in terms of money at count prices and them added together.

Second, is estimating GNP of the economy the market price of only the final products should be taken into account. Many of the products pass through a number of stages before they are ultimately purchased by consumers.

Third, goods and services rendered free of charge are not included in GNP, because it is not possible to have a correct estimate of their market price.

Fourth, the transaction which do not arise from the produce of current year on which do not contribution in any way to production are not included in GNP.

Fifth the profits earned or losses incurred on account of changes in capital assets as a result of fluctuations in market prices, are not included in the GNP if they are not responsible for current production or economic activity

THREE APPROACHES TO GNP

Three approaches are there for the fundamental constituents of GNP, it is essential to know how it is estimated. Three approaches are employed for this purpose. One, the income method to GNP, two the expenditure method to GNP, and there, value added method to GNP since the gross income equals the gross expenditure, GNP estimated by all these methods would be the same with a appropriate adjustments.

1. Income approaches to GNP: The income approach to GNP consists of the remuneration paid in terms of money to the factors of production annually in a country. Thus GNP is the sum total of the following items:

a) Wages and Salaries: Under this head fall all form of wags and salaries earned through productive activities by workers and entrepreneurs. It includes all gums received or deposited during a year by way of the types of contributions like overtime, commission, provident, fund, insurance etc.

b) Rents: Total rent includes the rents of land, shop, house, factory etc. and the estimated rents of all such assets as are used by the owners themselves.

c) Dividends: Dividends earned by the shareholders from companies are included in the GNP.

d) Mixed incomes: These include profits of unincorporated business, self-employed persons and partnership. They form part of GNP

e) Direct taxes: Taxes levied on individuals, corporations and other businesses are included in the GNP.

2. Expenditure approach to GNP: From the expenditure viewpoint GNP is the sum total of expenditure incurred on goods & services during one year in a country. It includes the following items.

a) Private consumption expenditure: It includes all types of expenditure on personal consumption by the individuals of a industry.

b) Gross Domestic Private Investment: Under this comes the expenses incurred by private enterprise on new investment and on replacement of old capital. It includes expenditure on house construction factory buildings, all types of machinery, plants and capital equipment.

c) Net Foreign Investment: It means the difference between exports and imports or exports surplus. Ever country exports to or import from certain foreign countries.

d) Government expenditure on goods & services: The expenditure incurred by the Government on goods & services is apart of GNP, Central state or local governments spend a lot on their employee's police and army.

3. Value added approach to GNP: Another method of measuring GNP is by value added. IN calculating GNP the money value of final goods & services produced at current price during a year is taken into account. This is one the ways to avoid be double counting.

MONETARY POLICY

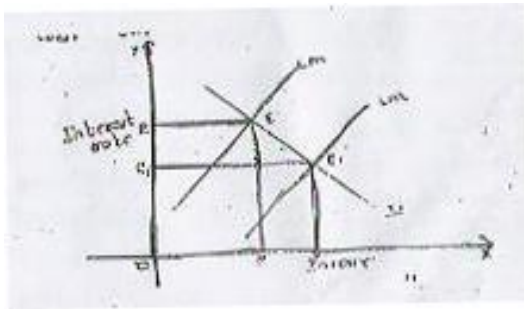
Meaning: The relative effectiveness of monetary and fiscal policy has been the subject of controversy among economists. The monetarists regard monetary policy more effective than fiscal policy for economic stabilization. On the other hand, the Keynesians hold the opposite view. In between these two extreme views are the synthesists who advocate the middle path. Before we discuss them, we study the effectiveness of monetary and fiscal policy in terms of shape of the IS curve and LM curve. The IS cure represents fiscal policy and the LM curve monitory policy.

Monetary Policy: The Government influences investments, employment, output and income through monetary policy. This is done by increasing or decreasing the money supply by the monetary authority. When the money supply is increased, it is an expansionary monetary policy. This is shown by shifting the

CM curve to the right.

When the money supply is decreased it is contractionary monetary policy. this is shown by shifting the CM curve to the left.

Figure 1 illustrates and expansionary monetary policy with given LM and IS curves. Suppose the economy is in equilibrium at point E with OY income and OR interest rate.

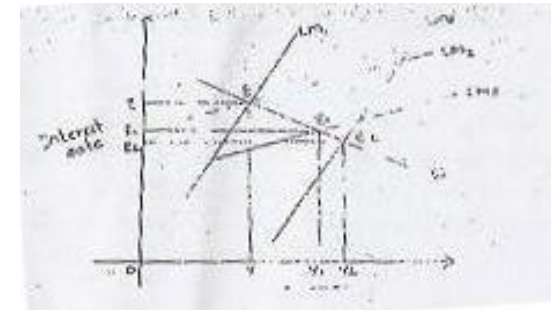


An increase in the money supply by the monetary authority shifts the CM curve to the right to CM, given the CM curve to the right to CM, given the IS curve. This reduces the interest rate from OR to OR₁, there by increasing investment and national income. Thus the national income rises from OY to OY₁.

But the relative effectiveness of monetary policy depends on the shape of the CM curve, and IS curve. Monetary policy is more effective if the CM curve is sleeper.

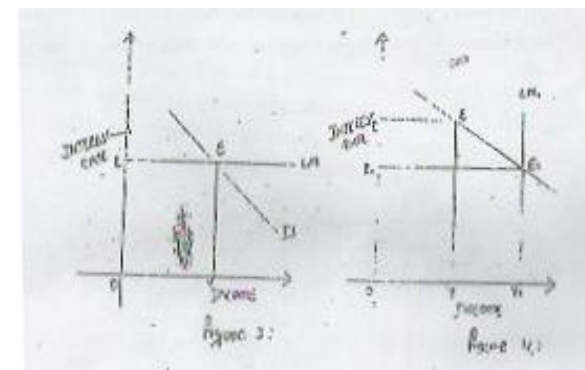
A sleeper LM curve means that demand for money is less interest elastic. The less interested elastic is the demand for money the larger is the fall in interest rate when the money supply is increased.

This is because when the demand for money is less elastic to a change in interest rate, an increase in money supply is more powerful in bringing about a large fall in interest rate. A large fall in the interest rate leads to a higher increase in investment and in national income.



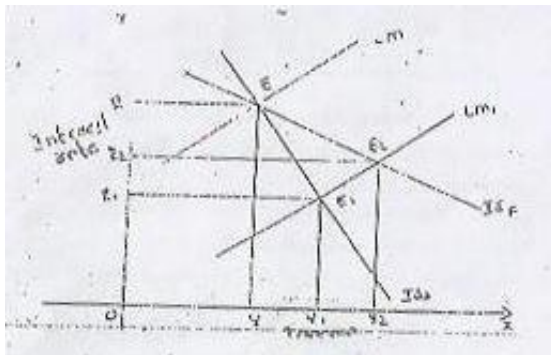
This is depicted in figure 2 where E is the original equilibrium position of the economy with OR interest rate and OM income when the sleep LM₁ curve shifts to the right to LM₂, the new equilibrium is set of E₂. As a result the interest rate falls from OR to OR₂ and income rises from OY to OY₂. On the other hand, the flatter is the LM curve, the less effective is monetary policy.

A flatter LM curve means that the demand for money is more interest elastic. The more interest elastic in demand for money, the smaller is the fall in interest rate when the supply is increased. A small fall in the interest rate leads to a smaller increase in investment and income. In figure 2, e is the original equilibrium position with OR interest rate and OY income. When the flatter LM₂ curve shifts to the right of LM₁ the new equilibrium is established at E₁ which produces OR₁ interest rate and OY₁ income level. In this case, the fall in interest rate to OR₁ is less than OR₁ of the sleeper LM₁ curve and the increase in income OY₁ is also less than OY₂ of the sleeper curve. This shows that monetary policy is less effective in the case of the flatter LM curve & more effective in the case of the sleeper curve.



If the LM curve is horizontal, monetary policy is completely ineffective because the demand for money is perfectly interest elastic. This is the case of liquidity trap shown in figure 3. Where the increase in the money supply has no effect on the interest rate OR and the income level OY . On the other hand if the LM curve is vertical monetary policy is highly effective because the demand for money is perfectly interest - inelastic. Figure 4 shows that when the vertical LM curve shifts to the right to LM_1 with the increase in the money supply, the interest rate falls from OR to OR_1 which has no effect on the demand for money and the entire increase in the money supply has the effect of raising in the income level from OY to OY_2 .

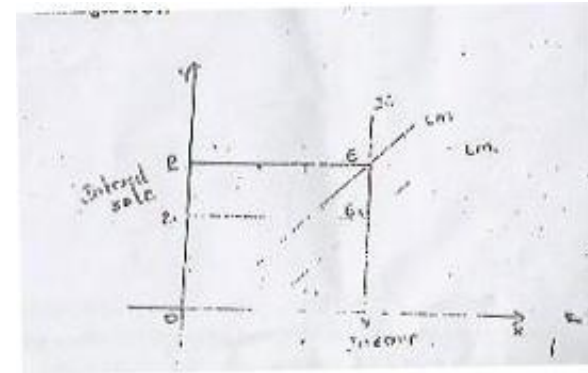
Now take the slope of the IS curve. The flatter is the IS curve, the more effective is the monetary policy. The flatter IS curve means the investment expenditure is highly interest elastic when an increase in the money supply lowers the interest rate even slightly, private investment also increases by a large amount, thereby raising income much.



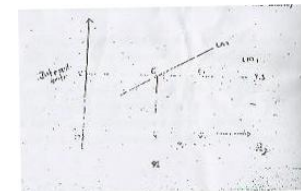
This is depicted in figure 5 where the original equilibrium is at a point E with OR interest rate and OY income level. When the LM curve shifts to the right to LM_1 with the increase in money supply, it intersects the flatter curve IS_p at E_2 which produces OR_2 interest rate and OY_2 income.

If the IS curve is vertical, monetary policy is completely ineffective because investment expenditure is completely interest

in elastic with the increase in the money. If the LM curve shifts to the right to LM_1 in figure 6, the interest rate falls from OR to OR_1 but investment being completely interest inelastic the income remains unchanged at OY .



On the other hand if the IS curve is horizontal, monetary policy is highly effective because investment expenditure is perfectly interest elastic figure below shows that with the increase in the money.



But even with no change in the interest rate OR , there is a large change in income from OY to OY_1 . This makes monetary policy highly effective.

FISCAL POLICY

The Government also influences investment, employment, output and income in the economy through fiscal policy. For an expansionary fiscal policy the Government increases its expenditure or/ and reduces taxes. This shifts the IS curve to the right. It follows. It follows a contractionary fiscal policy by reducing its expenditure or/and increasing taxes. This shifts the IS curve to the left.

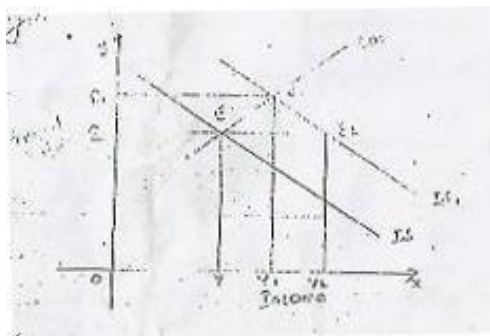
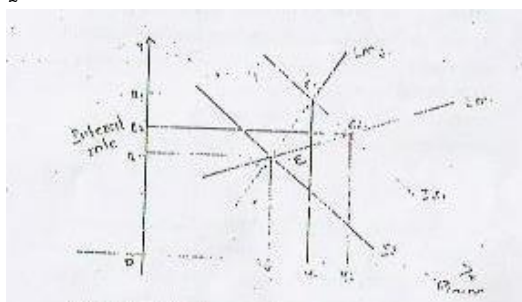


figure 1: illustrates an expansionary fiscal policy with given IS and LM curves. Suppose the economy is in equilibrium at point E with OR interest rate and OY income. An increase in Government spending or a decrease in taxes shifts the IS curve upwards to IS_1 , which intersects the LM curve at E_1 .

The relative effectiveness of fiscal policy depends on the slope of the LM curve E_1 and its curve. Fiscal policy is more effective, the flatter is the LM curve, and is less effective when the LM curve is steeper when the IS curve shifts towards to IS_1 , with the increase in government expenditure, its impact on national income is more with the flatter LM curve than with the steeper LM curve. This is shown in figure 2 where the IS_1 curve intersects the flatter LM_F curve at point E_2 which produces OY_2 income and OR_2 interest rate.



In the case of the steeper curve LM_S , the increase in income to OY_1 leads to a large rise in the demand for money which raises the interest rate to a very high level OR_1 . The large increase in the interest rate reduces private investment despite

increase in government expenditure which ultimately brings a small rise in income OY_1 . But in the case of the flatter curve LM_F the rise in the interest rate to OR_2 is relatively small. Consequently it reduces private investment to a lesser degree and its net effect on demand is relatively large. Thus the increase in national income with the flatter curve LM_F is more ($OY_2 > OY_1$) as compared with the steeper curve LM_S .

Fiscal policy is completely ineffective, if the LM curve is vertical it means that increase in money is perfectly interest inelastic. This is shown in figure below where the income level of income remains unchanged.

When the IS curve shifts upwards to IS_1 only the interest rate rises from OR to OR_1 and increase in government expenditure does not effect national income at all. It remains constant of OY. At the other extreme is the perfectly horizontal LM curve where fiscal policy is fully effective. This situation implies that the demand for money is perfectly interest-elastic. This shown in figure 4 where the horizontal LM curve is intersected by the IS curve at E which produces OR interest rate and OR income. when the IS curve shifts to the right to IS_1 income rises by the full multiplier of the increase in government expenditure. It rises to OY_1 but there is no change in interest rate.

Now take the slope of the IS curve. The steeper is the IS curve, the more effective is fiscal policy. The flatter is the IS curve, the less effective fiscal policy. There two cases are illustrated in figure below where E is the original equilibrium point with OR interest rate and OY income level. The increase in government expenditure shifts the flatter curve IS_1 to ISF so

that the new equilibrium with LM curve at point E_1 produces OR_1 interest rate and OY_1 income.

The increase in Government expenditure shifts the flatter curve IS_1 to IS_F so that the new equilibrium with LM curve at point E produce OR_1 interest rate and OY income level. Similarly, the steeper curve IS_2 is shifted to IS_6 with the increase in government expenditure and the new equilibrium with LM curve at point E_2 leads to OR_2 interest rate and OY_2 income level.

Fiscal policy is completely ineffective. If the IS curve is horizontal. A horizontal IS curve means that investment expenditure is perfectly interest elastic. This is depicted in figure 6 where LM curve intersects the IS curve at E . An increase in government expenditure has no effect on the interest rate OR and hence on the income level OY . Such a situation is not likely to be in practice. On the other extreme is the vertical IS curve which makes fiscal policy highly effective. This is because government expenditure is perfectly interest in elastic. An increase in government expenditure shifts the IS curve to the

right to IS_1 raise the interest rate to OR_1 and income to OY_1 by the full multiplier of the increase in government expenditure, as shown in figure 7. This makes fiscal policy highly effective.

INFLATION

Introduction: Inflation is a highly controversial term which has undergone modification since it was first defined by the neo-classical economists. They meant by its galloping rise in prices as a result. If the excessive increase in the quantity of money. The regarded inflation as a destroying disease born out of lack of monetary control whose results in derminded the rules of business creating havoc in markets and financial ruin of even the prudent.

Starting from a depression, as the money supply increases, output at first rises proportionately. But as aggregate demand output and employment rise further, diminishing returns start and certain bottle-necks appear and prices start rising. If the money supply increases beyond the full employment level, output ceases to rise and prices rise, proportion with the money supply. This is true inflation, according to Keynes.

Kegner's analysis is subjected to two main drawbacks. First, it lays emphasis on demand as the cause of inflation, and neglects the cost side of inflation. Second, it ignores the possibility that a price rise may lead to further increase in aggregate demand, which may in turn, lead to further rise in prices.

MEANING OF INFLATION

To the neo-classical and their followers at the university of Chicago, inflation is fundamentally a monetary phenomenon. In the words of Friedman inflation is always and everywhere a monetary phenomenon and can be produced only by a more rapid increase in the quantity of money than output. But economists do not agree that money supply alone is the cause of inflation. As pointed out by Hicks "Our present troubles are not of a monetary character".

However, it is essential to understand that a sustained rise in prices may be of various magnitudes. Accordingly, different names have been given to inflation depending upon the rate of rise in prices.

1. Creeping inflation: When the rise in prices is very slow like that of snail or creeper, it is called creeping inflation. Increase of speed, a sustained rise in prices of annual increases of less than 3 percent per annum is characterized as creeping inflation. Such an increase in prices is regarded safe and essential for economic growth.

2. Walking or Trotting inflation: When prices rise moderately and the annual inflation rate is a single digit. In other words, the rate of rise in prices is in the intermediate range of 3 to 7 per annum or less than 10 percent. Inflation at this rate is a warning signal for the government to control it before it turns into running inflation.

TRADE CYCLES

Introduction: The economic progress the world has achieved has not been a steady and continuous movement forward. Economic activities faced fluctuations at more or less regular intervals. There were upward swings and downward swings. A period of prosperity was generally followed by a period of depression. These ups and downs in the economic activity moving like a wave at regular intervals is known as business cycle (or) trade cycles. Trade cycle simply means the whole course of business activity which passes through the phases of prosperity and depression.

The trade cycle influences business decisions. The cycle affects not all but each individual business firm.

The period of prosperity promotes a period of business. It provides new investment opportunities. Likewise, a period of depression slackens business. A manager who is always confronted with the problem of forward planning takes into consideration the phases of the business cycle. This helps to take advantage of the chances ahead or to reduce the chances of heavy losses of the firm.

PHASES OF A TRADE CYCLE

Introduction: A typical cycle is generally divided into four phases.

1. Expansion or prosperity or the upswing.
2. Recession or upper - turning point.
3. Contraction or depression or downswing.
4. Revival or recovery or lower turning point.

These phases are recurrent and uniform in the case of different cycles. But no phase has definite periodicity or time interval. As pointed out by Pigou, cycles may not be twins but they are of the same family. And this is shown in figure below where E is the equilibrium position. We describe below these characteristics of trade cycle.

1. Prosperity: In the prosperity phase, demand, output, employment, and income are at a high level. They tend to rise prices. But wages, salaries, interest rates, rentals & taxes do not rise in proportion to the rise in prices. The gap between prices and costs increases the margin of profit.

The gap between prices and costs increases the margin of profit. The increase of profit and the prospect of its continuance commonly cause a rapid rise in stock markets. All securities including bonds, rise under the influence of improving expectations. The outstanding change is in stocks, that, reflecting the capitalized values of prospective earnings, registers an exaggerated rise from the rising profits of enterprise.

2. Recession: Once the economy reaches the peak the course changes. A downward tendency in demand is observed. But the

producers who are not aware of this go on producing. The supply now exceeds demand. Now the producers came to notice that their stocks are piling up. They are compelled, to give up future investment plans. The order for new equipments and raw materials are cancelled. A businessman even cuts down his existing business. Workers are retrenched. Capital goods producers who lose orders, in turn, cancel orders for their inputs. Bankers insist on repayment stocks accumulate.

3. Depression: Underemployment of both men & materials is a characteristic of this phase. General demand falls faster than production. Producers are compelled to sell their goods at a price which will not even cover the full cost. As a consequence workers are thrown cost. The remaining workers are poorly paid. The demand for bank credit is at its lowest which results in idle funds. The interest's rate also define.

4. Recovery: Depression phase does not continue indefinitely. Depression contains in itself the germs of recovery. The idle workers now come forward to work at low wags. As the prices are at its lowest the consumers, who postponed their consumption expecting a still further fall in price, now start consuming. The bank with accumulated cash reserves, now come forward to give loans at easier terms and lower rates.

THEORIES AND CORRECTIVE MEASURES OF TRADE CYCLES:

The main theories of business cycle are

1. Monetary Theory
2. Psychological theory
3. Climatic theory
4. Innovation theory
5. Hicks theory

1. Monetary theory: Prof. R.G. Hawtrey is the main proponent of this theory. He views business cycle as a purely monetary phenomenon. According to his theory the main reason for

business cycle is the unstable bank credit system. The inflationary and deflationary factors rising from the credit facility monitored by banks are the forces at behind the business cycles. An increase in bank credit results is an obstacle for the business cycle. The money borrowed is used for the payment of wages, interest, rent etc. This in turn increases demand, price and profit which again increases production. When the bank credit is curtailed prices decrease, profit decrease and production falls.

This theory considers the businessmen are highly sensitive to changes in the interest rate. The businessmen are more concerned about the future business prospects than of the changes in the interest rate. Business cycle cannot be considered purely a monetary phenomenon though it is a major contributing factor. Further this theory does not full explain the turning points of the business cycle.

2. Psychological theory: Prof. A.C. Pigou is considered as the main advocate of this theory. Pigou holds that there are waves of optimism and pessimism in the human mind. When a slight price increase is felt the human mind becomes optimistic. The leading business firms, in expectation of a further rise in price and profitability intensify their business. This optimism is passed to other businessman. The total economy now swings upward. this results in increase in the costs of the factors of production which in turn reduces the profit margin.

3. Climatic Theory: Harvest or climatic theory is one of the oldest explanations of business cycle. This theory relates business cycle to climatic changes. The business cycle, according to this theory, starts in the agricultural sector and spreads to industrial sector.