Semester – II

19BAU201 MANAGERIAL ECONOMICS 6H – 5C

Instruction Hours / week: L:6 T: 0 P : 0 Marks: Internal: 40 External: 60 Total: 100

End Semester Exam: 3 Hours

COURSE OBJECTIVES:
To make the students

1. To understand the demand, supply functions and its applicability.
2. To know the importance of the production function and cost and revenue concepts.
3. To gain knowledge on the market structure and price determination.
4. To understand the importance of macroeconomic indicators like National income, GDP, Inflation etc.
5. To understand the concepts of monetary policy, Balance of payment and Money supply.

COURSE OUTCOMES:
Learners should be able to

1. Apply the demand and supply concept in managerial decisions
2. Calculate the Cost, Revenue and breakeven point and apply it in decision making process.
3. Formulate the pricing strategies based on the market structure.
4. Gain familiarity on the macro level business components like money, banking, monetary policy, fiscal policy, trade, business cycles and balance of payments and make business decision based on the Macroeconomic indicators, inflation and business cycle and understand the impact of monetary policy, money supply and Balance of payments on running a business.
5. Demonstrate capabilities as problem-solving, critical thinking, and communication skills.

UNIT I Managerial Economics; Demand and Supply:

Introduction -
Meaning, nature and scope of Managerial Economics, Significance in decision making.

Consumer's Behaviour and Demand: Meaning of Consumer's Equilibrium – Utility approach – Law of Equi-Marginal utility – Consumers Surplus – Concept of Demand – Types of Demand – Determinants – Law of Demand – Exceptions to Law of Demand – Change in Demand – Elasticity of Demand – Types – Measurement of Price elasticity of demand. Concept of Supply – Determinants of Supply – Law of Supply – Change in Supply – Elasticity of Supply – Types.

UNIT II Production, cost and Revenue function:

Producer's Behaviour and Supply: Basic concepts in production – Firm – Fixed & Variable Factors – Short & Long run – Total Product – Marginal Product – Average Product – Production Function – Law of Returns – Law of Returns to Scale – Economies and Diseconomies of Scale – Producer's Equilibrium

Cost and Revenue Function: Cost of Production – Opportunity cost – Fixed and Variable Costs – Total Cost Curves – Average Cost Curves – Marginal Cost – Long run and Short run Cost Curves – Total Revenue – Average Revenue – Marginal Revenue – Break Even Point Analysis.

UNIT III Market Competition:

Main forms of Market – Basis of Classification – Perfect Competition – Features – Short Run and Long Run Equilibrium – Price Determination – Monopoly Market – Features – Short Run and Long Run Equilibrium – Price Discrimination – Degrees of Price Discrimination. Oligopoly Market Competition – Features – Price Leadership – Price Rigidity – Cartel – Collusive and Non-Collusive oligopoly – Oligopsony – Features – Monopolistic Competition – Features – Product Differentiation – Selling Cost – Short Run and Long Run Equilibrium – Monopsony – Duopoly Market – Features

UNIT IV : Macro Economic Factors :

Difference between Normal Residents and Non-Residents – Domestic territory – Gross and Net Concepts of Income and Product – market price and Factor Cost – Factor Payments and Transfer Payments – National Income Aggregates– Private Income – Personal Income – Personal Disposable Income – National Disposable Income – Measurement of National Income – Production Method – Income Method – Expenditure Method

Phases of Business Cycle – Causes of cyclical movements – Price Movements: Inflation, Deflation, and Deflation – Types of Inflation – Effects of Inflation – Control of Inflation.

UNIT V : Monetary policy :

Objectives of Monetary Policy – Types of Monetary Policy – Instruments of monetary policy – Objectives of Fiscal Policy – Types of Fiscal Policy – Instruments of Fiscal Policy – Budget Preparation – Deficit Budget.

Balance of Trade and Balance of Payments – Current Account and Capital Account of BOP – Disequilibrium in BOP.

Meaning and Functions of Money – Demand and Supply of Money – Measurement of Money supply – Commercial Banks – Central Bank – Functions – Process of Credit Creation and Money Supply – High Powered Money – Money multiplier – Money and Interest Rate – Theories of Interest.

SUGGESTED READINGS:

1. Geetika and Piyali Ghosh (2017), Managerial Economics, 3rd edition, McGraw Hill Education, New Delhi.
2. H. L. Ahuja, (2017), Managerial Economics, 9th edition, S Chand Publishing, New Delhi
3. Christopher R.Thomas and S.Charles Maurice, Managerial Economics : foundation of business analysis and strategy, 10th edition, McGraw Hill Education, New Delhi.
4. D.N. Dwivedi (2017), Macroeconomics: Theory and Practice, 4th edition, McGraw Hill Education, New Delhi
5. D.N. Dwivedi (2016), Microeconomics, 4th edition, McGraw Hill Education, New Delhi

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)
(Established under section 3 of UGC Act 1956)
Coimbatore-641021

DEPARTMENT OF MANAGEMENT(UG)

Name: **Sumathi. G**
Department: **Management**
Subject Code: **19BAU201** Semester: **II** Year: **2019-22 Batch**
Subject: **Managerial Economics**

UNIT – 1			
S. No	**Lecture Hours**	**Contents**	**References**
1	1	Introduction & Definition of Managerial Economics Objectives of managerial economics	T1:4-7
2	1	Nature and scope of managerial economics Significance in decision making	T1:10-25
3	1	Meaning of consumer equilibrium Utility approach	R1:97-100
4	1	Law of Equi-Marginal utility Consumer surplus	T1:41-49
5	1	Concept of Demand Types of Demand	W1
6	1	Determinants of Demand	T1:132
7	1	Law of Demand Exceptions to Law of Demand	T1:132-136
8	1	Change in Demand Elasticity of Demand Types of demand	T1:140-151 W2
9	1	Measurement of Price elasticity of demand	T1:150-168
10	1	Concept of Supply Determinants of Supply Law of Supply Change in Supply	T1:175-182
11	1	Elasticity of Supply Types of supply	R1:103-107
12	1	Recapitulation and Discussion on important questions	
Total no. of Hours planned for Unit 1			**12**

UNIT – 2			
1	1	Basic concepts in production Fixed & Variable Factors	T1:170-172
2	1	Short & Long run	T1:170-172
3	1	Total Product Marginal Product Average Product Production Function	R1:201
4	1	Law of Returns Law of returns to scale	R1:201-205
5	1	Economies and Diseconomies of Scale	R1:210-216
6	1	Producers equilibrim	T1:175
7	1	Cost of Production Opportunity cost Fixed and Variable Costs Total Cost Curves	T1:179-180
8	1	Average Cost Curves	W3
9		Marginal Cost Long run and Short run Cost Curves	R1:220
10	1	Total Revenue Average Revenue Marginal Revenue	T1: 227-230
11	1	Break Even Point Analysis	W4
12	1	Recapitulation and Discussion on important questions	
Total no. of Hours planned for Unit 2			**12**
UNIT – 3			
1	1	Main forms of Market Basis of Classification	T:169
2	1	Perfect Competition – Features Short Run and Long Run Equilibrium	T1:195-200
3	1	Price Determination	R2:178-186
4	1	Monopoly Market - Features Short Run and Long Run Equilibrium	R2:187-195
5	1	Price Discrimination Degrees of Price Discrimination	T1:212
6	1	Oligopoly Market Competition Features	T1:214-215
7	1	Price Leadership	T1:215-216

		Price Rigidity Cartel	
8	1	Collusive and NonCollusive oligopoly Oligopsony Features	R2:216-230
9	1	Monopolistic Competition Features	R2:255-260
10	1	Product Differentiation Selling Cost Short Run and Long Run Equilibrium	R2:401-410
11	1	Monopsony Duopoly Market Features	W5
12	1	Recapitulation and Discussion on important questions	W6
Total number of hours planned for Unit 3			**12**
UNIT – 4			
1	1	Difference between Normal Residents and Non-Residents	T2:174-178
2	1	Domestic territory	T2:179
3	1	Gross and Net Concepts of Income and Product	T2:200-218
4	1	Market price and Factor Cost	T2:219-230
5	1	Factor Payments and Transfer Payments National Income Aggregates	T2:270-278
6	1	Private Income Personal Income	T2:300-325
7	1	Personal Disposable Income National disposable income	T2:300-325
8	1	Measurement of National Income Production Method Income Method Expenditure Method	R2:420-440
9	1	Phases of Business Cycle Causes of cyclical movements	R2:442-448
10	1	Price Movements: Inflation, and Deflation	W7
11	1	Types of Inflation Effects of Inflation Control of Inflation	W8
12	1	Recapitulation and Discussion on important questions	-
Total no. of Hours planned for Unit 4			**12**

UNIT – 5			
1	1	Objectives of Monetary Policy Types of Monetary Policy Instruments of monetary policy	T1:326-335
2	1	Objectives of Fiscal Policy Types of Fiscal Policy Instruments of Fiscal Policy	T1:340-347
3	1	Budget Preparation Deficit Budget.	W9
4	1	Balance of Trade and Balance of Payments Current Account and Capital Account of BOP Disequilibrium in BOP.	R1:316
5	1	Meaning and Functions of Money Demand and Supply of Money Measurement of Money supply	R1:320-340
6	1	Commercial Banks Central Bank Functions	T1:352-355
7	1	Process of Credit Creation and Money Supply High Powered Money	W10
8	1	Money multiplier Money and Interest Rate Theories of Interest.	T1-351-360
9	1	Recapitulation and Discussion on important questions	9
10	1	Discussion on Previous Year Question Paper	
11	1	Discussion on Previous Year Question Paper	
12	1	Discussion on Previous Year Question Paper	-
Total no. of Hours planned for Unit 5			**12**

SUGGESTED READINGS:

1. Geetika and Piyali Ghosh (2017), Managerial Economics, 3rd edition, McGraw Hill Education, New Delhi
2. H. L. Ahuja, (2017), Managerial Economics, 9th edition, S Chand Publishing, New Delhi
3. Christopher R.Thomas and S.Charles Maurice, Managerial Economics : foundation of business analysis and strategy, 10th edition, McGraw Hill Education, New Delhi.
4. D.N. Dwivedi (2017), Macroeconomics: Theory and Practice, 4th edition, McGraw Hill Education, New Delhi
5. D.N. Dwivedi (2016), Microeconomics, 4th edition, McGraw Hill Education, New Delhi

UNIT-I-CONSUMER'S BEHAVIOR AND DEMAND

SYLLABUS

Unit – I : Introduction – Meaning, Nature and scope of Managerial Economics, Significance in decision Making. Consumer's Behaviour and Demand: Meaning of Consumer's Equilibrium – Utility approach – Law of Equi-Marginal utility – Consumers Surplus - Concept of Demand – Types of Demand – Determinants – Law of Demand – Exceptions to Law of Demand – Change in Demand – Elasticity of Demand – Types – Measurement of Price elasticity of demand. Concept of Supply – Determinants of supply – Law of Supply – Change in supply – Elasticity of Supply – Types.

Meaning and Definitions of Managerial Economics

Managerial economics is a science that deals with the application of various economic theories, principles, concepts and techniques to business management in order to solve business and management problems. It deals with the practical application of economic theory and methodology to decision-making problems faced by private, public and non-profit making organizations.

"Managerial Economics is the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning by the management"

According to Mc Nair and Meriam, "Managerial economics is the use of economic modes of thought to analyze business situation".

Brighman and Pappas define managerial economics as," the application of economic theory and methodology to business administration practice".

Joel dean is of the opinion that use of economic analysis in formulating business and management policies is known as managerial economics.

Features of managerial Economics

1. It is a new discipline and of recent origin
2. It is a highly specialized and separate branch by itself.
3. It is basically a branch of microeconomics and as such it studies the problems of only one firm in detail
4. It is mainly a normative science and as such it is a goal oriented and prescriptive science.
5. It is more realistic, pragmatic and highlights on practical application of various economic problems.

SCOPE OF MANAGERIAL ECONOMICS

The term "scope" indicates the area of study, boundaries, subject matter and width of a subject. The following topics are covered in this subject.

1. DEMAND ANALYSIS AND FORECASTING

A business firm is an economic organisation which is engaged in transforming productive resources into goods that are to be sold in the market. A major part of managerial decision making depends on accurate estimates of demand. A forecast of future sales serves as a guide to management for preparing production schedules and employing resources. It will help management to maintain or strengthen its market position and profit base. Demand analysis also identifies a number of other factors influencing the demand for a product. Demand analysis and forecasting occupies a strategic place in Managerial Economics.

2. PRODUCTION AND COST ANALYSIS

A firm's profitability depends much on its cost of production. A wise manager would prepare cost estimates of a range of output, identify the factors causing are cause variations in cost estimates and choose the cost-minimising output level, taking also into consideration the degree of uncertainty in production and cost calculations. Production processes are under the charge of engineers but the business manager is supposed to carry out the production function analysis in order to avoid wastages of materials and time. Sound pricing practices depend much on cost control. The main topics discussed under cost and production analysis are: Cost concepts, cost-output relationships, Economics and Diseconomies of scale and cost control.

3. PRICING DECISIONS, POLICIES AND PRACTICES

Pricing is a very important area of Managerial Economics. In fact, price is the genesis of the revenue of a firm ad as such the success of a business firm largely depends on the correctness of the price decisions taken by it. The important aspects dealt with this area are: Price determination in various market forms, pricing methods, differential pricing, product-line pricing and price forecasting.

4.PROFIT MANAGEMENT

Business firms are generally organized for earning profit and in the long period, it is profit which provides the chief measure of success of a firm. Economics tells us that profits are the reward for uncertainty bearing and risk taking. A successful business manager is one who can form more or less correct estimates of costs and revenues likely to accrue to the firm at different levels of output. The more successful a manager is in reducing uncertainty, the higher are the profits earned by him. In fact, profit-planning and profit measurement constitute the most challenging area of Managerial Economics.

5. CAPITAL MANAGEMENT

The problems relating to firm's capital investments are perhaps the most complex and troublesome. Capital management implies planning and control of capital expenditure because it involves a large sum and moreover the problems in disposing the capital assets off are so complex that they require considerable time and labour. The main topics dealt with under capital management are cost of capital, rate of return and selection of projects.

6. LINEAR PROGRAMMING AND THE THEORY OF GAMES

The term linear means that the relationships handled are the same as those represented by straight lines and programming implies systematic planning or decision-making. It implies maximization or minimization of a linear function of variables subject to a constraint of linear inequalities. It offers actual numerical solution to the problems of making optimum choices. It involves either maximization of profits or minimization of costs. The theory of games basically attempts to explain what is the rational course of action for an individual firm or an entrepreneur who is confronted with the a situation where in the outcome depends not only on his own actions, but also on the actions of others who are also confronted with the same problem of selecting a rational course of action. Both these techniques are extensively used in business economics to solve various business and managerial problems.

7. STRATEGIC PLANNING

It provides a framework on which long term decisions can be made which have an impact on the behavior of the firm. The perspective of strategic planning is global. In fact, the integration of business economics and strategic planning has given rise to a new area of study called corporate economics.

8. OTHER AREAS

1. Macroeconomic management of the country relating to economic system, national income, trade cycles Savings and investments and its impact on the working of a firm.
2. Knowledge and information about various government policies like monetary, fiscal, physical, industrial, labor, foreign trade, foreign capital and technology, MNCs etc and their impact on the working of a firm.
3. Impact of international changes, role of international financial and trade institutions in formulating domestic polices of a firm.

Economic Analysis and Business Decisions

Business decision-making basically involves the selection of best out of alternative opportunities open to the business organization. Decision making processes involve four main phases, including:

Phase One: Determining and defining the objective to be achieved.

Phase Two: Collection and analysis of information on economic, social, political, and technological environment.

Phase Three: Inventing, developing and analyzing possible course of action

Phase Four: Selecting a particular course of action from available alternatives.

Note that phases two and three are the most crucial in business decision-making. They put the manager's analytical ability to test and help in determining the appropriateness and validity of decisions in the modern business environment. Personal intelligence, experience, intuition and business acumen of the manager need to be supplemented with quantitative analysis of business data on market conditions and business environment. It is in fact, in this area of decision-making that economic theories and tools of economic analysis make the greatest contribution in business.

If for instance, a business firm plans to launch a new product for which close substitutes are available in the market, one method of deciding whether or not this product should be launched is to obtain the services of a business consultant. The other method would be for the decision-maker or manager to decide. In doing this, the manager would need to investigate and analyse the following thoroughly:

(a) production related issues; and, (b) sales prospects and problems. With regards to production, the manager will be required to collect and analyse information or data on: (c) available production techniques; (d) cost of production associated with each production technique; (e) supply position of inputs required for the production process; (f) input prices; (g) production costs of the competitive products; and, (h) availability of foreign exchange, if inputs are to be imported.

Regarding the sales prospects and problems, the manager will be required to collect and analyse data on:

(a) general market trends; (b) the industrial business trends; (c) major existing and potential competitors, as well as their respective market shares; (d) prices of the competing products; (e) pricing strategies of the prospective competitors; (f) market structure and the degree of competition; and, (g) the supply position of complementary goods. The application of economic theories in solving business problems helps in facilitating decision-making in the following ways:

First, it can give clear understanding of the various necessary economic concepts, including demand, supply, cost, price, and the like that are used in business analysis.

Second, it can help in ascertaining the relevant variables and specifying the relevant data. For example, in deciding what variables need to be considered in estimating the demand for two different sources of energy, petrol and electricity?

Third, it provides consistency to business analysis and helps in arriving at right conclusions.

Importance of the study of Managerial Economics

The following points indicate the significance of the study of this subject in its right perspective.

1. It gives guidance for identification of key variables in decision-making process.
2. It helps the business executives to understand the various intricacies of business and managerial problems and to take right decision at the right time.
3. It provides the necessary conceptual, technical skills, toolbox of analysis and techniques of thinking and other such most modern tools and instruments like elasticity of demand and supply, cost and revenue, income and expenditure, profit and volume of production etc to solve various business problems.

4. It is both a science and an art. In the context of globalization, privatization, liberalization and marketization and a highly competitive dynamic economy, it helps in identifying various business and managerial problems, their causes and consequence, and suggests various policies and programs to overcome them.

5. It helps the business executives to become much more responsive, realistic and competent to face the ever changing challenges in the modern business world.

6. It helps in the optimum use of scarce resources of a firm to maximize its profits.

7. It also helps in achieving other objectives a firm like attaining industry leadership, market share expansion and social responsibilities etc.

8. It helps a firm in forecasting the most important economic variables like demand, supply, cost, revenue, price, sales and profit etc and formulate sound business polices

9. It also helps in understanding the various external factors and forces which affect the decision-making of a firm.

Thus, it has become a highly useful and practical discipline in recent years to analyze and find solutions to various kinds of problems in a systematic and rational manner.

Consumer's Behaviour: Cardinal Utility Analysis

The price of a product depends upon the demand for and the supply of it. In this part of the book we are concerned with the theory of consumer's behaviour, which explains his demand for a good and the factors determining it. Individual's demand for a product depends upon price of the product, income of the individual, the prices of related goods.

It can be put in the following functional form:

Dx= f(Px, I, Py, P2, T etc.)

where Dx stands for the demand of good X, Px for price of good X, I for individual's income, Py Pz for the prices of related goods and T for tastes and preferences of the individual. But among these determinants of demand, economists single out price of the good in question as the most important factor governing the demand for it. Indeed, the function of a theory of consumer's behaviour is to establish a relationship between quantity demanded of a good and its own price and to provide an explanation for it.

Recently, cardinal utility approach to the theory of demand has been subjected to severe criticisms and as a result some alternative theories, namely, Indifference Curve Analysis, Samuelson's Revealed Preference Theory, and Hicks' Logical Weak Ordering Theory have been propounded.

Assumptions of Cardinal Utility Analysis:

Cardinal utility analysis of demand is based upon certain important assumptions. Before explaining how cardinal utility analysis explains consumer's equilibrium in regard to the demand for a good, it is essential to describe the basic assumptions on which the whole utility analysis rests. As we shall see later, cardinal utility analysis has been criticised because of its unrealistic assumptions.

The basic assumptions or premises of cardinal utility analysis are as follows:

The Cardinal Measurability of Utility:

The exponents of cardinal utility analysis regard utility to be a cardinal concept. In other words, they hold that utility is a measurable and quantifiable entity. According to them, a person can express utility or satisfaction he derives from the goods in the quantitative cardinal terms. Thus, a person can say that he derives utility equal to 10 units from the consumption of a unit of good A, and 20 units from the consumption of a unit of good B.

Moreover, the cardinal measurement of utility implies that a person can compare utilities derived from goods in respect of size, that is, how much one level of utility is greater than another. A person can say that the utility he gets from the consumption of one unit of good B is double the utility he obtains from the consumption of one unit of good A.

According to Marshall, marginal utility is actually measurable in terms of money. Money represents the general purchasing power and it can therefore be regarded as a command over alternative utility-yielding goods. Marshall argues that the amount of money which a person is prepared to pay for a unit of a good rather than go without it is a measure of the utility he derives from that good.

Thus, according to him, money is the measuring rod of utility Some economists belonging to the cardinalist school measure utility in imaginary units called "utils" They assume that a consumer is capable of saying that one apple provides him utility equal to 4 utils. Further, on this ground, he can say that he gets twice as much utility from an apple as compared to an orange.

The Hypothesis of Independent Utilities:

The second important tenet of the cardinal utility analysis is the hypothesis of independent utilities. On this hypothesis, the utility which a consumer derives from a good is the function of the quantity of that good and of that good only In other words, the utility which a consumer obtains from a good does not

depend upon the quantity consumed of other goods; it depends upon the quantity purchased of that good alone.

On this assumption, then the total utility which a person gets from the whole collection of goods purchased by him is simply the total sum of the separate utilities of the goods. Thus, the cardinalist school regards utility as 'additive', that is, separate utilities of different goods can be added to obtain the total sum of the utilities of all goods purchased.

Constancy of the Marginal Utility of Money:

Another important assumption of the cardinal utility analysis is the constancy of the marginal utility of money. Thus, while the cardinal utility analysis assumes that marginal utilities of commodities diminish as more of them are purchased or consumed, but the marginal utility of money remains constant throughout when the individual is spending money on a good and due to which the amount of money with him varies. Daniel Bernoulli first of all introduced this assumption but later Marshall adopted this in his famous book "Principles of Economics'.

As stated above, Marshall measured marginal utilities in terms of money. But measurement of marginal utility of goods in terms of money is only possible if the marginal utility of money itself remains constant. It should be noted that the assumption of constant marginal utility of money is very crucial to the Marshallian analysis, because otherwise Marshall could not measure the marginal utilities of goods in terms of money. If money which is the unit of measurement itself varies as one is measuring with it, it cannot then yield correct measurement of the marginal utility of goods.

When price of a good falls and as a result the real income of the consumer rises, marginal utility of money to him will fall but Marshall ignored this and assumed that marginal utility of money did not change as a result of the change in price. Likewise, when price of a good rises the real income of the consumer will fall and his marginal utility of money will rise. But Marshall ignored this and assumed that marginal utility of money remains the same. Marshall defended this assumption on the ground that "his (the individual consumer's) expenditure on any one thing is only a small part of his whole expenditure."

Introspective Method:

Another important assumption of the cardinal utility analysis is the use of introspective method in judging the behaviour of marginal utility. "Introspection is the ability of the observer to reconstruct events which go on in the mind of another person with the help of self-observation. This form of comprehension may be just guesswork or intuition or the result of long lasting experience."

Thus, the economists construct with the help of their own experience the trend of feeling which goes on in other men's mind. From his own response to certain forces and by experience and observation one gains understanding of the way other people's minds would work in similar situations. To sum up, in introspective method we attribute to another person what we know of our own mind. That is, by looking into ourselves we see inside the heads of other individuals.

So the law of diminishing marginal utility is based upon introspection. We know from our own mind that as we have more of a thing, the less utility we derive from an additional unit of it. We conclude from it that other individuals' mind will work in a similar fashion, that is, marginal utility to them of a good will diminish as they have more units of it.

With the above basic premises, the founders of cardinal utility analysis have developed two laws which occupy an important place in economic theory and have several applications and uses.

These two laws are:

(1) Law of Diminishing Marginal Utility and

(2) Law of Equi-Marginal Utility.

It is with the help of these two laws about consumer's behaviour that the exponents of cardinal utility analysis have derived the law of demand. We explain below these two laws in detail and how law of demand is derived from them.

Law of Diminishing Marginal Utility:

An important tenet of cardinal utility analysis relates to the behaviour of marginal utility. This familiar behaviour of marginal utility has been stated in the Law of Diminishing Marginal Utility according to which marginal utility of a good diminishes as an individual consumes more units of a good. In other words, as a consumer takes more units of a good, the extra utility or satisfaction that he derives from an extra unit of the good goes on falling.

It should be carefully noted that it is the marginal utility and not the total utility that declines with the increase in the consumption of a good. The law of diminishing marginal utility means that the total utility increases at a decreasing rate.

Marshall who has been a famous exponent of the cardinal utility analysis has stated the law of diminishing marginal utility as follows:

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

This law is based upon two important facts. First, while the total wants of a man are virtually unlimited, each single want is satiable. Therefore, as an individual consumes more and more units of a good, intensity of his want for the good goes on falling and a point is reached where the individual no longer wants any more units of the good. That is, when saturation point is reached, marginal utility of a good becomes zero. Zero marginal utility of a good implies that the individual has all that he wants of the good in question.

The second fact on which the law of diminishing marginal utility is based is that the different goods are not perfect substitutes for each other in the satisfaction of various wants. When an individual consumes more and more units of a good, the intensity of his particular want for the good diminishes but if the units of that good could be devoted to the satisfaction of other wants and yielded as much satisfaction as they did initially in the satisfaction of the first want, marginal utility of the good would not have diminished.

It is obvious from above that the law of diminishing marginal utility describes a familiar and fundamental tendency of human nature. This law has been arrived at by introspection and by observing how consumers behave.

Illustration of the Law of Diminishing Marginal Utility:

The table represents the total and marginal utilities derived by a person from cups of tea consumed per day. When one cup of tea is taken per day the total utility derived by the person is 12 utils. And because this is the first cup its marginal utility is also 12 utils with the consumption of 2nd cup per day, the total utility rises to 22 utils but marginal utility falls to 10. It will be seen from the table that as the consumption of tea increases to six cups per day, marginal utility from the additional cup goes on diminishing (i.e. the total utility goes on increasing at a diminishing rate).

However, when the cups of tea consumed per day increases to seven, then instead of giving positive marginal utility, the seventh cup gives negative marginal utility equal to – 2 utils. This is because too many cups of tea consumed per day (say more than six for a particular individual) may cause acidity and gas trouble. Thus, the extra cups of tea beyond six to the individual in question gives him disutility rather than positive satisfaction.

Diminishing Marginal Utility

Cups of tea consumed per day (Q)	Total utility (utils)	Marginal utility (utils)
1	12	12
2	22	10
3	30	8
4	36	6
5	40	4
6	41	1
7	39	-2
8	34	-5

Figure illustrates the total utility and the marginal utility curves. The total utility curve drawn in Figure 1 is based upon three assumptions. First, as the quantity consumed per period by a consumer increases his total utility increases but at a decreasing rate. This implies that as the consumption per period of a commodity by the consumer increases, marginal utility diminishes as shown in the lower panel of Figure.

Secondly, as will be observed from the figure when the rate of consumption of a commodity per period increases to Q4, the total utility of the consumer reaches its maximum level.

Therefore, the quantity Q4 of the commodity is called satiation quantity or satiety point. Thirdly, the increase in the quantity consumed of the good per period by the consumer beyond the satiation point has an adverse effect on his total utility that is, his total utility declines if more than Q4 quantity of the good is consumed.

This means beyond Q4 marginal utility of the commodity for the consumer becomes negative ads will be seen from the lower panel of Figure 7.1 beyond the satiation point Q4 marginal utility curve MU goes below the X-axis indicating it becomes negative beyond quantity Q4 per period of the commodity consumed.

It is important to understand how we have drawn the marginal utility curve. As stated above marginal utility is the increase in total utility of the consumer caused by the consumption of an additional unit of the commodity per period. We can directly find out the marginal utility of the successive units of the commodity consumed by measuring the additional utility which a consumer obtains from successive units of the commodity and plotting them against their respective quantities.

However, in terms of calculus, marginal utility of a commodity X is the slope of the total utility function U = f(Qx). Thus, we can derive the marginal utility curve by measuring the slope at various points of the total utility curve TU in the upper panel of Figure7.1 by drawing tangents at them. For instance, at the quantity Q1 marginal utility (i.e. dU/ dQ = MU1) is found out by drawing tangent at point A and measuring its slope which is then plotted against quantity in the lower panel of Figure 7.1. In the lower panel we measure marginal utility of the commodity on the Y-axis. Likewise, at quantity Q2 marginal utility of the commodity has been obtained by measuring slope of the total utility curve TU at point B and plotting it in the lower panel against the quantity Q2.

It will be seen from the figure that at Q4 of the commodity consumed, the total utility reaches at the maximum level T. Therefore, at quantity Q4 the slope of the total utility curve is zero at this point. Beyond the quantity Q4 the total utility declines and marginal utility becomes negative. Thus, quantity Q4 of the commodity represents the satiation quantity.

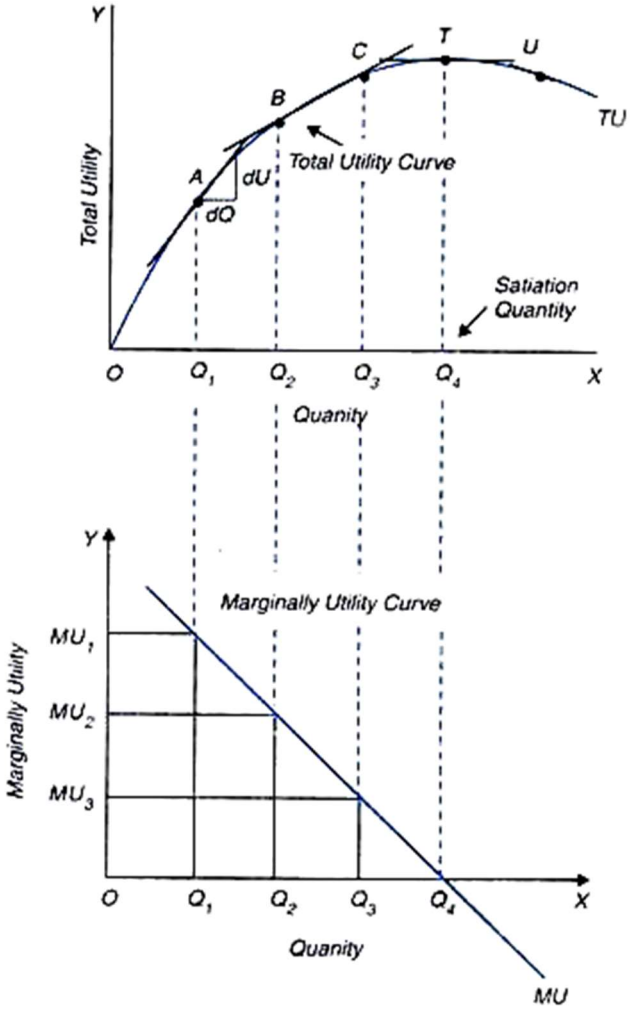


Fig. 7.1. . *Total Utility and Marginal Utility*

Another important relationship between total utility and marginal utility is worth noting. At any quantity of a commodity consumed the total utility is the sum of the marginal utilities. For example, if marginal utility of the first, second, and third units of the commodity consumed are 15, 12, and 8 units, the total utility obtained from these three units of consumption of the commodity must equals 35 units (15 + 12 + 8 = 35).

Similarly, in terms of graphs of total utility and marginal utility depicted in Figure 7.1 the total utility of the quantity Q4 of the commodity consumed is the sum of the marginal utilities of the units of commodity up to point Q4. That is, the entire area under the marginal utility curve MU in lower panel up to the point Q4 is the sum of marginal utilities which must be equal to the total utility Q4T in the upper panel.

Marginal Utility and Consumer's Tastes and Preferences:

The utility people derive from consuming a particular commodity depends on their tastes and preferences. Some consumers like oranges, others prefer apples and still others prefer bananas for consumption. Therefore, the utility which different individuals get from these various fruits depends on their tastes and preferences.

An individual would have different marginal utility curves for different commodities depending on his tastes and preferences. Thus, utility which people derive from various goods reflect their tastes and preferences for them. However, it is worth noting that we cannot compare utility across consumers. Each consumer has a unique subjective utility scale. In the context of cardinal utility analysis, a change in consumer's tastes and preferences means a shift in his one or more marginal utility curves.

However, it may be noted that a consumer's tastes and preferences do not frequently change, as these are determined by his habits. Of course, tastes and preferences can change occasionally. Therefore, in economic theory we generally assume that tastes or preferences are given and relatively stable.

Significance of Diminishing Marginal Utility:

The significance of the diminishing marginal utility of a good for the theory of demand is that it helps us to show that the quantity demanded of a good increase as its price falls and vice versa. Thus, it is because of the diminishing marginal utility that the demand curve slopes downward. If properly understood the law of diminishing marginal utility applies to all objects of desire including money.

But it is worth mentioning that marginal utility of money is generally never zero or negative. Money represents purchasing power over all other goods, that is, a man can satisfy all his material wants if he possesses enough money. Since man's total wants are practically unlimited, therefore, the marginal utility of money to him never falls to zero.

The marginal utility analysis has a good number of uses and applications in both economic theory and policy. The concept of marginal utility is of crucial significance in explaining determination of the prices of commodities. The discovery of the concept of marginal utility has helped us to explain the paradox of value which troubled Adam Smith in "The Wealth of Nations."

Adam Smith was greatly surprised to know why water which is so very essential and useful to life has such a low price (indeed no price), while diamonds which are quite unnecessary, have such a high price. He could not resolve this water-diamond paradox. But modern economists can solve it with the aid of the concept of marginal utility.

According to the modern economists, the total utility of a commodity does not determine the price of a commodity and it is the marginal utility which is crucially important determinant of price. Now, the water is available in abundant quantities so that its relative marginal utility is very low or even zero. Therefore, its price is low or zero. On the other hand, the diamonds are scarce and therefore their relative marginal utility is quite high and this is the reason why their prices are high.

Consumer's Equilibrium: Principle of Equi-Marginal Utility:

Principle of equi-marginal utility occupies an important place in cardinal utility analysis. It is through this principle that consumer's equilibrium is explained. A consumer has a given income which he has to spend on various goods he wants. Now, the question is how he would allocate his given money income among various goods, that is to say, what would be his equilibrium position in respect of the purchases of the various goods. It may be mentioned here that consumer is assumed to be 'rational', that is, he carefully calculates utilities and substitutes one good for another so as to maximise his utility or satisfaction.

Suppose there are only two goods X and Y on which a consumer has to spend a given income. The consumer's behaviour will be governed by two factors first, the marginal utilities of the goods and secondly, the prices of two goods. Suppose the prices of the goods are given for the consumer.

The law of equi-marginal utility states that the consumer will distribute his money income between the goods in such a way that the utility derived from the last rupee spent on each good is equal. In other words, consumer is in equilibrium position when marginal utility of money expenditure on each good is the same. Now, the marginal utility of money expenditure on a good is equal to the marginal utility of a good divided by the price of the good. In symbols,

MUm = MUx / Px

Where MUm is marginal utility of money expenditure and MUm is the marginal utility of X and Px is the price of X. The law of equi-marginal utility can therefore be stated thus: the consumer will spend his money income on different goods in such a way that marginal utility of money expenditure on each good is equal. That is, consumer is in equilibrium in respect of the purchases of two goods X and V when

MUx / Px= MUy / Py

Now, if MUx / Px and MUy / Py are not equal and MUx / Px is greater than MUy / Py, then the consumer will substitute good X for good Y. As a result of this substitution, the marginal utility of good X will fall and marginal utility of good y will rise. The consumer will continue substituting good X for good Y until

MUx / Px becomes equal to MUy / Py. When MUx / Px becomes equal to MUy / Py the consumer will be in equilibrium.

But the equality of MUx / Px with MUy / Py can be achieved not only at one level but at different levels of expenditure. The question is how far does a consumer go in purchasing the goods he wants. This is determined by the size of his money income. With a given income and money expenditure a rupee has a certain utility for him: this utility is the marginal utility of money to him.

Since the law of diminishing marginal utility applies to money income also, the greater the size of his money income the smaller the marginal utility of money to him. Now, the consumer will go on purchasing goods until the marginal utility of money expenditure on each good becomes equal to the marginal utility of money to him.

Thus, the consumer will be in equilibrium when the following equation holds good:

MUx / Px = MUy / Py = MUm

Where MUm is marginal utility of money expenditure (that is, the utility of the last rupee spent on each good).

If there are more than two goods on which the consumer is spending his income, the above equation must hold good for all of them. Thus

MUx / Px = MUy / Py = …….. = MUm

Let us illustrate the law of equi-marginal utility with the aid of an arithmetical table given below:

Marginal utility of Good X and Y

Utils	MUx (utils)	MUy (utils)
1	20	24
2	18	21
3	16	18
4	14	15
5	12	9
6	10	3

Let the prices of goods X and Y be Rs. 2 and Rs. 3 respectively. Reconstructing the above table by dividing marginal utilities (MU) of X by Rs. 2 and marginal utilities (MU) of 7 by Rs. 3 we get the Table 7.3.

Marginal utility of money expenditure

Utils	MUx / Px	MUy / Py
1	10	8
2	9	7
3	8	6
4	7	5
5	6	3
6	5	1

Suppose a consumer has money income of Rs. 24 to spend on the two goods. It is worth noting that in order to maximise his utility the consumer will not equate marginal utilities of the goods because prices of the two goods are different. He will equate the marginal utility of the last rupee (i.e. marginal utility of money expenditure) spent on these two goods.

In other words, he will equate MUx / Px with MUy / Py while spending his given money income on the two goods. By looking at the Table 7.3 it will become clear that MUx / Px is equal to 5 utils when the consumer purchases 6 units of good X and MUy / Py is equal to 5 utils when he buys 4 units of good Y. Therefore, consumer will be in equilibrium when he is buying 6 units of good X and 4 units of good 7and will be spending (Rs. 2 x 6 + Rs. 3 x 4) = Rs. 24 on them that are equal to consumer's given income. Thus, in the equilibrium position where the consumer maximises his utility.

MUx / Px = MUy / Py = MUm

10/2 = 15/3 =5

Thus, marginal utility of the last rupee spent on each of the two goods he purchases is the same, that is, 5 utils.

Consumers' equilibrium is graphically portrayed in Fig. 7.2. Since marginal utility curves of goods slope downward, curves depicting and MUx / Px and MUy / Py also slope downward. Thus, when the consumer is buying OH of X and OK of Y, then

MUx / Px = MUy / Py = MUm

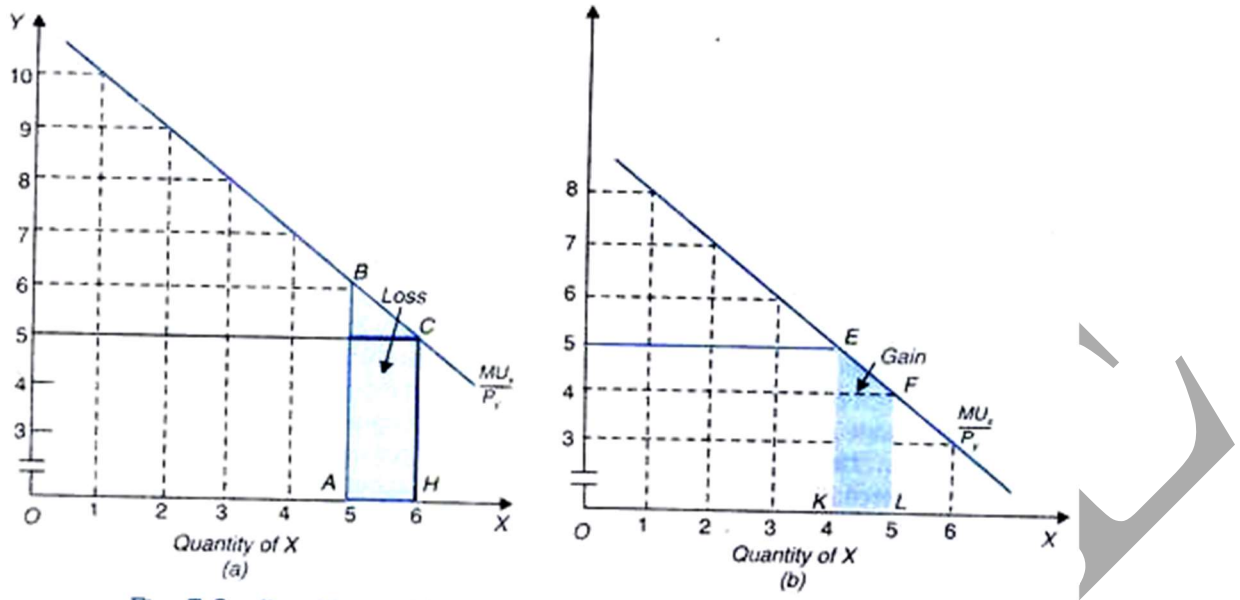


Fig. 7.2. *Equi-Marginal Utility Principle and Consumer's Equilibrium*

Therefore, the consumer is in equilibrium when he is buying 6 units of X and 4 units of Y. No other allocation of money expenditure will yield him greater utility than when he is buying 6 units of commodity X and 4 units of commodity Y. Suppose the consumer buys one unit less of good X and one unit more of good Y.

This will lead to the decrease in his total utility. It will be observed from Figure 7.2 (a) that the consumption of 5 units instead of 6 units of commodity X means a loss in satisfaction equal to the shaded area ABCH and from Fig. 7.2(b) it will be seen that consumption of 5 units of commodity Y instead of 4 units will mean gain in utility equal to the shaded area KEFL. It will be noticed that with this rearrangement of purchases of the two goods, the loss in utility ABCH exceeds gain in utility KEFL.

Thus, his total satisfaction will fall as a result of this rearrangement of purchases. Therefore, when the consumer is making purchases by spending his given income in such a way that MUx / Px = MUy / Py , he will not like to make any further changes in the basket of goods and will therefore be in equilibrium situation by maximizing his utility.

Demand Analysis

Types of Demand

The different types of demand are;

i) Direct and Derived Demands

Direct demand refers to demand for goods meant for final consumption; it is the demand for consumers' goods like food items, readymade garments and houses. By contrast, derived demand refers to demand for goods which are needed for further production; it is the demand for producers' goods like industrial raw materials, machine tools and equipments.

Thus the demand for an input or what is called a factor of production is a derived demand; its demand depends on the demand for output where the input enters. In fact, the quantity of demand for the final output as well as the degree of substituability/complementarty between inputs would determine the derived demand for a given input.

For example, the demand for gas in a fertilizer plant depends on the amount of fertilizer to be produced and substitutability between gas and coal as the basis for fertilizer production. However, the direct demand for a product is not contingent upon the demand for other products.

ii) Domestic and Industrial Demands

The example of the refrigerator can be restated to distinguish between the demand for domestic consumption and the demand for industrial use. In case of certain industrial raw materials which are also used for domestic purpose, this distinction is very meaningful.

For example, coal has both domestic and industrial demand, and the distinction is important from the standpoint of pricing and distribution of coal.

iii) Autonomous and Induced Demand

When the demand for a product is tied to the purchase of some parent product, its demand is called induced or derived.

For example, the demand for cement is induced by (derived from) the demand for housing. As stated above, the demand for all producers' goods is derived or induced. In addition, even in the realm of consumers' goods, we may think of induced demand. Consider the complementary items like tea and sugar, bread and butter etc. The demand for butter (sugar) may be induced by the purchase of bread (tea). Autonomous demand, on the other hand, is not derived or induced. Unless a product is totally independent of the use of other products, it is difficult to talk about autonomous demand. In the present world of

dependence, there is hardly any autonomous demand. Nobody today consumers just a single commodity; everybody consumes a bundle of commodities. Even then, all direct demand may be loosely called autonomous.

iv) Perishable and Durable Goods' Demands

Both consumers' goods and producers' goods are further classified into perishable/non-durable/single-use goods and durable/non-perishable/repeated-use goods. The former refers to final output like bread or raw material like cement which can be used only once. The latter refers to items like shirt, car or a machine which can be used repeatedly. In other words, we can classify goods into several categories: single-use consumer goods, single-use producer goods, durable-use consumer goods and durable-use producer's goods. This distinction is useful because durable products present more complicated problems of demand analysis than perishable products.

Non-durable items are meant for meeting immediate (current) demand, but durable items are designed to meet current as well as future demand as they are used over a period of time. So, when durable items are purchased, they are considered to be an addition to stock of assets or wealth. Because of continuous use, such assets like furniture or washing machine, suffer depreciation and thus call for replacement. Thus durable goods demand has two varieties – replacement of old products and expansion of total stock. Such demands fluctuate with business conditions, speculation and price expectations. Real wealth effect influences demand for consumer durables.

v) New and Replacement Demands

This distinction follows readily from the previous one. If the purchase or acquisition of an item is meant as an addition to stock, it is a new demand. If the purchase of an item is meant for maintaining the old stock of capital/asset, it is replacement demand. Such replacement expenditure is to overcome depreciation in the existing stock.

Producers' goods like machines. The demand for spare parts of a machine is replacement demand, but the demand for the latest model of a particular machine (say, the latest generation computer) is anew demand. In course of preventive maintenance and breakdown maintenance, the engineer and his crew often express their replacement demand, but when a new process or a new technique or anew product is to be introduced, there is always a new demand.

Replacement demand is induced by the quantity and quality of the existing stock, whereas the new demand is of an autonomous type. However, such a distinction is more of degree than of kind. For

example, when demonstration effect operates, a new demand may also be an induced demand. You may buy a new bike, because your neighbor has recently bought one. Yours is a new purchase, yet it is induced by your neighbor's demonstration.

vi) Final and Intermediate Demands

This distinction is again based on the type of goods- final or intermediate. The demand for semi-finished products, industrial raw materials and similar intermediate goods are all derived demands, i.e., induced by the demand for final goods. In the context of input-output models, such distinction is often employed.

vii) Individual and Market Demands

This distinction is often employed by the economist to study the size of the buyers' demand, individual as well as collective. A market is visited by different consumers, consumer differences depending on factors like income, age, sex etc. They all react differently to the prevailing market price of a commodity. For example, when the price is very high, a low-income buyer may not buy anything, though a high income buyer may buy something. In such a case, we may distinguish between the demand of an individual buyer and that of the market which is the market which is the aggregate of individuals. You may note that both individual and market demand schedules (and hence curves, when plotted) obey the law of demand. But the purchasing capacity varies between individuals. For example, A is a high income consumer, B is a middle-income consumer and C is in the low-income group. This information is useful for personalized service or target-group-planning as a part of sales strategy formulation.

viii) Total Market and Segmented Market Demands

This distinction is made mostly on the same lines as above. Different individual buyers together may represent a given market segment; and several market segments together may represent the total market. For example, the Hindustan Machine Tools may compute the demand for its watches in the home and foreign markets separately; and then aggregate them together to estimate the total market demand for its HMT watches. This distinction takes care of different patterns of buying behavior and consumers' preferences in different segments of the market. Such market segments may be defined in terms of criteria like location, age, sex, income, nationality, and so on

x) Company and Industry Demands

An industry is the aggregate of firms (companies). Thus the Company's demand is similar to an individual demand, whereas the industry's demand is similar to aggregated total demand. You may examine this distinction from the standpoint of both output and input.

For example, you may think of the demand for cement produced by the Cement Corporation of India (i.e., a company's demand), or the demand for cement produced by all cement manufacturing units including the CCI (i.e., an industry's demand). Similarly, there may be demand for engineers by a single firm or demand for engineers by the industry as a whole, which is an example of demand for an input. You can appreciate that the determinants of a company's demand may not always be the same as those of an industry's. The inter-firm differences with regard to technology, product quality, financial position, market (demand) share, market leadership and competitiveness- all these are possible explanatory factors. In fact, a clear understanding of the relation between company and industry demands necessitates an understanding of different market structures.

Determinates of demand and demand function

Demand for a commodity or service is determined by a number of factors. All such factors are called as 'demand determinants'.

1. Price of the given commodity, prices of other substitutes and/or complements, future expected trend in prices etc.
2. General Price level existing in the country- inflation or deflation.
3. Level of income and living standards of the people.
4. Size, rate of growth and composition of population.
5. Tastes, preferences, customs, habits, fashion and styles
6. Publicity, propaganda and advertisements.
7. Quality of the product.
8. Profit margin kept by the sellers.
9. Weather and climatic conditions.
10. Conditions of trade- boom or prosperity in the economy.
11. Terms & conditions of trade.
12. Governments' policy- taxation, liberal or restrictive measures.
13. Level of savings & pattern of consumer expenditure.
14. Total supply of money circulation and liquidity preference of the people.
15. Improvements in educational standards etc.

Thus, several factors are responsible for bringing changes in the demand for a product in the market. A business executive should have the knowledge and information about all these factors and forces in order to finalize his own production marketing and other business strategies.

Demand function

The demand function for a product explains the quantities of a product demanded due to different factors other than price in the market at a particular point of time

Dx = f(Ps,Pc,Ep,Y,Ey,T,W,A,U……etc) when,

Dx=Demand for commodity X Ps=Price of the substitution

Pc= Price of the complements Ep= Expected future price

Y= Income of the consumer Ey= Expected income in future

T= Tastes and preferences W=Wealth of the consumer

A= Advertisement and its impact U = All other determinants

Meaning and Definition

The term demand is different from desire, want, will or wish. In the language of economics, demand has different meaning. Any want or desire will not constitute demand

Demand = Desire to buy + Ability to pay + Willingness to pay

The term demand refers to total or given quantity of a commodity or a service that are purchased by the consumer in the market at a particular price and at a particular time.

The following are some of the important qualifications of demand-

- It is backed up by adequate purchasing power.
- It is always at a price.
- It should always be expressed in terms of specific quantity
- It is created in the market.
- It is related to a person, place and time.

Consumers create demand. Demand basically depends on utility of a product. There is a direct relation between the two i.e., higher the utility, higher would be demand and lower the utility, lower would be the demand.

Demand Curve

A demand curve is a locus of points showing various alternative price – quantity combinations. **In short, the graphical presentation of the demand schedule is called as a demand curve.**

It represents the functional relationship between quantity demanded and prices of a given commodity. The demand curve has a negative slope or it slope downwards to the right. The negative slope of the demand curve clearly indicates that quantity demanded goes on increasing as price falls and vice versa.

The Law of Demand

"Other things being equal, a fall in price leads to expansion in demand and a rise in price leads to contraction in demand".

Important Features of Law of Demand

1. There is an inverse relationship between price and demand.
2. Price is an independent variable and demand is a dependent variable
3. It is only a qualitative statement and as such it does not indicate quantitative changes in price and demand.
4. Generally, the demand curve slopes downwards from left to right.

The operation of the law is conditioned by the phrase **"Other things being equal"**. It indicates that given certain conditions certain results would follow. The inverse relationship between price and demand would be valid only when tastes and preferences, customs and habits of consumers, prices of related goods, and income of consumers would remains constant.

Exceptions to the Law of demand

Generally speaking, customers would buy more when price falls in accordance with the law of demand. **Exceptions to law of demand states that with a fall in price, demand also falls and with a rise in price demand also rises.** This can be represented by rising demand curve. In other words, the demand curve slopes upwards from left to right. It is known as an exceptional demand curve or unusual demand curve.

Following are the exception to the law of demand

1. Giffen's Paradox

A paradox is a foolish or absurd statement, but it will be true. Sir Robert Giffen, an Irish Economists, with the help of his own example (inferior goods) disproved the law of demand. The Giffen's paradox holds that **"Demand is strengthened with a rise in price or weakened with a fall in price"**. He gave the

example of poor people of Ireland who were using potatoes and meat as daily food articles. When price of potatoes declined, customers instead of buying greater quantities of potatoes started buying more of meat (superior goods). Thus, the demand for potatoes declined in spite of fall in its price.

2. Veblen's effect

Thorstein Veblen, a noted American Economist contends that there are certain commodities which are purchased by rich people not for their direct satisfaction, but for their 'snob – appeal' or 'ostentation'.**Veblen's effect states that demand for status symbol goods would go up with a arise in price and vice-versa.** In case of such status symbol commodities it is not the price which is important but the prestige conferred by that commodity on a person makes him to go for it. More commonly cited examples of such goods are diamonds and precious stones, world famous paintings, commodities used by world figures, personalities etc. Therefore, commodities having 'snob – appeal' are to be considered as exceptions to the law of demand.

3. Fear of shortage

When serious shortages are anticipated by the people, (e.g., during the war period) they purchase more goods at present even though the current price is higher.

4. Fear of future rise in price

If people expect future hike in prices, they buy more even though they feel that current prices are higher. Otherwise, they have to pay a still high price for the same product.

5. Speculation

Speculation implies purchase or sale of an asset with the hope that its price may rise of fall and make speculative profit. Normally speculation is witnessed in the stock exchange market. People buy more shares only when their prices show a rising trend. This is because they get more profit, if they sell their shares when the prices actually rise. Thus, speculation becomes an exception to the law of demand.

6 Conspicuous necessaries

Conspicuous necessaries are those items which are purchased by consumers even though their prices are rising on account of their special uses in our modern style of life.

In case of articles like wrist watches, scooters, motorcycles, tape recorders, mobile phones etc customers buy more in spite of their high prices.

7. Emergencies

During emergency periods like war, famine, floods cyclone, accidents etc., people buy certain articles even though the prices are quite high.

8. Ignorance

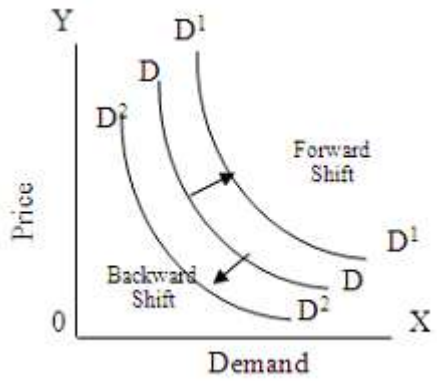
Sometimes people may not be aware of the prices prevailing in the market. Hence, they buy more at higher prices because of sheer ignorance.

9. Necessaries

Necessaries are those items which are purchased by consumers whatever may be the price. Consumers would buy more necessaries in spite of their higher prices.

Changes or Shifts in Demand

It is to be clearly understood that if demand changes only because of changes in the price of the given commodity in that case there would be only either expansion or contraction in demand. Both of them can be explained with the help of only one demand curve. **If demand changes not because of price changes but because of other factors or forces, then in that case there would be either increase or decrease in demand.** If demand increases, there would be forward shift in the demand curve to the right and if demand decreases, then there would be backward shift in the demand cure.



Elasticity of demand

The term elasticity is borrowed from physics. It shows the reaction of one variable with respect to a change in other variables on which it is dependent. Elasticity is an index of reaction.

In economics the term elasticity refers to a ratio of the relative changes in two quantities. It measures the responsiveness of one variable to the changes in another variable.

Elasticity of demand is generally defined as the responsiveness or sensitiveness of demand to a given change in the price of a commodity.

It refers to the capacity of demand either to stretch or shrink to a given change in price. Elasticity of demand indicates a ratio of relative changes in two quantities.ie, price and demand. According to prof. Boulding. "Elasticity of demand measures the responsiveness of demand to changes in price".1 In the words of Marshall," The elasticity (or responsiveness) of demand in a market is great or small according to as the amount demanded much or little for a given fall in price, and diminishes much or little for a given rise in price"

Kinds of elasticity of demand

Broadly speaking there are five kinds of elasticity's of demand. We shall discuss each one of them in some detail.

Price Elasticity of Demand

Price elasticity of demand is one of the important concepts of elasticity which is used to describe the effect of change in price on quantity demanded. In the words of

Prof. .Stonier and Hague, price elasticity of demand is a technical term used by economists to explain the degree of responsiveness of the demand for a product to a change in its price. It is measured by using the following formula.

$$Ep = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

$$\text{Symbolically } Ep = \frac{\Delta D}{\Delta P} \times \frac{P}{D} \quad \frac{40}{-2} \times \frac{6}{20} = -6$$

Original demand = 20 units original price = 6 – 00

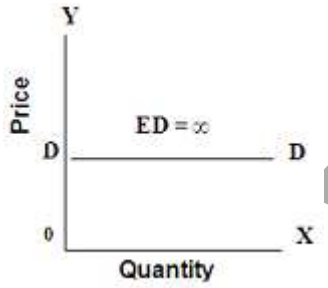
New demand = 60 units New price = 4 – 00

In the above example, price elasticity is – 6.

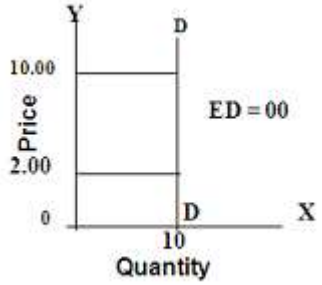
Based on numerical values of the co-efficient of elasticity, we can have the following five degrees of price elasticity of demand.

Different Degree of Price Elasticity of Demand

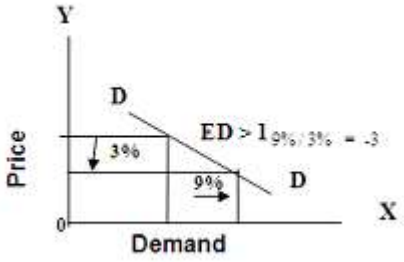
Perfectly Elastic Demand: In this case, a very small change in price leads to an infinite change in demand. The demand cure is a horizontal line and parallel to OX axis. The numerical co-efficient of perfectly elastic demand is infinity (ED=00)



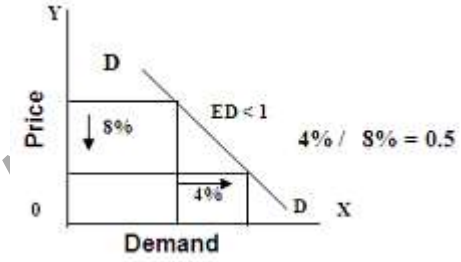
Perfectly Inelastic Demand: In this case, what ever may be the change in price, quantity demanded will remain perfectly constant. The demand curve is a vertical straight line and parallel to OY axis. Quantity demanded would be 10 units, irrespective of price changes from Rs. 10.00 to Rs. 2.00. Hence, the numerical co-efficient of perfectly inelastic demand is zero. ED = 0



Relative Elastic Demand: In this case, a slight change in price leads to more than proportionate change in demand. One can notice here that a change in demand is more than that of change in price. Hence, the elasticity is greater than one. For e.g., price falls by 3 % and demand rises by 9 %. Hence, the numerical co-efficient of demand is greater than one.

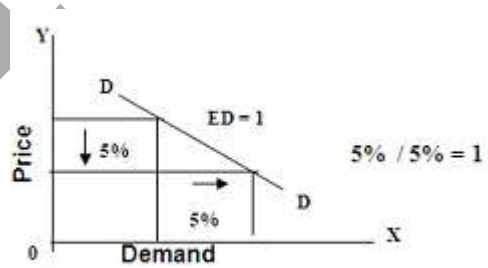


Relatively Inelastic Demand In this case, a large change in price, say 8 % fall price, leads to less than proportionate change in demand, say 4 % rise in demand. One can notice here that change in demand is less than that of change in price. This can be represented by a steeper demand curve. Hence, elasticity is less than one.



In all economic discussion, relatively elastic demand is generally called as 'elastic demand' or 'more elastic' demand while relatively inelastic demand is popularly known as 'inelastic demand' or 'less elastic demand'.

Unitary elastic demand: In this case, proportionate change in price leads to equal proportionate change in demand. For e.g., 5 % fall in price leads to exactly 5 % increase in demand. Hence, elasticity is equal to unity. It is possible to come across unitary elastic demand but it is a rare phenomenon.



Out of five different degrees, the first two are theoretical and the last one is a rare possibility. Hence, in all our general discussion, we make reference only to two terms-relatively elastic demand and relatively inelastic demand.

Determinants of Price Elasticity of Demand

The elasticity of demand depends on several factors of which the following are some of the important ones.

1. Nature of the Commodity

Commodities coming under the category of necessaries and essentials tend to be inelastic because people buy them whatever may be the price.

2. Existence of Substitutes

Substitute goods are those that are considered to be economically interchangeable by buyers.

3. Number of uses for the commodity

Single-use goods are those items which can be used for only one purpose and multiple-use goods can be used for a variety of purposes. If a commodity has only one use (singe use product) then in that case, demand tends to be inelastic because people have to pay more prices if they have to use that product for only one use.

4. Durability and reparability of a commodity

Durable goods are those which can be used for a long period of time. Demand tends to be elastic in case of durable and repairable goods because people do not buy them frequently.

5. Possibility of postponing the use of a commodity

In case there is no possibility to postpone the use of a commodity to future, the demand tends to be inelastic because people have to buy them irrespective of their prices.

6. Level of Income of the people

Generally speaking, demand will be relatively inelastic in case of rich people because any change in market price will not alter and affect their purchase plans. On the contrary, demand tends to be elastic in case of poor.

7. Range of Prices

There are certain goods or products like imported cars, computers, refrigerators, TV etc, which are costly in nature. Similarly, a few other goods like nails; needles etc. are low priced goods. In all these case, a

small fall or rise in prices will have insignificant effect on their demand. Hence, demand for them is inelastic in nature. However, commodities having normal prices are elastic in nature.

8. Proportion of the expenditure on a commodity

When the amount of money spent on buying a product is either too small or too big, in that case demand tends to be inelastic. For example, salt, newspaper or a site or house. On the other hand, the amount of money spent is moderate; demand in that case tends to be elastic. For example, vegetables and fruits, cloths, provision items etc.

9 Habits

When people are habituated for the use of a commodity, they do not care for price changes over a certain range. For example, in case of smoking, drinking, use of tobacco etc. In that case, demand tends to be inelastic. If people are not habituated for the use of any products, then demand generally tends to be elastic.

10. Period of time

Price elasticity of demand varies with the length of the time period. Generally speaking, in the short period, demand is inelastic because consumption habits of the people, customs and traditions etc. do not change. On the contrary, demand tends to be elastic in the long period where there is possibility of all kinds o f changes.

11. Level of Knowledge

Demand in case of enlightened customer would be elastic and in case of ignorant customers, it would be inelastic.

12. Existence of complementary goods

Goods or services whose demands are interrelated so that an increase in the price of one of the products results in a fall in the demand for the other. Goods which are jointly demanded are inelastic in nature. For example, pen and ink, vehicles and petrol, shoes and cocks etc have inelastic demand for this reason. If a product does not have complements, in that case demand tends to be elastic. For example, biscuits, chocolates, ice0creams etc. In this case the use of a product is not linked to any other products.

13. Purchase frequency of a product

If the frequency of purchase is very high, the demand tends to be inelastic. For e.g., coffee, tea, milk, match box etc. on the other hand, if people buy a product occasionally, in that case demand tends to be elastic for example, durable goods like radio, tape recorders, refrigerators etc.

Thus, the demand for a product is elastic or inelastic will depend on a number of factors.

Practical application of price elasticity of demand

1. Production planning

It helps a producer to decide about the volume of production. If the demand for his products is inelastic, specific quantities can be produced while he has to produce different quantities, if the demand is elastic.

2. Helps in fixing the prices of different goods

It helps a producer to fix the price of his product. If the demand for his product is inelastic, he can fix a higher price and if the demand is elastic, he has to charge a lower price. Thus, price-increase policy is to be followed if the demand is inelastic in the market and price-decrease policy is to be followed if the demand is elastic.

Similarly, it helps a monopolist to practice price discrimination on the basis of elasticity of demand.

2. Helps in fixing the rewards for factor inputs

Factor rewards refers to the price paid for their services in the production process. It helps the producer to determine the rewards for factors of production. If the demand for any factor unit is inelastic, the producer has to pay higher reward for it and vice-versa.

3. Helps in determining the foreign exchange rates

Exchange rate refers to the rate at which currency of one country is converted in to the currency of another country. It helps in the determination of the rate of exchange between the currencies of two different nations. For e.g. if the demand for US dollar to an Indian rupee is inelastic, in that case, an Indian has to pay more Indian currency to get one unit of US dollar and vice-versa.

4. Helps in determining the terms of trade

It is the basis for deciding the 'terms of trade' between two nations. **The terms of trade implies the rate at which the domestic goods are exchanged to foreign goods.** For e.g. if the demand for Japan's products in India is inelastic, in that case, we have to pay more in terms of our commodities to get one unit of a commodity from Japan and vice-versa.

5. Helps in fixing the rate of taxes

Taxes refer to the compulsory payment made by a citizen to the government periodically without expecting any direct return benfit from it. It helps the finance minister to formulate sound taxation policy of the country. He can impose more taxes on those goods for which the demand is inelastic and fewer taxes if the demand is elastic in the market.

6. Helps in Declaration of Public Utilities

Public utilities are those institutions which provide certain essential goods to the general public at economical prices. The Government may declare a particular industry as 'public utility' or nationalize it, if the demand for its products is inelastic.

7. Poverty in the Midst of Plenty:

The concept explains the paradox of poverty in the midst of plenty. A bumper crop of rice or wheat instead of bringing prosperity to farmers may actually bring poverty to them because the demand for rice and wheat is inelastic.

Thus, the concept of price elasticity of demand has great practical application in economic theory.

INCOME ELASTICITY OF DEMAND

Income elasticity of demand may be defined as the ratio or proportionate change in the quantity demanded of a commodity to a given proportionate change in the income.

In short, it indicates the extent to which demand changes with a variation in consumers income. The following formula helps to measure Ey.

$$Ey = \frac{\text{Percentage change in demand}}{\text{Percentage change in income}}$$

Symbolically $Ey = \frac{\Delta D}{\Delta Y} \times \frac{Y}{D}$ $\frac{300}{2000} \times \frac{4000}{400} = 1.5$

Original demand = 400 units Original Income = 4000-00

New demand = 700 units New Income = 6000-00

Generally speaking, Ey is positive. This is because there is a direct relationship between income and demand, i.e. higher the income; higher would be the demand and vice-versa. On the basis of the numerical value of the co-efficient, Ey is classified as greater than one, less than one, equal to one, equal to zero, and negative. The concept of Ey helps us in classifying commodities into different categories.

1. When Ey is positive, the commodity is normal [used in day-to-day life]
2. When Ey is negative, the commodity is inferior. .For example Jowar, beedi etc.
3. When Ey is positive and greater than one, the commodity is luxury.

4. When Ey is positive, but less than one, the commodity is essential.

5. When Ey is zero, the commodity is neutral e.g. salt, match box etc.

Practical application of income elasticity of demand

1. **Helps in determining the rate of growth of the firm.**

If the growth rate of the economy and income growth of the people is reasonably forecasted, in that case it is possible to predict expected increase in the sales of a firm and vice-versa**.**

2. Helps in the demand forecasting of a firm.

It can be used in estimating future demand provided the rate of increase in income and Ey for the products are known. Thus, it helps in demand forecasting activities of a firm.

3. Helps in production planning and marketing

The knowledge of Ey is essential for production planning, formulating marketing strategy, deciding advertising expenditure and nature of distribution channel etc in the long run.

4. Helps in ensuring stability in production

Proper estimation of different degrees of income elasticity of demand for different types of products helps in avoiding over-production or under production of a firm. One should also know whether rise or fall in come is permanent or temporary.

5. Helps in estimating construction of houses.

The rate of growth in incomes of the people also helps in housing programs in a country. Thus, it helps a lot in managerial decisions of a firm.

Cross Elasticity of Demand

It may be defined as the proportionate change in the quantity demanded of a particular commodity in response to a change in the price of another related commodity.

In the words of Prof. Watson cross elasticity of demand is the percentage change in quantity associated with a percentage change in the price of related goods. Generally speaking, it arises in case of substitutes and complements. The formula for calculating cross elasticity of demand is as follows.

$$Ec = \frac{\text{Percentage change in quantity demanded commodity X}}{\text{Percentage change in the price of Y}}$$

$$\text{Symbolically } E_c = \frac{\triangle Dx}{\triangle Py} \times \frac{Py}{Dx} \qquad \frac{40}{2} \times \frac{4}{50} = 1.6$$

Price of Tea rises from Rs. 4-00 to 6 -00 per cup

Demand for coffee rises from 50 cups to 80 cups.

Cross elasticity of coffee in this case is 1.6.

It is to be noted that-

1. Cross elasticity of demand is positive in case of good substitutes e.g. coffee and tea.

2. High cross elasticity of demand exists for those commodities which are close substitutes. In other words, if commodities are perfect substitutes For example Bata or Corona Shoes, close up or pepsodent tooth paste, Beans and ladies finger, Pepsi and coca cola etc.

3. The cross elasticity is zero when commodities are independent of each other. For example, stainless steel, aluminum vessels etc.

4. Cross elasticity between two goods is negative when they are complementaries. In these cases, rise in the price of one will lead to fall in the quantity demanded of another commodity For example, car and petrol, pen and ink.etc.

Practical application of cross elasticity of demand

1. Helps at the firm level

Knowledge of cross elasticity of demand is essential to study the impact of change in the price of a commodity which possesses either substitutes or complementaries. If accurate measures of cross elasticities are available, a firm can forecast the demand for its product and can adopt necessary safe guard against fluctuating prices of substitutes and complements. The pricing and marketing strategy of a firm would depend on the extent of cross elasticities between different alternative goods.

2. Helps at the industry level

Knowledge of cross elasticity would help the industry to know whether an industry has any substitutes or complementaries in the market. This helps in formulating various alternative business strategies to promote different items in the market.

Advertising or Promotional Elasticity of Demand.

Most of the firms, in the present marketing conditions spend considerable amounts of money on advertisement and other such sales promotional activities with the object of promoting its sales. **Advertising elasticity refers to the responsiveness demand or sales to change in advertising or other promotional expenses.** The formula to calculate the advertising elasticity is as follows.

$$Ea = \frac{\text{Percentage change in demand or sales}}{\text{Percentage change in advertisement expenditure}}$$

$$\text{Symbolically } Ea = \frac{\triangle \text{ D or Sales}}{\triangle \text{ A}} \times \frac{\text{A}}{\text{Demand or sales}} \quad \frac{40,000}{1200} \times \frac{800}{10,000} = 2.67$$

Original sales = 10,000 units original advertisement expenditure = 800-00

New sales = 50,000 units new advertisement expenditure = 2000-00

In the above example, advertising elasticity of demand is 1.67. it implies that for every one time increase in advertising expenditure, the sales would go up 1.67 times Thus, Ea is more than one.

Practical application of advertising elasticity of demand

The study of advertising elasticity of demand is of paramount importance to a firm in recent years because of fierce competition.

1. Helps in determining the level of prices

The level of prices fixed by one firm for its product would depend on the amount of advertisement expenditure incurred by it in the market.

2. Helps in formulating appropriate sales promotional strategy

The volume of advertisement expenditure also throws light on the sales promotional strategies adopted by a firm to push off its total sales in the market. Thus, it helps a firm to stimulate its total sales in the market.

3. Helps in manipulating the sales

It is useful in determining the optimum level of sales in the market. This is because the sales made by one firm would also depend on the total amount of money spent on sales promotion of other firms in the market.

Substitution Elasticity of Demand.

It measures the effects of the substitution of one commodity for another. **It may be defined as the proportionate change in the demand ratios of two substitute goods X and y to the proportionate change in the price ratio of two goods X and Y** The following formulas is used to measure substitution elasticity of demand.

$$Es = \frac{\text{Percentage change in the ratio of 2 goods x and y}}{\text{Percentage change in the price ratio of 2 goods x and y}}$$

$$\text{Symbolically. } Es = \frac{\Delta [Dx/Dy]}{[Dx/Dy]} \Big/ \frac{\Delta [Px/Py]}{Px/Py}$$

Where Dx / Dy is ratio of quantity demanded of two goods X & Y.

Delta DX / Dy is the change in the quantity ratio of two goods X & Y.

PX / Py is the price ratio of two goods X & Y.

Delta PX / PY is change in price ratio of two goods X & Y

SUPPLY ANALYSIS

The supply analysis is related to the behavior of producers or manufactures. Supply is made by producers. Each firm has to make a careful calculation about its total supply in the market. Supply analysis deals with mainly the different factors which bring about changes in the supply of a product in the market. Supply of a product basically depends on cost of production and the management decision. Hence it covers such problems like whereto sell, when to sell, for whom to sell, and how much to sell and at what price to sell etc.

Meaning of Supply and Law of Supply

According to Thomas, "The supply of goods is the quantity offered for sale in a given market at a given time at various prices".

According to Prof. Macconnel – "supply may be defined as a schedule which shows the various amounts of a product which a producer is willing to and able to produce and make available for sale in the market at each specific price in a set of possible prices during some given period."

" To quote Meyers – "We may define supply as a schedule of the amount of a good that would be offered for sale at all possible prices at any one instant of time, or during any one period of time, for example, a day, a week and so on, in which the conditions of supply remain the same." **Thus supply of a product refers to the various amounts which are offered for sale at a particular price during a given period of time.**

Supply is also different from stock**. Stock is the total volume of a commodity which can be brought into the market for sale at a short notice and supply means the quantity which is actually brought in the market**. For perishable commodities, like fish and fr uits, supply and stock are the same because they cannot be stored. The commodities which are not perishable can be held back, if prices are not favorable and released in large quantities when prices are favorable. In short, stock is potential supply.

Supply Schedule

Supply schedule is a tabular representation of different quantities of a commodity supplied at varying prices. It represents the functional relationship between quantity supplied and price. It is strictly prepared with reference to the price of a given commodity.

The following imaginary supply schedule shows that as price rises, supply extends and as price falls, supply contracts. Supply schedule is never absolute. It varies with different prices and at different times. 0.75 paisa is the minimum price to be charged per unit because it equals cost of production. No producer would like to charge cost price to customers. Hence, supply is zero at this price. It is called as reserve price.

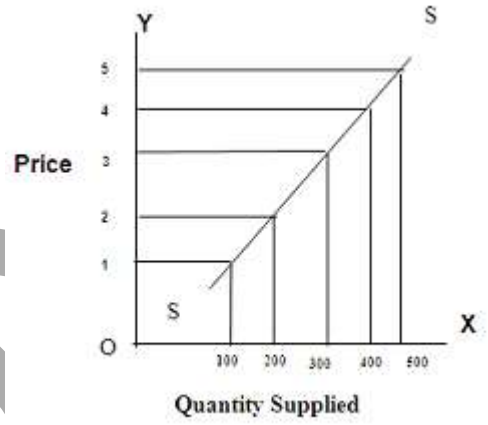
Price in Rs.	Quantity supplied in Units
5-00	500
4-00	400
3-00	300
2-00	200
1-00	100
0-75	00

Market supply Schedule

The total quantity of commodity supplied at different prices in a market by the whole body of sellers is called as market supply schedule. It refers to the aggregate behavior of the market rather than mere totaling of all individual supply schedules.

Price in Rs.	Quantity Supplied in Units			Total (A+B+C)
	A	B	C	
5.00	500	600	700	1800
4.00	400	500	600	1500
3.00	300	400	500	1200
2.00	200	300	400	900
1.00	100	200	300	600

The market supply schedule helps a firm to formulate its sales policy by manipulating the prices. It helps the management to know how much sales can be increased by raising the price without losing the demand for the product.



Supply Curve

The supply curve is a geometrical representation of the supply schedule. The upward sloping curve clearly indicates that as price rises, quantity supplied expands and vice-versa.

The Law of Supply

It states that "Other things remaining constant, the quantity supplied varies directly with the price i.e. when the price falls, supply will contract and when price rises, supply will extend"

. According to S.E.Thomas, "a rise in price tends to increase supply and a fall in price tends to reduce it." There is a functional relationship between supply and price. Mathematically S= F (P). The law of supply is based on a number of assumptions.

The other things which should remain constant for the law to operate are:

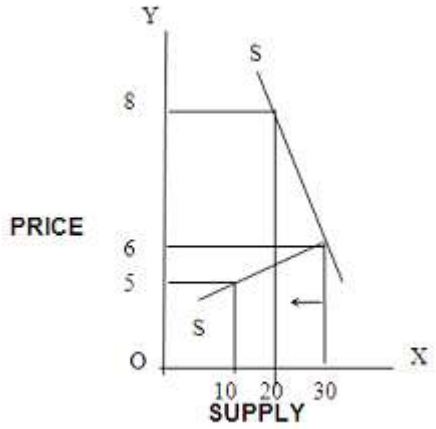
1. Number of firms, the scale of production and the speed of production.
2. Availability of other inputs.
3. Techniques of production.
4. Cost of production.
5. Market prices of other related goods.
6. Climate and weather conditions.

Special features of law of supply

- There is a direct relationship between price and supply i.e., higher the prices higher will be the supply and vice-versa.
- Price is an independent variable and supply is a dependent variable.
- The applicability of the law is conditioned by the phrase "Other things being equal". Thus the law is not universal in nature.
- The supply curve normally rises from left to right.
- It is only qualitative statement.

Exceptions to The Law Of Supply

Generally supply expands with the rise in price and contract with the fall in price. **But under certain exceptional circumstances, in spite of rise in price supply may not expand or at a lower rate more quantity may be sold.** This will happen under exceptional situations. In this case, the supply curve slopes backward.



In the diagram when price is Rs. 5.00, 10 units are sold and when price is Rs. 6.00, 30 units are sold. But, when price rises to Rs. 8.00 quantity supplied falls from 30 units to 20 units.

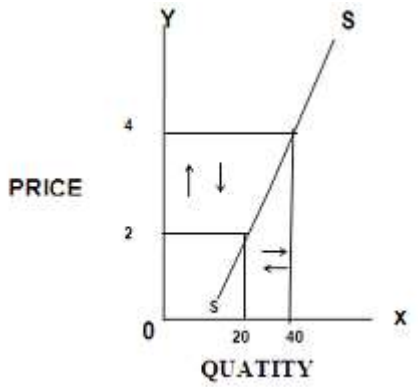
The following are some of the exceptions to the law of supply.

- If the seller is badly in need of money, he will sell more even at lower prices.
- If the seller wants to get rid of his products, then also he will sell more at reduced rates.
- When further heavy fall in price is anticipated the seller may become panicky and sell more at a current lower price.
- In case of auction, the auctioneer is not interested in maximizing profits by selling more units at a higher price. Here, the price is determined by the bidder while selling an item in an auction, the auctioner may have some other motives to sell the product. Thus, an auction sale is an exception to the law of supply.

Changes Or Shifts In Supply

When supply of a product changes only due to a change in the price of that product alone, it is called as either expansion or contraction in supply. Expansion in supply means, more quantity is supplied at a higher price and contraction in supply means, less quantity is supplied at a lower price.

This tendency can be represented through a single supply curve. In this case, the seller will be moving either in the upward or downward direction along with the same supply curve. It is clear from the following diagram.



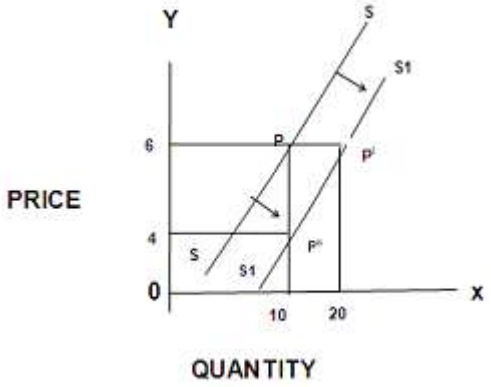
In the diagram, we can notice that when price is Rs. 2.00, 20 units are sold and when the price rises to Rs. 4.00, 40 units are sold (extension). On the other hand, when price falls from Rs. 4.00 to Rs. 2.00 quantity supplied also falls from 40 to 20 units.

Supply of a product may change due to changes in other factors. If supply changes not because of changes in price, but because of changes in other determinants, then, it will be a case of either increase or decrease in supply.

Increase in Supply

It implies more supply at the same price or same quantity of supply at a lower price. In this case, we have to draw a new supply curve. In the diagram, Original price = Rs 6.00

Original supply = 10 units Original supply Curve = SS



Now the seller sells 20 units at the same price of Rs. 6=00.Hence, we get a new point P'. or same quantity of 10 units are sold at a lower price of Rs. 4=00. Hence, we get another new point P". If we join these two new points P'&P" we get a new supply curve S'S'. There is forward shift in the position of supply curve. Forward shift indicates increase in supply.

Decrease in supply

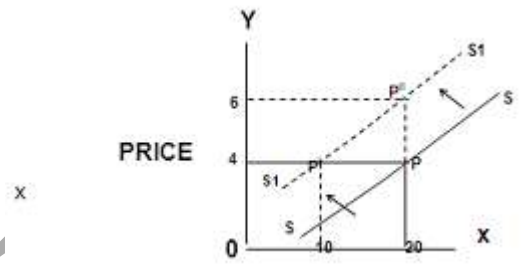
It implies that less quantity is supplied at the same price or same quantity is supplied at a higher price. In this case also, we have to draw a new supply curve.

In the diagram,

Original price = Rs.4=00

Original supply = 20 units

Original supply Curve = SS



When less quantity of 10 units are supplied at the same price of Rs.4.00, we get a new point P. Similarly, when same quantity of 20 units is supplied at a higher price of Rs.6 -00, we get a new point P". If we join these new points P' & P" then we get a new supply curve S'S', which is located to the left of the original supply curve. There is backward shift in the position of supply curve. Backward shift in the curve indicates decrease in supply.

Managerial uses of the Law of supply

- Helps a producer to take decisions with respect to:-
  - What quantity he has to sell.
  - What product he has to produce and sell.
  - At what price he has to sell.
  - When he has to produce.
  - Where he has to sell.
  - For whom he has to sell etc.
- Helps him to maintain a balance between stock & supply.
- Helps him in preparing the sales budget policy.
- Helps in estimating the present and future expected revenue and profit levels.

- Helps to analyze the effects of taxes on total sales in the market.
- Helps to analyze the impact of various govt. policies on the supply of a product.
- Helps in identifying the factors which affect supply of a product.

Determinants of Supply

Apart from price, many factors bring about changes in supply. Among them the important factors are:

Natural factors Favorable natural factors like good climatic conditions, timely, adequate, well distributed rainfall results in higher production and expansion in supply. On the other hand, adverse factors like bad weather conditions, earthquakes, droughts, untimely, ill-distributed, inadequate rainfall, pests etc., may cause decline in production and contraction in supply.

Change in techniques of production An improvement in techniques of production and use of modern highly sophisticated machines and equipments will go a long way in raising the output and expansion in supply. On the contrary, primitive techniques are responsible for lower output and hence lower supply.

Cost of production Given the market price of a product, if the cost of production rises due to higher wages, interest and price of inputs, supply decreases. If the cost of production falls, on account of lower wages, interest and price of inputs, supply rises.

Prices of related goods If prices of related goods fall, the seller of a given commodity offer more units in the market even though, the price of his product has not gone up. Opposite will be the case when the price of related goods rises.

Government policy When the government follows a positive policy, it encourages production in the private sector. Consequently, supply expands. For example granting of subsidies, development rebates, tax concession, etc,. On the other hand, output and supply cripples when the government adopts a negative policy. For example withdrawal of all concessions and incentives, imposition of high taxes, introduction of controls and quota system etc.

Monopoly power Supply tends to be low, when the market is controlled by monopolists, or a few sellers as in the case of oligopoly. Generally supply would be more under competitive conditions.

Number of sellers or firms Supply would be more when there are a large number of sellers. Similarly production and supply tends to be more when production is organized on large scale basis. If rate or speed of production is high supply expands. Opposite will be the case when number of sellers is less, small scale production and low rate of production.

Complementary goods In case of joint demand, the production & sale of one product may lead to production and sale of other product also.

Discovery of new source of inputs Discovery of new sources of inputs helps the producers to supply more at the same price & vice-versa.

Improvements in transport and communication This will facilitate free and quick movements of goods and services from production centers to marketing centers.

Future rise in prices When sellers anticipate a further rise in price, in that case current supply tends to fall. Opposite will be the case when, the seller expect a fall in price. Thus, many factors influence the supply of a product in the market. A firm should have a thorough knowledge of all these factors because it helps in preparing its production plan and sales strategy.

Supply Function

The law of supply and supply schedule explains only the direct relationship between price and supply. Mathematically S = f (P). Both analyses the impact of change in price on quantity supplied. Supply of a product, apart from price changes also depends upon many factors. When we analyze the influence of these factors on supply, supply schedule will be converted into a supply function.

Supply function is a comprehensive one as it analyses the causes for changes in supply in a detailed manner. Mathematically a supply function can be represented in the following manner.

Sx = f (Pf, T, Cp,Gp,N……etc)

Where

Sx = supply of a given product x

Pf = price of factor input

T = Technology

Cp = cost of production

Gp = Government policy

N = Number of firms etc

Supply function is also described as shifts in supply.

Elasticity and factors determining elasticity of supply

Elasticity Of Supply

It is a parallel concept to elasticity of demand**. It refers to the sensitiveness or responsiveness of supply to a given change in price.** In short, it measures the degree of adjustability of supply to a given change in price of a product.

. The formula to calculate elasticity of supply is as follows:

$$ES = \frac{\text{\% change in supply}}{\text{\% change in price}} = \frac{8\%}{2\%} = 4$$

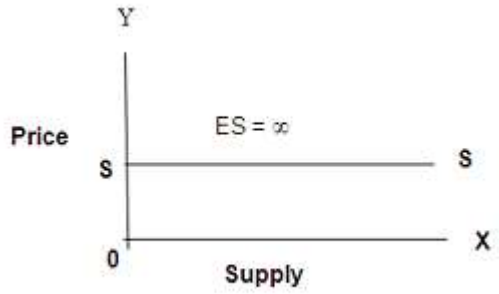
It implies that at the present level with every change in price one time, there will be a change in supply four times directly.

Types of elasticity of supply

Just like elasticity of demand, elasticity of supply is also equal to infinity, zero, greater than one, lower than one and equal to one.

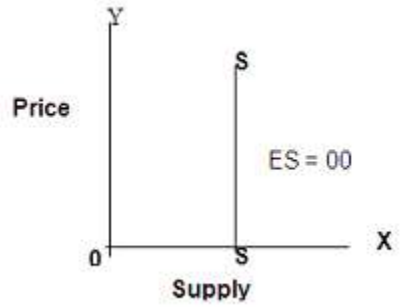
1.Perfectly elastic supply

Supply is said to be perfectly elastic when a slight change in price leads to immeasurable changes in supply. Hence supply curve would be a horizontal or parallel line to OX axis.



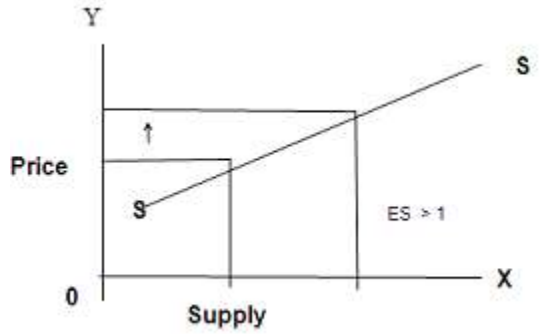
2. Perfectly inelastic supply

When supply of a commodity remains constant and does not change whatever may be the change in price, it is said to be absolutely or perfectly inelastic supply. Here the supply curve tends to be a vertical straight line. ES = 00 (zero) .



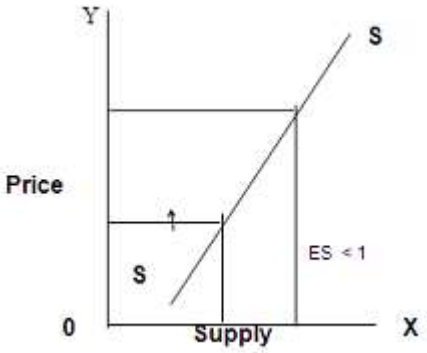
3. Relatively Elastic supply

If change in the supply is more than proportionate to the change in price, elasticity of supply is greater than one. In that case, the supply curve is flatter and is more inclined to x axis.



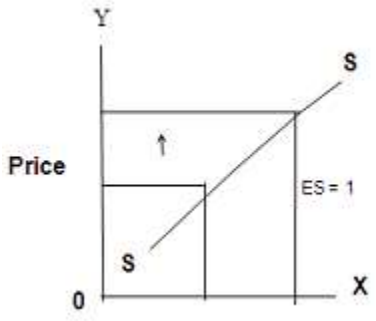
4. **Relatively Inelastic supply**

If the change in supply is less than proportionate to a given change in price, then, elasticity of supply is said to be less than one. Here the supply is a steeply rising one.



5. Unitary elastic supply

If proportionate change in supply is exactly equal and proportionate to the change in price, then elasticity of supply is equal to one.



Factors Determining Elasticity of Supply

Time period

Time has a greater influence on elasticity of supply than on demand. Generally supply tends to be inelastic in the short run because time available to organize and adjust supply to demand is insufficient. Supply would be more elastic in the long run.

Availability and mobility of factors of production

When factors of production are available in plenty and freely mobile from one occupation to another, supply tends to be elastic and vice – versa.

Technological improvements

Modern methods of production expands output and hence supply tends to be elastic. Old methods reduce output and supply tends to be inelastic.

Cost of production

If cost of production rise rapidly as output expands, then there will not be much incentive to increase output as the extra benefit will be choked off by increase in cost. Hence supply tends to be inelastic and vice-versa.

Kinds and nature of markets

If the seller is selling his product in different markets, supply tends to be elastic in any one of the market because, a fall in the price in one market will induce him to sell in another market. Again, if he is

producing several types of goods and can switch over easily from one to another, then each of his products will be elastic in supply.

Political conditions

Political conditions may disrupt production of a product. In that case, supply tends to become inelastic.

Number of sellers

Supply tends to become more elastic if there are more sellers freely selling their products and vice-versa.

Prices of related goods

A firm can charge a higher price for its products, if prices of other products are higher and vice-versa.

Goals of the firm

If the seller is happy with small output, supply tends to be inelastic and vice-versa.

Thus, several factors influence the elasticity of supply.

UNIT – I

POSSIBLE QUESTIONS

Part – B

1. Define managerial economics.
2. Write down the topics covered under scope of managerial economics.
3. List the significance of managerial economics.
4. List any roles of managerial economist.
5. List the features of managerial economics.
6. What is profit management?
7. What is capital management?
8. What are business decisions?
9. Bring the relationship economic analysis and business decisions.
10. What is micro economics?
11. What is macro economics?
12. Define firm.
13. Define industry.
14. Why business firms need to set objectives?
15. What are economic objectives?
16. Write a note on Profit Maximisation objective.
17. Why Sales Revenue Maximisation objective is set as business objective?
18. What is consumer's equilibrium?
19. What is utlity?
20. What is total utility and average utility?
21. What is marginal utility
22. What is equi-margianl utility?
23. Define demand.
24. List the types of demand.
25. What is Direct and Derived Demands?
26. What is meant by Autonomous and Induced Demand?

27. What is meant by Perishable and Durable Goods' Demands?
28. What is meant by New and Replacement Demands?
29. List the determinants of demand.
30. What is demand function?
31. Define Law Of Demand.
32. What is Elasticity of demand?
33. What is Price Elasticity of demand?
34. What is Income Elasticity of demand?
35. What is Cross Elasticity of demand?
36. What is Advertising Elasticity of demand?
37. List the practical application of Price and Income Elasticity of demand.
38. List the practical application of cross and advertising Elasticity of demand.
39. Give the meaning of supply.
40. What is supple schedule?
41. Define Law of supply.
42. List the assumptions of law of supply.
43. List some of the exceptions to the law of supply.
44. List the Managerial uses of the Law of supply
45. Bring the determinants of Supply.
46. Define supply function.
47. Define Elasticity of Supply
48. List the types of Elasticity of Supply.
49. Bring out the factors determining Elasticity of Supply,
50. What is supply curve?

Part – B

1. Explain the scope of managerial economics.
2. Discuss the significance of managerial economics.
3. Examine the roles and responsibilities of managerial economist.
4. Discuss the features of managerial economics.
5. Discuss the relationship between economic analysis and business decisions.
6. Explain the law of diminishing marginal utility
7. Explain the law of equi-marginal utility.
8. Discuss the significance of demand analysis.
9. Explain the different types of demand.
10. Explain the significance of economics in business decision making.
11. Differentiate the Perishable and Durable Goods' Demands.
12. Differentiate the New and Replacement Demands.
13. Examine the determinants of demand.
14. Explain the Law Of Demand.
15. Explain the Elasticity of demand.
16. Explain the Price Elasticity of demand.
17. Explain the Income Elasticity of demand.
18. Discuss the Cross Elasticity of demand.
19. Discuss the Advertising Elasticity of demand.
20. Discuss the practical application of Price and Income Elasticity of demand.
21. Discuss the practical application of cross and advertising Elasticity of demand.
22. Explain the Law of supply.
23. Discuss the Managerial uses of the Law of supply
24. Bring the determinants of Supply in detail.
25. Examine the types of Elasticity of Supply.
26. Bring out the factors determining Elasticity of Supply,

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF MANAGEMENT (UG)
I BBA - II SEMESTER
MANAGERIAL ECONOMICS
UNIT I MULTIPLE CHOICE QUESTIONS

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	_____ is the father of modem Economics	Robinson	Adam Smith,	Alfred Marshall	A.C. Pigou	Adam Smith,
2	Smith's definition is known as_____ definition	man-kind	social	science	wealth	wealth
3	Economics is _____	an art	Science	Art as well as Science	History	Art as well as Science
4	Scarcity definition is given by _____	Robinson	Adam Smith,	Alfred Marshall	A.C. Pigou.	Robinson
5	Economics may be of Micro and _____	Mycro	Macro	Maacro	Mecro	Macro
6	Macroeconomics is otherwise called _____Economics	Aggregative	Reggressive	Individual	Social	Aggregative
7	Micro Economics is concerned with specific _____	Social Unit	Science Unit	Economic Unit	Collection Unit	Economic Unit
8	Economics is Positive Science as well as _____	Collective science	Negative science	Narrow science	Normative Science	Normative Science
9	Economics is an _____	art	idea	action	emotion	art
10	_____ deals with the use of economic modes of thought to analyse business situation	Economics	Micro Economics	Business economics	Macro Economics	Business economics
11	Which one is not the field of traditional economics?	Welfare economics	Agricultural economics	Labour economics	Production economics	Production economics

12	The emphasis of business economics is on _____	bonus theory	system theory	Normative theory	Positive theory	Normative theory
13	_____ economics is concerned with questions	Macro	Micro	Normative	Social	Normative
14	Short run is a time period not enough for _____and producers to adjust completely to any new situation	Consumers	Customers	Farmers	Traders	Consumers
15	A long run is a planning horizon in which consumers and _____can adjust to any new situation.	Consumers	Customers	Producers	Traders	Producers
16	_____is a state of balance that can occur in model	Equilibrium	Marginal	Agricultural	Social	Equilibrium
17	_____cost is the benefit forgone from the next best alternative that is not selected	Explicit	Marginal	Opportunity	Social	Opportunity
18	Human wants are _____	Limited	Unlimited	Over	Very few	Unlimited
19	Human capacity to satisfy the wants are limited.	Limited	Unlimited	Over	Very few	Limited
20	The subject of economics is a _____ science.	Physical	Exact	Natural	Social	Social
21	The most important aspects of decision sciences that are used in managerial economics include all of these except _____	Explicit	Marginal	Opportunity	Social	Opportunity

22	The state in which all the industries in an economy are in equilibrium is of _____equilibrium	General	Specific	Marginal	Social	General
23	All of the following are sources of growth except growth of _____	Labour	Capital	Currency	Technology	Currency
24	The Problem with the marginal concept is that changes in variables may not be in _____	Bulk Unity	Single Unit	Whole Unit	Groups of Unit	Single Unit
25	The assumptions behind production possibilities curve include full _____of economy	Employment	Market	Rights	Concept	Employment
26	Economics is neutral between ends is said by_____	Adam smith	lionel robbins	Alfred Marshall	samuelson	lionel robbins
27	which branch of economics studies about unemployment, illiteracy, National income tax?	Micro economics	Wealth economics	Macro economics	fiscal economics	Macro economics
28	when we go form particular to general, this method is called as _____	Inductive method	General method	Deductive method	Partial method	Inductive method
29	The subject of economics is _____	A natural science	A social science	A political Science	A physical Science	A social science
30	Micro economics is also known as _____	price theory	process theory	product theory	projection theory	price theory

31	The business economic theory is concerned with the management technique to achieve_____	Maximization of total revenue from sales	minimization of cost of production	maximize profit from the business unit	Maximization of total revenue from sales and minimization of cost of production	Maximization of total revenue from sales and minimization of cost of production
32	Which is not included in the welfare goal to the society by the firm?	building of roads	charitable hospitals	living wages	maintaining parks	living wages
33	which is not the assumption of production possibility curve?	amount of resources are given	prices of factors fluctuates	resources are not specific	Technology remains constant	prices of factors fluctuates
34	A decision is not profitable if _____	it increases revenue more than costs.	it decreases some cost more than it increases others.	it increases costs more than revenue	it increases some revenues more than it decreases others	it increases costs more than revenue
35	Organizational efficiency does not include_____	administrative efficiency	entrepreneurial efficiency	managerial efficiency	technical efficiency	technical efficiency
36	What type of relationship exists between the price and quantity demanded?	indirect	Inverse	Positive	indirect and iverse	indirect and iverse
37	_____represents the tabular form of quantity demanded of a particular product during a given period of time	Law of demand	Demand Curve	Demand schedule	Cross demand	Demand schedule
38	Extension and contraction of demand for a good occurs as a result of _____	Change in the quality of good	Change in the price of a good	Availability of cheaper substitutes	Increases in Income	Change in the price of a good
39	In the case of a Giffen good, a fall in its price tends to _____	Demand remain constant	demand increases	Reduce the demand	Abnormal change in demand.	Reduce the demand

40	An exceptional demand curve is one that moves_____	upward to the right	downward to the right	horizontally	upward to the left	upward to the right
41	What would be the value of elasticity of demand, if the demand for the good is perfectly inelastic?	Zero	one	infinity	less than Zero	Zero
42	The demand for necessities is usually_____	highly elastic	highly inelastic	unit elasticity	relatively inelastic	highly inelastic
43	The responsiveness of demand to	Price elasticity of demand	cross elasticity of demand	income elasticity of demand	Supply	income elasticity of demand
44	Which one of the following is not a determinantof elasticity of demand?	price	supply	Income	savings	supply
45	which of the following statements regarding cross elasticity holds good?	it is always negative	it can be either positive or negative	it is always positive	it always lies between 0 and 1	it can be either positive or negative
46	Demand forecasting can be categorized on the basis of	the level of forecasti	Time period	nature of goods	level of forecasting, time period and nature of goods	level of forecasting, time period and nature of goods
47	Which is not a statistical method in forecasting?	Trend analysis	consumer survey	Regression method	least square method	consumer survey
48	In economic decision every variable influences every other variable in underlying assumption of _____	Delphi techniques	Multi collinearity	Simultaneous equation method	correlation	Simultaneous equation method

49	A time series can be calculated through_____	leading series	coincident series	logging series	leading series,coincident series and logging series	leading series,coincident series and logging series
50	A simultaneous equation model may consists of all the following except_____	Endogenous variables	Undefined equation	Exogenous variables	Structural equations	Undefined equation
51	The law which studies the direct relationship between price and quantity supplied of a commodity is _____	Law of demand	Law of variable proportion	Law of supply	demand only	Law of Supply
52	When price rises, quantity supplied_____	expands	falls	increases	unchanged	expands
53	When price decreases, quantity supplied_____	expands	rises	increases	decreases	decreases
54	In case of perfectly inelastic supply the supply curve will be _____	rising	vertical	horizontal	falling	vertical
55	When a percentage in price results in equal change in quantity supplied, it is called,_____	elastic supply	perfectly inelastic	elasticity of supply	unitary elastic supply	unitary elastic supply
56	when supply of a commodity decreases on a fall in its price, its is called_____	Expansion of supply	Increase in supply	Contraction in supply	Decrease in supply	Contraction in supply
57	which utility approach suggests that utility can be measured and quantified?	ordinal	Cardinal	both a &b	diminishing marginal ut	Cardinal

58	_____ of a commodity is the additional utility derived by a consumer, by consuming one more unit of that commodity.	Marginal utility	Total Utility	Average Utility	Maximum utility	Marginal utility
59	At what point does total utility starts diminishing?	when marginal utility is positive	when it remains constant	when marginal utility is increasing	when marginal utility is negative	when marginal utility is negative

UNIT-II –PRODUCTION AND COST FUNCTION

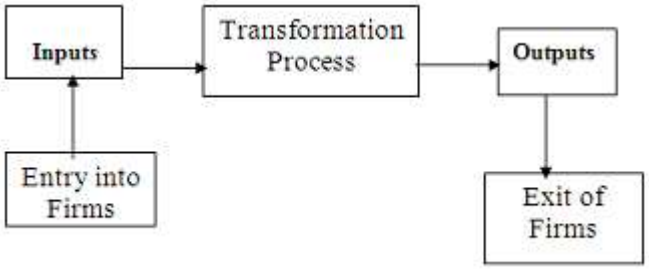
SYLLABUS

Unit – II : Producer's Behaviour and Supply

Basic Concepts in Production – Firm – Fixed & Variable Factors – Short & Long run – Total product – Marginal Product – Average Product – Production Function – Law of Returns – Law of Returns to Scale – Economies and Diseconomies of Scale – Producer's Equilibrium. Cost and Revenue Function : Cost of production – Opportunity Cost – Fixed and Variable costs – Total Cost Curves – Average Cost Curves – Marginal Cost – Long run and Short run Cost Curves – Total Revenue – Average Revenue – Marginal Revenue – Break Even Point Analysis.

Meaning of Production and Production Function

The concept of production can be represented in the following manner.



The term "Production" means transformation of physical "Inputs" into physical "Outputs".

The term "Inputs" refers to all those things or items which are required by the firm to produce a particular product. **Four factors of production are land, labor, capital and organization.**

PRODUCTION FUNCTION

The entire theory of production centre round the concept of production function.

"A production Function" expresses the technological or engineering relationship between physical quantity of inputs employed and physical quantity of outputs obtained by a firm".

It specifies a flow of output resulting from a flow of inputs during a specified period of time. A production function can be represented in the form of a mathematical model or equation as Q = f (L, N,

K….etc) where Q stands for quantity of output per unit of time and L N K etc are the various factor inputs like land, capital labor etc which are used in the production of output. The rate of output Q is thus, a function of the factor inputs L N K etc, employed by the firm per unit of time.

Factor inputs are of two types.

1. Fixed Inputs. Fixed inputs are those factors the quantity of which remains constant irrespective of the level of output produced by a firm. For example, land, buildings, machines, tools, equipments, superior types of labor, top management etc.

2. Variable inputs. Variable inputs are those factors the quantity of which varies with variations in the levels of output produced by a firm For example, raw materials, power, fuel, water, transport and communication etc.

The distinction between the two will hold good only in the short run. In the long run, all factor inputs will become variable in nature.

Short run is a period of time in which only the variable factors can be varied while fixed factors like plants, machineries, top management etc would remain constant.

Time available at the disposal of a producer to make changes in the quantum of factor inputs is very much limited in the short run.

Long run is a period of time where in the producer will have adequate time to make any sort of changes in the factor combinations.

Generally speaking, there are two types of production functions. They are as follows.

1. Short Run Production Function

In this case, the producer will keep all fixed factors as constant and change only a few variable factor inputs. In the short run, we come across two kinds of production functions-

1. Quantities of all inputs both fixed and variable will be kept constant and only one variable input will be varied. For example, Law of Variable Proportions.

2. Quantities of all factor inputs are kept constant and only two variable factor inputs are varied. For example, Iso-Quants and Iso- Cost curves.

2. Long Run Production Function

In this case, the producer will vary the quantities of all factor inputs, both fixed as well as variable in the same proportion. For Example, The laws of returns to scale.

Each firm has its own production function which is determined by the state of technology, managerial ability, organizational skills etc of a firm. If there are any improvements in them, the old production function is disturbed and a new one takes its place. It may be in the following manner:-

- The quantity of inputs may be reduced while the quantity of output may remain same.
- The quantity of output may increase while the quantity of inputs may remain same.
- The quantity of output may increase and quantity of inputs may decrease.

LAWS OF DIMINISHING RETURNS

The concept of returns to scale is a long run phenomenon. In this case, we study the change in output when all factor inputs are changed or made available in required quantity. An increase in scale means that all factor inputs are increased in the same proportion. In returns to scale, all the necessary factor inputs are increased or decreased to the same extent so that whatever the scale of production, the proportion among the factors remains the same.

Three Phases of Returns to Scale

When the quantity of all factor inputs are increased in a given proportion and output increases more than proportionately, then the returns to scale are said to be increasing; when the output increases in the same proportion, then the returns to scale are said to be constant; when the output increases less than proportionately, then the returns to scale are said to be diminishing.

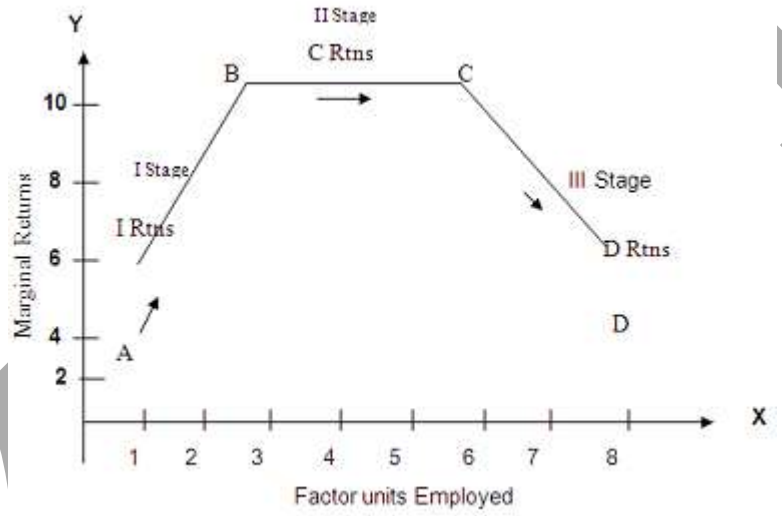
S.NO	Scale	Total Product in Units	Marginal Product in units
1	1 Acre of land + 3 labor	5	5
2	2 Acre of land + 5 labor	12	7
3	3 Acre of land + 7 labor	21	9
4	4 Acre of land + 9 labor	32	11
5	5 Acre of land + 11 labor	43	11
6	6 Acre of land + 13labor	54	11
7	7 Acre of land + 15 labor	63	9
8	8 Acre of land + 17 labor	70	7

It is clear from the table that the quantity of land and labor (Scale) is increasing in the same proportion, i.e. by 1 acre of land and 2 units of labor through out in our example. The output increases more than

proportionately when the producer is employing 4 acres of land and 9 units of labor. Output increases in the same proportion when the quantity of land is 5 acres and 11units of labor and 6 acres of land and 13 units of labor. In the later stages, when he employs 7 & 8 acres of land and 15 & 17 units of labor, output increases less than proportionately. Thus, one can clearly understand the operation of the three phases of the laws of returns to scale with the help of the table.

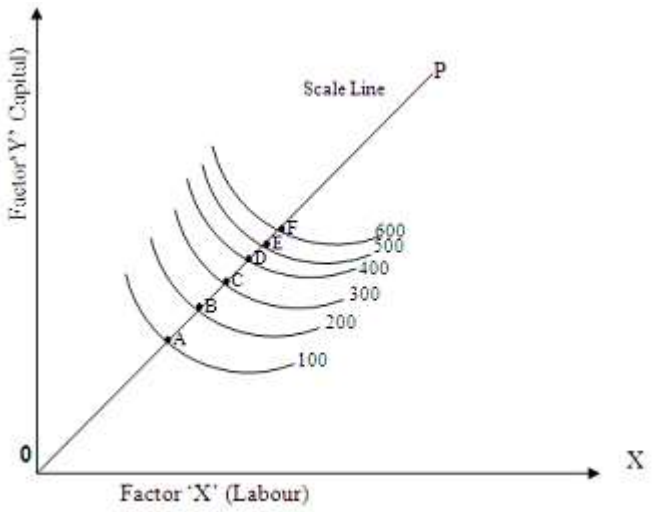
Diagrammatic representation

In the diagram, it is clear that the marginal returns curve slope upwards from A to B, indicating increasing returns to scale. The curve is horizontal from B to C indicating constant returns to scale and from C to D, the curve slope downwards from left to right indicating the operation of diminishing returns to scale.



INCREASING RETURNS TO SCALE:

Increasing returns to scale is said to operate when the producer is increasing the quantity of all factors [scale] in a given proportion, output increases more than proportionately.



Causes for Increasing Returns to Scale

Increasing returns to scale operate in a firm on account of several reasons. Some of the most important ones are as follows

- Wider scope for the use of latest tools, equipments, machineries, techniques etc to increase production and reduce cost per unit.
- Large-scale production leads to full and complete utilization of indivisible factor inputs leading to further reduction in production cost.
- As the size of the plant increases, more output can be obtained at lower cost.
- As output increases, it is possible to introduce the principle of division of labor and specialization, effective supervision and scientific management of the firm etc would help in reducing cost of operations.
- As output increases, it becomes possible to enjoy several other kinds of economies of scale like overhead, financial, marketing and risk-bearing economies etc, which is responsible for cost reduction.
- It is important to note that economies of scale outweigh diseconomies of scale in case of increasing returns to scale.

CONSTANT RETURNS TO SCALE

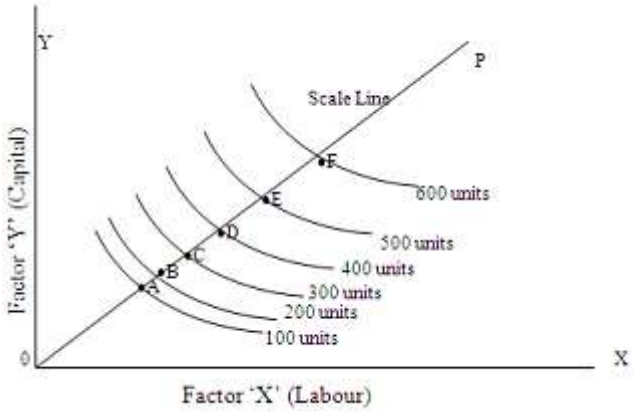
Constant returns to scale is operating when all factor inputs [scale] are increased in a given proportion, output also increases in the same proportion.

Causes for Constant Returns to Scale

In case of constant returns to scale, the various internal and external economies of scale are neutralized by internal and external diseconomies. Thus, when both internal and external economies and diseconomies are exactly balanced with each other, constant returns to scale will operate.

DIMINISHING RETURNS TO SCALE

Diminishing returns to scale is operating when output increases less than proportionately when compared the quantity of inputs used in the production process.



Causes for Diminishing Returns to Scale

Diminishing Returns to Scale operate due to the following reasons-

1. Emergence of difficulties in co-ordination and control.
2. Difficulty in effective and better supervision.
3. Delays in management decisions.
4. Inefficient and mis-management due to over growth and expansion of the firm.
5. Productivity and efficiency declines unavoidably after a point.

THE LAW OF VARIABLE PROPORTIONS

The law can be stated as the following. **As the quantity of different units of only one factor input is increased to a given quantity of fixed factors, beyond a particular point, the marginal, average and total output eventually decline**

The law of variable proportions is the new name for the famous **"Law of Diminishing Returns"** of classical economists. This law is stated by various economists in the following manner.

According to Prof. Benham, **"As the proportion of one factor in a combination of factors is increased, after a point, first the marginal and then the average product of that factor will diminish"**.

The same idea has been expressed by Prof.Marshall in the following words. **"An increase in the quantity of a variable factor added to fixed factors, at the end results in a less than proportionate increase in the amount of product, given technical conditions".**

ASSUMPTIONS OF THE LAW

1. Only one variable factor unit is to be varied while all other factors should be kept constant.

- Different units of a variable factor are homogeneous.
- Techniques of production remain constant.
- The law will hold good only for a short and a given period.
- There are possibilities for varying the proportion of factor inputs.

ILLUSTRATION

A hypothetical production schedule is worked out to explain the operation of the law.

Fixed factors = 1 Acre of land + Rs 5000-00 capital. Variable factor = labor.

Units of Variable inputs (Labor)	TP in units	AP in units	MP in units	
0	0	0	0	
1	10	10	10	
2	24	12	14	I Stage
3	39	13	15	
4	52	13	13	
5	60	12	8	
6	66	11	6	
7	70	10	4	II Stage
8	72	9	2	
9	72	8	0	
10	70	7	-2	III Stage

Total Product or Output : (TP) It is the output derived from all factors units, both fixed & variable employed by the producer. It is also a sum of marginal output.

Average Product or Output: (AP). It can be obtained by dividing total output by the number of variable factors employed.

Marginal Product or Output: (MP) It is the output derived from the employment of an additional unit of variable factor unit

Trends in output

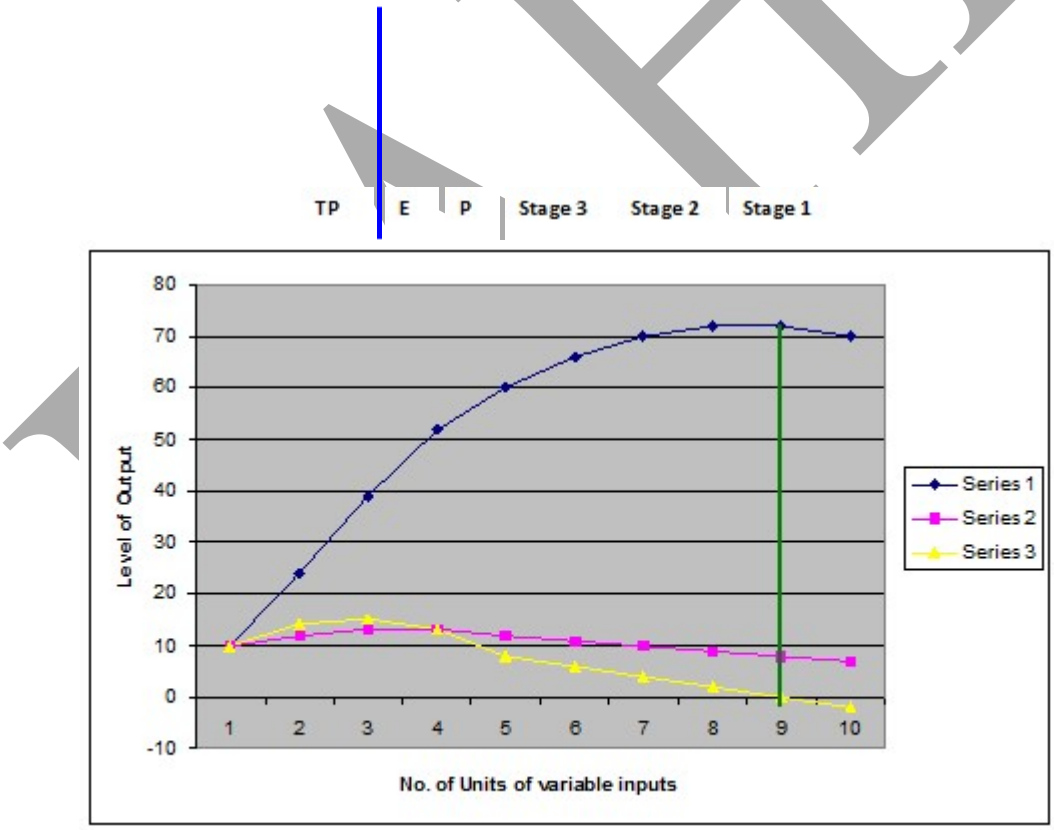
From the table, one can observe the following tendencies in the TP, AP, & MP.

1. Total output goes on increasing as long as MP is positive. It is the highest when MP is zero and TP declines when MP becomes negative.

2. MP increases in the beginning, reaches the highest point and diminishes at the end.

3. AP will also have the same tendencies as the MP. In the beginning MP will be higher than AP but at the end AP will be higher than MP.

Diagrammatic Representation



In the above diagram along with OX axis, we measure the amount of variable factors employed and along OY – axis, we measure TP, AP & MP. From the diagram it is clear that there are III stages.

Stage Number I. The Law Of Increasing Returns

The total output increases at an increasing rate (More than proportionately) up to the point P because corresponding to this point P the MP is rising and reaches its highest point. After the point P, MP decline and as such TP increases gradually.

The first stage comes to an end at the point where MP curve cuts the AP curve when the AP is maximum at N.

The I stage is called as the law of increasing returns on account of the following reasons.

1. The proportion of fixed factors is greater than the quantity of variable factors. When the producer increases the quantity of variable factor, intensive and effective utilization of fixed factors become possible leading to higher output.

2. When the producer increases the quantity of variable factor, output increases due to the complete utilization. of the "Indivisible Factors" 3. As more units of the variable factor is employed, the efficiency of variable factors will go up because it creates more opportunity for the introduction of division of labor and specialization resulting in higher output.

Stage Number II The Law Of Diminishing Returns

In this case as the quantity of variable inputs is increased to a given quantity of fixed factors, output increases less than proportionately. In this stage, the T.P increases at a diminishing rate since both AP & MP are declining but they are positive. The II stage comes to an end at the point where TP is the highest at the point E and MP is zero at the point B. It is known as the stage of "Diminishing Returns" because both the AP & MP of the variable factor continuously fall during this stage. It is only in this stage, the firm is maximizing its total output.

Diminishing returns arise due to the following reasons:

1. The proportion of variable factors are greater than the quantity of fixed factors. Hence, both AP & MP decline.
2. Total output diminishes because there is a limit to the full utilization of indivisible factors and introduction of specialization. Hence, output declines.
3. Diseconomies of scale will operate beyond the stage of optimum production.

4. Imperfect substitutability of factor inputs is another cause. Up to certain point substitution is beneficial. Once optimum point is reached, the fixed factors cannot be compensated by the variable factor. Diminishing returns are bound to appear as long as one or more factors are fixed and cannot be substituted by the others.

The III Stage The Stage Of Negative Returns.

In this case, as the quantity of variable input is increased to a given quantity of fixed factors, output becomes negative. During this stage, TP starts diminishing, AP continues to diminish and MP becomes negative. The negative returns are the result of excessive quantity of variable factors to a constant quantity of fixed factors. Hence, output declines. The proverb "Too many cooks spoil the broth" and " Too much is too bad" aptly applies to this stage. Generally, the III stage is a theoretical possibility because no producer would like to come to this stage.

The producer being rational will not select either the stage I (because there is opportunity for him to increase output by employing more units of variable factor) or the III stage (because the MP is negative). The stage I & III is described as NON-Economic Region or Uneconomic Region. Hence, the producer will select the II stage (which is described as the most economic region) where he can maximize the output. The II stage represents the range of rational production decision.

It is clear that in the above example, the most ideal or optimum combination of factor units = 1 Acre of land+ Rs. 5000 – 00 capital and 9 laborers.

All the 3 stages together constitute the law of variable proportions. Since the second stage is the most important, in practice we normally refer this law as the law of Diminishing Returns

Economies of Scale

They are gain to a firm. They help in reducing production cost and establishing an optimum size of a firm. Thus, they help a lot and go a long way in the development and growth of a firm. According to Prof. Marshall these economies are of two types, viz Internal Economies and External Economics Now we shall study both of them in detail.

I Internal Economies or Real Economies

Internal Economies are those economies which arise because of the actions of an individual firm to economize its cost. They arise due to increased division of labor or specialization and complete utilization of indivisible factor inputs. Prof. Cairncross points out that internal economies are open to a single factory or a single firm independently of the actions of other firms. They arise on account of an increase in the scale

of output of a firm and cannot be achieved unless output increases. The following are some of the important aspects of internal economies.

1. They arise "with in" or "inside" a firm.
2. They arise due to improvements in internal factors.
3. They arise due to specific efforts of one firm.
4. They are particular to a firm and enjoyed by only one firm.
5. They arise due to increase in the scale of production.
6. They are dependent on the size of the firm.
7. They can be effectively controlled by the management of a firm.
8. They are called as "Business Secrets "of a firm.

Kinds of Internal Economies.

1. Technical Economies

a. Economies of superior techniques:

b. Economies of increased dimension:

c. Economies of linked process: It is quite possible that a firm may not have various processes of production with in its own premises. Also it is possible that different firms through mutual agreement may decide to work together and derive the benefits of linked processes, for example, in diary farming, printing press, nursing homes etc.

d. Economies arising out of research and by – products:

e. Inventory Economies. Inventory management is a part of better materials management. A big firm can save a lot of money by adopting latest inventory management techniques.

2. **Managerial Economies.**

They arise because of better, efficient, and scientific management of a firm. Such economies arise in two different ways.

a. Delegation of details The general manager of a firm cannot look after the working of all processes of production. In order to keep an eye on each production process he has to delegate some of his powers or functions to trained or specialized personnel and thus relieve himself for co-ordination, planning and executing the plans. This will enable him to bring about improvements in production process and in bringing down the cost of production.

b. Functional Specialization. It is possible to secure economies of large scale production by dividing the work of management into several separate departments. Each department is placed under an expert and the rest of the work is left into the hands of specialists. This will ensure better and more efficient productive management with scientific business administration. This would lead to higher efficiency and reduction in the cost of production.

3. **Marketing or Commercial economies**:

These economies will arise on account of buying and selling goods on large scale basis at favorable terms.

4. **Financial Economies**

They arise because of the advantages secured by a firm in mobilizing huge financial resources. A large firm on account of its reputation, name and fame can mobilize huge funds from money market, capital market, and other private financial institutions at concessional interest rates. It can borrow from banks at relatively cheaper rates. It is also possible to have large overdrafts from banks. A large firm can float debentures and issue shares and get subscribed by the general public.

5 **Labor Economies.**

These economies will arise as a result of employing skilled, trained, qualified and highly experienced persons by offering higher wages and salaries. As a firm expands, it can employ a large number of highly talented persons and get the benefits of specialization and division of labor.

6. **Transport and Storage Economies**

They arise on account of the provision of better, highly organized and cheap transport and storage facilities and their complete utilization. A large company can have its own fleet of vehicles or means of transport which are more economical than hired ones. Similarly, a firm can also have its own storage facilities which reduce cost of operations.

7. **Over Head Economies**

These economies will arise on account of large scale operations. The expenses on establishment, administration, book-keeping, etc, are more or less the same whether production is carried on small or large scale. Hence, cost per unit will be low if production is organized on large scale.

8. Economies of Vertical integration

A firm can also reap this benefit when it succeeds in integrating a number of stages of production. It secures the advantages that the flow of goods through various stages in production processes is more readily

controlled. Because of vertical integration, most of the costs become controllable costs which help an enterprise to reduce cost of production.

9. **Risk-bearing or survival economies**

These economies will arise as a result of avoiding or minimizing several kinds of risks and uncertainties in a business.

Diversification of output Instead of producing only one particular variety, a firm has to produce multiple products If there is loss in one item it can be made good in other items.

Diversification of market: Instead of selling the goods in only one market, a firm has to sell its products in different markets. If consumers in one market desert a product, it can cover the losses in other markets.

Diversification of source of supply: Instead of buying raw materials and other inputs from only one source, it is better to purchase them from different sources. If one person fails to supply, a firm can buy from several sources.

Diversification of the process of manufacture: Instead adopting only one process of production to manufacture a commodity, it is better to use different processes or methods to produce the same commodity so as to avoid the loss arising out of the failure of any one process.

II. External Economies or Pecuniary Economies

External economies are those economies which accrue to the firms as a result of the expansion in the output of whole industry and they are not dependent on the output level of individual firms. These economies or gains will arise on account of the over all growth of an industry or a region or a particular area. They arise due to benefit of localization and specialized progress in the industry or region. Prof. Stonier & Hague points out that external economies are those economies in production which depend on increase in the output of the whole industry rather than increase in the output of the individual firm The following are some of the important aspect of external economies.

1. They arise 'outside' the firm.
2. They arise due to improvement in external factors.
3. They arise due to collective efforts of an industry.
4. They are general, common & enjoyed by all firms.
5. They arise due to overall development, expansion & growth of an industry or a region.
6. They are dependent on the size of industry.
7. They are beyond the control of management of a firm.

8. They are called as "open secrets "of a firm.

Kinds of External Economies

Economies of concentration or Agglomeration

They arise because in a particular area a very large number of firms which produce the same commodity are established. In other words, this is an advantage which arises from what is called 'Localization of Industry'.

Economies of Information

These economies will arise as a result of getting quick, latest and up to date information from various sources.

Economies of Disintegration

These economies will arise as a result of dividing one big unit in to different small units for the sake of convenience of management and administration.

Economies of Government Action

These economies will arise as a result of active support and assistance given by the government to stimulate production in the private sector units.

Economies of Physical Factors

These economies will arise due to the availability of favorable physical factors and environment.

Economies of Welfare

These economies will arise on account of various welfare programs under taken by an industry to help its own staff.

Diseconomies of Scale

When a firm expands beyond the optimum limit, economies of scale will be converted in to diseconomies of scale. Over growth becomes a burden. Hence, one should not cross the limit. On account of diseconomies of scale, more output is obtained at higher cost of production. The following are some of the main diseconomies of scale

1. **Financial diseconomies**. . As there is over growth, the required amount of fiancée may not be available to a firm. Consequently, higher interest rates are to be paid for additional funds**.**
2. **Managerial diseconomies** Excess growth leads to loss of effective supervision, control management, coordination of factors of production leading to all kinds of wastages, indiscipline and rise in production and operating costs.

3. **Marketing diseconomies.** Unplanned excess production may lead to mismatch between demand and supply of goods leading to fall in prices. Stocks may pile up, sales may decline leading to fall in revenue and profits.
4. **Technical diseconomies** When output is carried beyond the plant capacity, per unit cost will certainly go up. There is a limit for division of labor and specialization. Beyond a point, they become negative. Hence, operation costs would go up.
5. **Diseconomies of risk and uncertainty bearing.** If output expends beyond a limit, investment increases. The level of inventory goes up. Sales do not go up correspondingly. Business risks appear in all fields of activities. Supply of factor inputs become inelastic leading to high prices.
6. **Labor diseconomies.** An unwieldy firm may become impersonal. Contact between labor and management may disappear. Workers may demand higher wages and salaries, bonus and other such benefits etc. Industrial disputes may arise. Labor unions may not cooperate with the management. All of them may contribute for higher operation costs.

II External diseconomies. When several business units are concentrated in only place or locality, it may lead to congestion,, environmental pollution, scarcity of factor inputs like, raw materials, water, power, fuel, transport and communications etc leading to higher production and operational costs.

Internalisation Of External Economies

It implies that a firm will convert certain external benefits created by the government or the entire society to its own favor with out making any additional investments.

Externalisation of Internal Diseconomies

In this case, a particular firm on account of its regular operations will pass on certain costs on the entire society.

Economies of Scope

Economies of scope may be defined as those benefits which arise to a firm when it produces more than one product jointly rather than producing two items separately by two different business units.

Diseconomies of Scope

Diseconomies of scope may be defined as those disadvantages which occur when cost of producing two products jointly are costlier than producing them individually.

Difference between Economies of Scale and Economies of Scope

Economies of scale	**Economies of scope**

1. It is connected with increase or Decrease in scale of production	1. It is connected with increase or decrease in distribution & marketing
2. It shows change in output of a Single product	2. It shows a change in output of more than one product
3. It is associated with supply side Changes in output	3. It is associated with demand side changes in output
4. It indicates savings in cost owing to Increase in volume of output	4. It indicates savings in cost due to production of more than one product

Meaning of cost of production

Cost of production refers to the total money expenses (Both explicit and implicit) incurred by the producer in the process of transforming inputs into outputs.

In short, it refers total money expenses incurred to produce a particular quantity of output by the producer. The knowledge of various concepts of costs, cost-output relationship etc. occupies a prominent place in cost analysis.

Managerial Uses of Cost Analysis

A detailed study of cost analysis is very useful for managerial decisions. It helps the management –

1. To find the most profitable rate of operation of the firm.
2. To determine the optimum quantity of output to be produced and supplied.
3. To determine in advance the cost of business operations.
4. To locate weak points in production management to minimize costs.
5. To fix the price of the product.
6. To decide what sales channel to use.
7. To have a clear understanding of alternative plans and the right costs involved in them.
8. To have clarity about the various cost concepts.
9. To decide and determine the very existence of a firm in the production field.
10. To regulate the number of firms engaged in production.
11. To decide about the method of cost estimation or calculations.
12. To find out decision making costs by re-classifications of elements, reprising of input factors etc, so as to fit the relevant costs into management planning, choice etc.

Different Kinds of Cost Concepts

1. **Money Cost and Real Cost**

When cost is expressed in terms of money, it is called as money cost It relates to money outlays by a firm on various factor inputs to produce a commodity. When cost is expressed in terms of physical or mental efforts put in by a person in the making of a product, it is called as real cost.

2. Implicit or Imputed Costs and Explicit Costs

Explicit costs are those costs which are in the nature of contractual payments and are paid by an entrepreneur to the factors of production [excluding himself] in the form of rent, wages, interest and profits, utility expenses, and payments for raw materials etc.

3. Actual costs and Opportunity Costs

They are the actual expenses incurred for producing or acquiring a commodity or service by a firm. Opportunity cost of a good or service is measured in terms of revenue which could have been earned by employing that good or service in some other alternative uses.

4. Direct costs and indirect costs Direct costs are those costs which can be specifically attributed to a particular product, a department, or a process of production.

5. Past and future costs.

Past costs are those costs which are spent in the previous periods. On the other hand, future costs are those which are to be spent. in the future. Past helps in taking decisions for future.

6. Marginal and Incremental costs

Marginal cost refers to the cost incurred on the production of another or one more unit .**It implies additional cost incurred to produce an additional unit of output** It has nothing to do with fixed cost and is always associated with variable cost.

7.Fixed costs and variable costs.

Fixed costs are those costs which do not vary with either expansion or contraction in output. They remain constant irrespective of the level of output. They are positive even if there is no production. They are also called as supplementary or over head costs.

On the other hand, **variable costs are those costs which directly and proportionately increase or decrease with the level of output produced**. They are also called as prime costs or direct costs.

8. Accounting costs and economic costs.

Accounting costs are those costs which are already incurred on the production of a particular commodity. It includes only the acquisition costs. They are the actual costs involved in the making of a commodity. On the other hand, **economic costs are those costs that are to be incurred by an entrepreneur on various alternative programs.** It involves the application of opportunity costs in decision making.

Determinants of Costs

1. Technology Modern technology leads to optimum utilization of resources, avoid all kinds of wastages, saving of time, reduction in production costs and resulting in higher output. On the other hand, primitive technology would lead to higher production costs.

2. **Rate of output: (the degree of utilization of the plant and machinery)**

Complete and effective utilization of all kinds of plants and equipments would reduce production costs and under utilization of existing plants and equipments would lead to higher production costs.

3.Size of Plant and scale of production

Generally speaking big companies with huge plants and machineries organize production on large scale basis and enjoy the economies of scale which reduce the cost per unit.

4. Prices of input factors

. Higher market prices of various factor inputs result in higher cost of production and vice-versa.

5. Efficiency of factors of production and the management

Higher productivity and efficiency of factors of production would lead to lower production costs and vice-versa.

6. Stability of output

Stability in production would lead to optimum utilization of the existing capacity of plants and equipments. It also brings savings of various kinds of hidden costs of interruption and learning leading to higher output and reduction in production costs.

7. Law of returns

Increasing returns would reduce cost of production and diminishing returns increase cost.

8. Time period

In the short run, cost will be relatively high and in the long run, it will be low as it is possible to make all kinds of adjustments and readjustments in production process.

Thus, many factors influence cost of production of a firm.

Short – run and long – run cost functions

Cost and output are correlated. Cost output relations play an important role in almost all business decisions. It throws light on cost minimization or profit maximization and optimization of output. **The relation between the cost and output is technically described as the "cost function".** The significance of cost-output relationship is so great that in economic analysis the cost function usually refers to the relationship between cost and rate of output alone and we assume that all other independent variables are kept constant. Mathematically speaking TC = f (Q) where TC = Total cost and Q stands for output produced.

Types of cost function.

Generally speaking there are two types of cost functions.

1. Short run cost function.
2. Long run cost function.

MEANING OF SHORT RUN

Short-run is a period of time in which only the variable factors can be varied while fixed factors like plant, machinery etc remains constant**.**

1. Fixed costs

These costs are incurred on fixed factors like land, buildings, equipments, plants, superior type of labor, top management etc.

Fixed costs in the short run remain constant because the firm does not change the size of plant and the amount of fixed factors employed. Fixed costs do not vary with either expansion or contraction in output**.**

2. Variable costs

The cost corresponding to variable factors are discussed as variable costs. These costs are incurred on raw materials, ordinary labor, transport, power, fuel, water etc, which directly vary in the short run.

Cost-output relationship and nature and behavior of cost curves in the short run

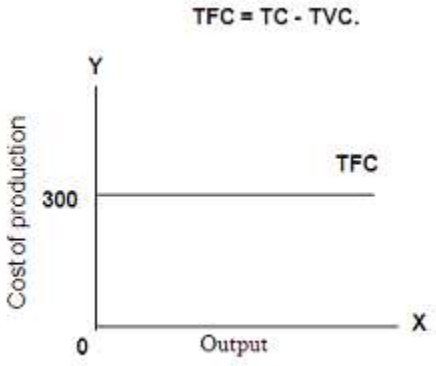
In order to study the relationship between the level of output and corresponding cost of production, we have to prepare the cost schedule of the firm. **A cost-schedule is a statement of a variation in costs resulting from variations in the levels of output. It shows the response of cost to changes in output.** A hypothetical cost schedule of a firm has been represented in the following table.

Output in Units	TFC	TVC	TC	AFC	AVC	AC	MC
0	360	–	360	–	–	–	–
1	360	180	540	360	180	540	180
2	360	240	600	180	120	300	60
3	360	270	630	120	90	210	30
4	360	315	675	90	78.75	168.75	45
5	360	420	780	72	84	156	105
6	360	630	990	60	105	165	210

On the basis of the above cost schedule, we can analyse the relationship between changes in the level of output and cost of production. If we represent the relationship between the two in a geometrical manner, we get different types of cost curves in the short run. In the short run, generally we study the following kinds of cost concepts and cost curves.

1. Total fixed cost (TFC)

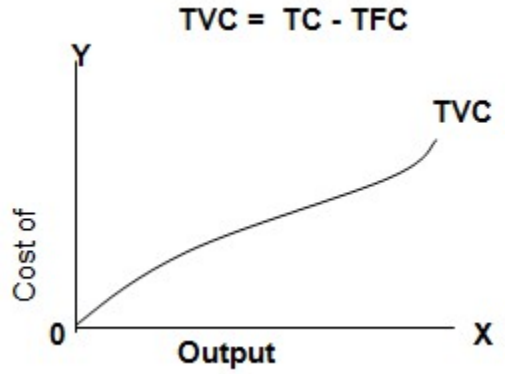
TFC refers to total money expenses incurred on fixed inputs like plant, machinery, tools & equipments in the short run.



2. Total variable cost (TVC)

TVC refers to total money expenses incurred on the variable factors inputs like raw materials, power, fuel, water, transport and communication etc, in the short run.

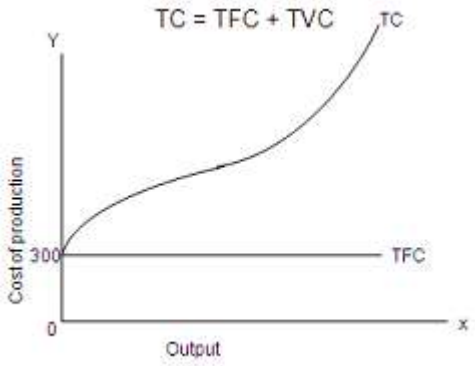
TVC curve slope upwards from left to right. TVC curve rises as output is expanded. When out put is Zero, TVC also will be zero. Hence, the TVC curve starts from the origin.



3. Total cost (TC)

The total cost refers to the aggregate money expenditure incurred by a firm to produce a given quantity of output. TC = TFC +TVC.

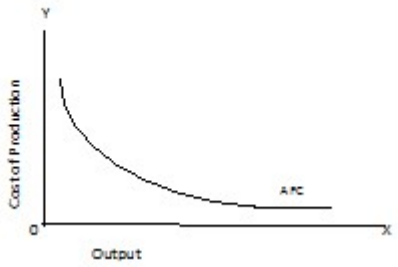
TC varies in the same proportion as TVC. In other words, a variation in TC is the result of variation in TVC since TFC is always constant in the short run.



The total cost curve is rising upwards from left to right. In our example the TC curve starts form Rs. 300-00 because even if there is no output, TFC is a positive amount. TC and TVC have same shape because an increase in output increases them both by the same amount since TFC is constant. TC curve is derived by adding up vertically the TVC and TFC curves. The vertical distance between TVC curve and TC curve is equal to TFC and is constant throughout because TFC is constant.

4. Average fixed cost (AFC)

Average fixed cost is the fixed cost per unit of output. When TFC is divided by total units of out put AFC is obtained, Thus, AFC = TFC/Q

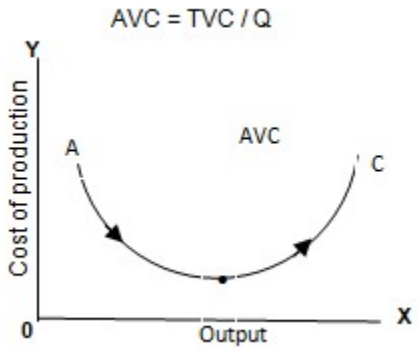


AFC and output have inverse relationship. It is higher at smaller level and lower at the higher levels of output in a given plant. The reason is simple to understand. Since AFC = TFC/Q, it is a pure mathematical result that the numerator remaining unchanged, the increasing denominator causes diminishing product. Hence, TFC spreads over each unit of out put with the increase in output. Consequently, AFC diminishes continuously. This relationship between output and fixed cost is universal for all types of business concerns.

5. Average variable cost: (AVC)

The average variable cost is variable cost per unit of output. AVC can be computed by dividing the TVC by total units of output. Thus AVC = TVC/Q. The AVC will come down in the beginning and then rise as more units of output are produced with a given plant. This is because as we add more units of variable factors in a fixed plant, the efficiency of the inputs first increases and then it decreases.

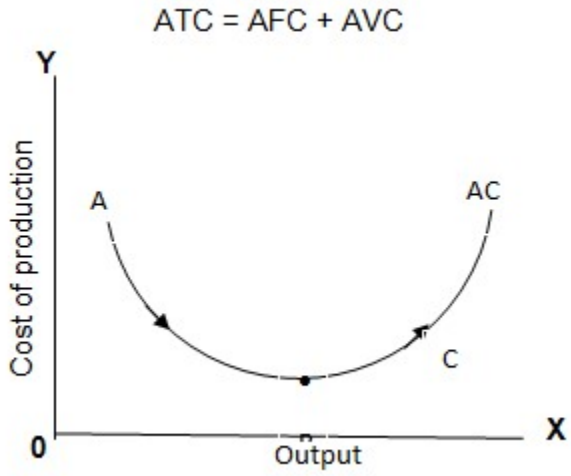
The AVC curve is a U-shaped cost curve.



6. Average total cost (ATC) or Average cost (AC)

Ac refers to cost per unit of output. AC is also known as the unit cost since it is the cost per unit of output produced. AC is the sum of AFC and AVC. Average total cost or average cost is obtained by dividing the total cost by total output produced. AC = TC/Q Also AC is the sum of AFC and AVC.

In the short run AC curve also tends to be U-shaped. The combined influence of AFC and AVC curves will shape the nature of AC curve.



.As we observe, average fixed cost begin to fall with an increase in output while average variable costs come down and rise. As long as the falling effect of AFC is much more than the rising effect of AVC, the AC tends to fall. At this stage, increasing returns and economies of scale operate and complete utilization of resources force the AC to fall.

When the firm produces the optimum output, AC becomes minimum. This is called as least – cost output level. Again, at the point where the rise in AVC exactly counter balances the fall in AFC, the balancing effect causes AC to remain constant.

In the third stage when the rise in average variable cost is more than drop in AFC, then the AC shows a rise, When output is expanded beyond the optimum level of output, diminishing returns set in and diseconomies of scale starts operating. At this stage, the indivisible factors are used in wrong proportions. Thus, AC starts rising in the third stage.

The short run AC curve is also called as **"Plant curve".** It indicates the optimum utilization of a given plant or optimum plant capacity.

7. Marginal Cost (MC)

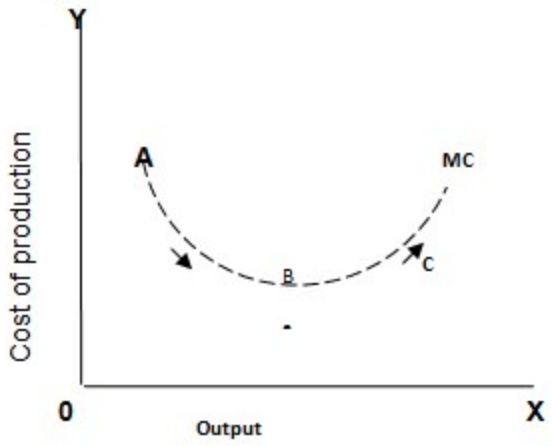
Marginal cost may be defined as the net addition to the total cost as one more unit of output is produced. In other words, it implies additional cost incurred to produce an additional unit.

For example, if it costs Rs. 100 to produce 50 units of a commodity and Rs. 105 to produce 51 units, then MC would be Rs. 5. It is obtained by calculating the change in total costs as a result of a change in the total output. Also MC is the rate at which total cost changes with output. Hence,

MC = Δ TC / Δ TQ. Where Δ TC stands for change in total cost and Δ TQ stands for change in total output. Also $MC_n = TC_n - TC_{n-1}$

It is necessary to note that MC is independent of TFC and it is directly related to TVC as we calculate the cost of producing only one unit. In the short run, the MC curve also tends to be U-shaped.

The shape of the MC curve is determined by the laws of returns. If MC is falling, production will be under the conditions of increasing returns and if MC is rising, production will be subject of diminishing returns.

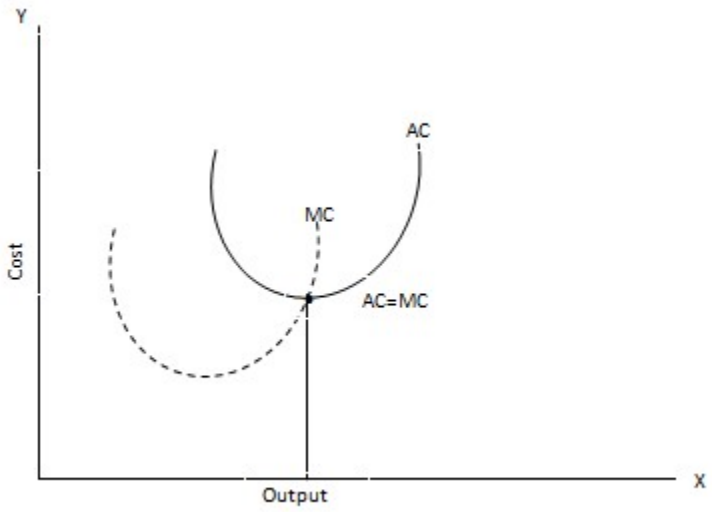


The table indicates the relationship between AC & MC

Output in Unit	TC in Rs	AC in Rs	Difference in Rs.MC
1	150	150	–
2	190	95	40
3	220	73.3	30
4	236	59	16
5	270	54	34
6	324	54	54

7	415	59.3	91
8	580	72.2	165

Relation between AC and MC



From the diagram it is clear that:

1. Both MC and AC fall at a certain range of output and rise afterwards.
2. When AC falls, MC also falls but at certain range of output MC tends to rise even though AC continues to fall. However, MC would be less than AC. This is because MC is attributed to a single unit where as in case of AC, the decreasing AC is distributed over all the units of output produced.
3. So long as AC is falling, MC is less than AC. Hence, MC curve lies below AC curve. It indicates that fall in MC is more than the fall in AC. MC reaches its minimum point before AC reaches its minimum.
4. When AC is rising, after the point of intersection, MC will be greater than AC. This is because in case of MC, the increasing MC is attributed to a single unit, where as in case of AC, the increasing AC is distributed over all the output produced.
5. So long as the AC is rising, MC is greater and AC. Hence, AC curve lies to the left side of the MC curve. It indicates that rise in MC is more than the rise in AC.
6. MC curve cuts the AC curve at the minimum point of the AC curve. This is because, when MC decreases, it pulls AC down and when MC increases, it pushes AC up. When AC is at its minimum,

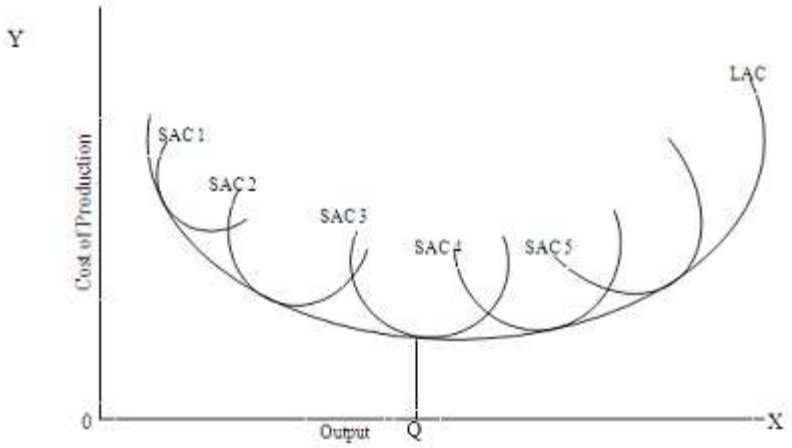
it is neither being pulled down or being pushed up by the MC. Thus, When AC is minimum, MC = AC. The point of intersection indicates the least cost combination point or the optimum position of the firm. At output Q the firm is working at its "Optimum Capacity" with lowest AC. Beyond Q, there is scope for "Maximum Capacity" with rising cost.

Cost Output Relationship In The Long Run

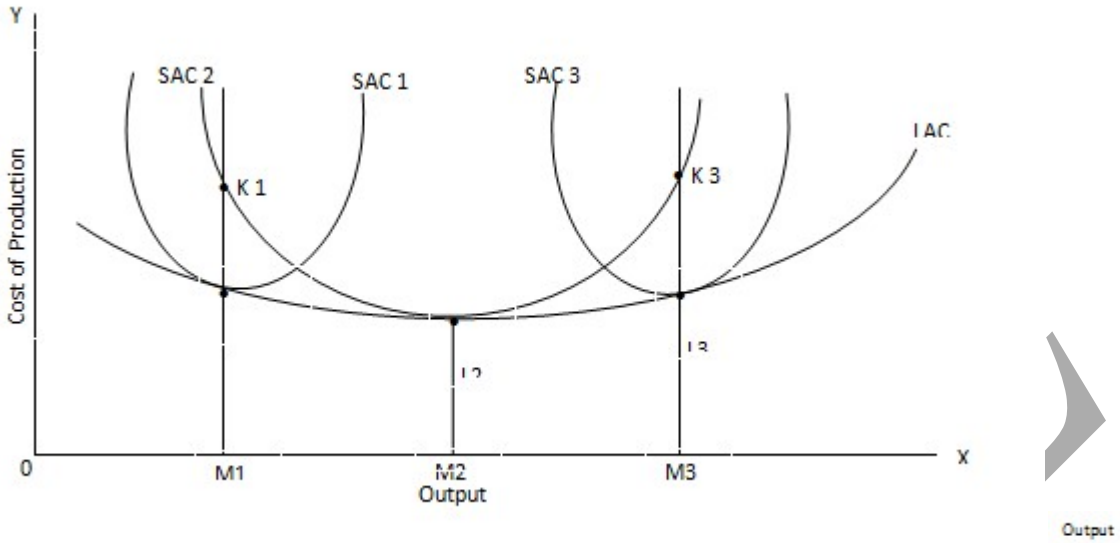
Long run is defined as a period of time where adjustments to changed conditions are complete. It is actually a period during which the quantities of all factors, variable as well as fixed factors can be adjusted. Hence, there are no fixed costs in the long run. In the short run, a firm has to carry on its production within the existing plant capacity, but in the long run it is not tied up to a particular plant capacity. As all costs are variable in the long run, the total of these costs is total cost of production. **Hence, the distinction between fixed and variables costs in the total cost of production will disappear in the long run.** In the long run only the average total cost is important and considered in taking long term output decisions.

Long run average cost is the long run total cost divided by the level of output. In brief, it is the per unit cost of production of different levels of output by changing the size of the plant or scale of production.

The long run cost – output relationship is explained by drawing a long run cost curve through short – run curves as the long period is made up of many short – periods as the day is made up of 24 hours and a week is made out of 7 days. This curve explains how costs will change when the scale of production is varied.



Production cost difference in the short run and long run



Important features of long run AC curves

1. Tangent curve

Different SAC curves represent different operational capacities of different plants in the short run. LAC curve is locus of all these points of tangency. The SAC curve can never cut a LAC curve though they are tangential to each other. This implies that for any given level of output, no SAC curve can ever be below the LAC curve. Hence, SAC cannot be lower than the LAC in the ling run. Thus, LAC curve is tangential to various SAC curves.

2. Envelope curve

It is known as Envelope curve because it envelopes a group of SAC curves appropriate to different levels of output.

3. Flatter U-shaped or dish-shaped curve.

The LAC curve is also **U shaped** or **dish shaped** cost curve. But It is less pronounced and much flatter in nature. LAC gradually falls and rises due to economies and diseconomies of scale.

4. Planning curve.

The LAC cure is described as the **Planning Curve** of the firm because it represents the least cost of producing each possible level of output. This helps in producing optimum level of output at the minimum

LAC. This is possible when the entrepreneur is selecting the optimum scale plant. Optimum scale plant is that size where the minimum point of SAC is tangent to the minimum point of LAC.

5. Minimum point of LAC curve should be always lower than the minimum point of SAC curve.

This is because LAC can never be higher than SAC or SAC can never be lower than LAC. The LAC curve will touch the optimum plant SAC curve at its minimum point.

A rational entrepreneur would select the optimum scale plant. Optimum scale plant is that size at which SAC is tangent to LAC, such that both the curves have the minimum point of tangency. In the diagram, OM2 is regarded as the optimum scale of output, as it has the least per unit cost. At OM2 output LAC = SAC.

LAC curve will be tangent to SAC curves lying to the left of the optimum scale or right side of the optimum scale. But at these points of tangency, neither LAC is minimum nor will SAC be minimum. SAC curves are either rising or falling indicating a higher cost

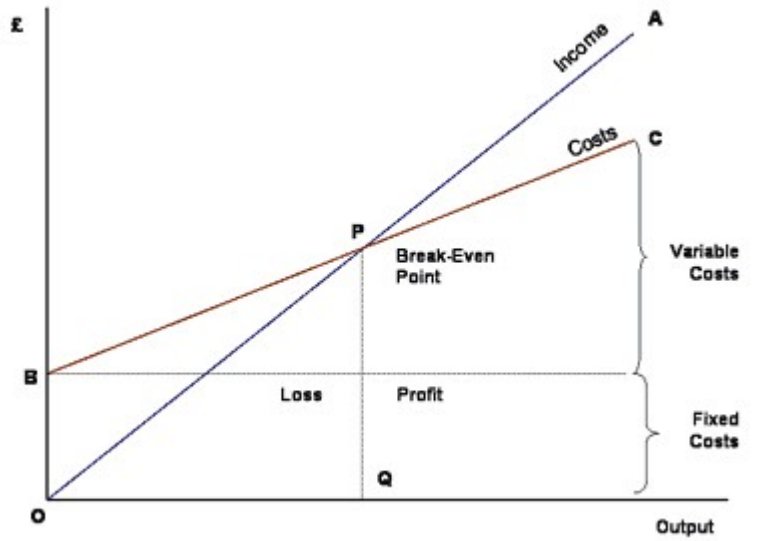
Break-even analysis

Break-even analysis is a technique widely used by production management and management accountants. It is based on categorising production costs between those which are "variable" (costs that change when the production output changes) and those that are "fixed" (costs not directly related to the volume of production).

Total variable and fixed costs are compared with sales revenue in order to determine the level of sales volume, sales value or production at which the business makes neither a profit nor a loss (the "break-even point").

The Break-Even Chart

In its simplest form, the break-even chart is a graphical representation of costs at various levels of activity shown on the same chart as the variation of income (or sales, revenue) with the same variation in activity. The point at which neither profit nor loss is made is known as the "break-even point" and is represented on the chart below by the intersection of the two lines:



In the diagram above, the line OA represents the variation of income at varying levels of production activity ("output"). OB represents the total fixed costs in the business. As output increases, variable costs are incurred, meaning that total costs (fixed + variable) also increase. At low levels of output, Costs are greater than Income. At the point of intersection, P, costs are exactly equal to income, and hence neither profit nor loss is made.

Fixed Costs

Fixed costs are those business costs that are not directly related to the level of production or output. In other words, even if the business has a zero output or high output, the level of fixed costs will remain broadly the same. In the long term fixed costs can alter - perhaps as a result of investment in production capacity (e.g. adding a new factory unit) or through the growth in overheads required to support a larger, more complex business.

Variable Costs

Variable costs are those costs which vary directly with the level of output. They represent payment output-related inputs such as raw materials, direct labour, fuel and revenue-related costs such as commission.

A distinction is often made between **"Direct"** variable costs and **"Indirect"** variable costs.

Direct variable costs are those which can be directly attributable to the production of a particular product or service and allocated to a particular cost centre. Raw materials and the wages those working on the production line are good examples.

Indirect variable costs cannot be directly attributable to production but they do vary with output. These include depreciation (where it is calculated related to output - e.g. machine hours), maintenance and certain labour costs.

Semi-Variable Costs

Whilst the distinction between fixed and variable costs is a convenient way of categorising business costs, in reality there are some costs which are fixed in nature but which increase when output reaches certain levels. These are largely related to the overall "scale" and/or complexity of the business. For example, when a business has relatively low levels of output or sales, it may not require costs associated with functions such as human resource management or a fully-resourced finance department. However, as the scale of the business grows (e.g. output, number people employed, number and complexity of transactions) then more resources are required. If production rises suddenly then some short-term increase in warehousing and/or transport may be required. In these circumstances, we say that part of the cost is variable and part fixed.

Uses of a break even analysis

1. Break even analysis enables a business organization to:
2. Measure profit and loses at different levels of production and sales.
3. To predict the effect of changes in price of sales.
4. To analysis the relationship between fixed cost and variable cost.
5. To predict the effect on profitablilty if changes in cost and efficiency.

Disadvantages of break even analysis

1. Assumes that sales prices are constant at all levels of output.
2. Assumes production and sales are the same.
3. Break even charts may be time consuming to prepare.
4. It can only apply to a single product or single mix of products.

Break even point is the level of sales at which profit is zero. According to this definition, at *break even point* sales are equal to fixed cost plus variable cost. This concept is further explained by the the following equation:

[Break even sales = fixed cost + variable cost]

The break even point can be calculated using either the equation method or contribution margin method. These two methods are equivalent.

Equation Method:

The equation method centers on the contribution approach to the income statement. The format of this statement can be expressed in equation form as follows:

Profit = (Sales − Variable expenses) − Fixed expenses

Rearranging this equation slightly yields the following equation, which is widely used in cost volume profit (CVP) analysis:

Sales = Variable expenses + Fixed expenses + Profit

According to the definition of break even point, break even point is the level of sales where profits are zero. Therefore the break even point can be computed by finding that point where sales just equal the total of the variable expenses plus fixed expenses and profit is zero.

Contribution Margin Method:

The contribution margin method is actually just a short cut conversion of the equation method already described. The approach centers on the idea discussed earlier that each unit sold provides a certain amount of contribution margin that goes toward covering fixed cost. To find out how many units must be sold to break even, divide the total fixed cost by the unit contribution margin.

This approach is particularly suitable in situations where a company has multiple products lines and wishes to compute a single break even point for the company as a whole.

The following formula is also used to calculate break even point

Break Even Sales in Dollars = [Fixed Cost / 1 – (Variable Cost / Sales)]

Profit maximization in the short term

The primary objective of the firm is to maximize its profits. Pricing policy as an instrument to achieve this objective should be formulated in such a way as to maximize the sales revenue and profit**. Maximum profit refers to the highest possible of profit.** In the short run, a firm not only should be able to recover its total costs, but also should get excess revenue over costs. This will build the morale of the firm and instill the spirit of confidence in its operations. It may follow skimming price policy, i.e., charging a very high price when the product is launched to cater to the needs of only a few sections of people. It may exploit wide opportunities in the beginning. But it may prove fatal in the long run. It may lose its customers and business in the market. Alternatively, it may adopt penetration pricing policy i.e., charging a relatively lower price in the latter stages in the long run so as to attract more customers and capture the market.

Profit optimization in the long run

The traditional profit maximization hypothesis may not prove beneficial in the long run. With the sole motive of profit making a firm may resort to several kinds of unethical practices like charging exorbitant prices, follow Monopoly Trade Practices (MTP), Restrictive Trade Practices (RTP) and Unfair Trade Practices (UTP) etc. This may lead to opposition from the people. In order to over come these evils, a firm instead of profit maximization, aims at profit optimization. **Optimum profit refers to the most ideal or desirable level of profit.** Hence, earning the most reasonable or optimum profit has become a part and parcel of a sound pricing policy of a firm in recent years.

Price Stabilization

Price stabilization over a period of time is another objective. The prices as far as possible should not fluctuate too often. Price instability creates uncertain atmosphere in business circles. Sales plan becomes difficult under such circumstances. Hence, price stability is one of the pre requisite conditions for steady and persistent growth of a firm. A stable price policy only can win the confidence of customers and may add to the good will of the concern. It builds up the reputation and image of the firm.

a.Facing competitive situation

One of the objectives of the pricing policy is to face the competitive situations in the market. In many cases, this policy has been merely influenced by the market share psychology. Wherever companies are aware of specific competitive products, they try to match the prices of their products with those of their rivals to expand the volume of their business. Most of the firms are not merely interested in meeting competition but are keen to prevent it. Hence, a firm is always busy with its counter business strategy.

b. Maintenance of market share

Market share refers to the share of a firm's sales of a particular product in the total sales of all firms in the market. The economic strength and success of a firm is measured in terms of its market share. In a competitive world, each firm makes a successful attempt to expand its market share. If it is impossible, it has to maintain its existing market share. Any decline in market share is a symptom of the poor performance of a firm. Hence, the pricing policy has to assist a firm to maintain its market share at any cost.

c.Capturing the Market

Another objective in recent years is to capture the market, dominate the market, command and control the market in the long run. In order to achieve this goal, sometimes the firm fixes a lower price for its product

and at other times even it may sell at a loss in the short term. It may prove beneficial in the long run. Such a pricing is generally followed in price sensitive markets.

d.Entry into new markets.

Apart from growth, market share expansion, diversification in its activities a firm makes a special attempt to enter into new markets. Entry into new markets speaks about the successful story of the firm. Consequently, it has to bear the pioneering and subsequent risks and uncertainties. The price set by a firm has to be so attractive that the buyers in other markets have to switch on to the products of the candidate firm.

e.Deeper penetration of the market

The pricing policy has to be designed in such a manner that a firm can make inroads into the market with minimum difficulties. Deeper penetration is the first step in the direction of capturing and dominating the market in the latter stages.

f.Achieving a target return

A predetermined target return on capital investment and sales turnover is another long run pricing objective of a firm. The targets are set according to the position of individual firm. Hence, prices of the products are so calculated as to earn the target return on cost of production, sales and capital investment. Different target returns may be fixed for different products or brands or markets but such returns should be related to a single overall rate of return target.

g.Target profit on the entire product line irrespective of profit level of individual products.

The price set by a firm should increase the sale of all the products rather than yield a profit on one product only. A rational pricing policy should always keep in view the entire product line and maximum total sales revenue from the sale of all products**. A product line may be defined as a group of products which have similar physical features and perform generally similar functions**. In a product line, a few products are regarded as less profit earning products and others are considered as more profit earning. Hence, a proper balance in pricing is required.

h.Long run welfare of the firm

A firm has multiple objectives. They are laid down on the basis of past experience and future expectations. Simultaneous achievement of all objectives are necessary for the overall growth of a firm. Objective of the pricing policy has to be designed in such a way as to fulfill the long run interests of the firm keeping internal conditions and external environment in mind.

i.Ability to pay

Pricing decisions are sometimes taken on the basis of the ability to pay of the customers, i.e., higher price can be charged to those who can afford to pay. Such a policy is generally followed by those people who supply different types of services to their customers.

j. Ethical Pricing

Basically, pricing policy should be based on certain ethical principles. Business without ethics is a sin. While setting the prices, some moral standards are to be followed. Although profit is one of the most important objectives, a firm cannot earn it in a moral vacuum. Instead of squeezing customer, a firm has to charge moderate prices for its products. The pricing policy has to secure reasonable amount of profits to a firm to preserve the interests of the community and promote its welfare.

Besides these goals, there are various other objectives such as promotion of new items, steady working of plants, maintenance of comfortable liquidity position, making quick money, maintaining regular income to the company, continued survival, rapid growth of the firm etc which firms may set while taking pricing decisions.

UNIT – II

POSSIBLE QUESTIONS

Part – B

1. Define production
2. What is production function?
3. What are Fixed Inputs?
4. What are Variable Inputs?
5. What is Short run period?
6. What is long run period?
7. What is Short Run Production Function?
8. What is long Run Production Function?
9. What is Cobb-Douglas Production Function?
10. List the Properties of the Cobb-Douglas Production Function.
11. Define the law of diminishing returns.
12. What is increasing returns to scale?
13. List the causes for increasing returns to scale?
14. What is decreasing returns to scale?
15. List the causes for decreasing returns to scale?
16. What is a constant return to scale?
17. List the causes for constant returns to scale?
18. Define the Law of variable proportion.
19. What is Total Product or Output?
20. What is Average Product or Output?
21. What is Marginal Product or Output?
22. Write a note on increasing returns.
23. Write a note on decreasing returns.
24. Write a note on constant returns.
25. What is total revenue?
26. Differentiate average revenue and marginal revenue.
27. What is marginal revenue?

28. What is Economies of Scale?
29. What is meant by internal economies of scale?
30. What is meant by external economies of scale?
31. List the kinds of internal economies.
32. List the kinds of external economies.
33. Give the meaning of cost of production.
34. List the managerial Uses of Cost Analysis.
35. List the different types of cost,
36. Differentiate Implicit or Imputed Costs and Explicit Costs
37. Differentiate fixed costs and variable costs.
38. List the determinants of Costs.
39. What is Total cost?
40. What is average and marginal cost?
41. What is break-even point?
42. What is contribution?
43. What is margin of safety?

Part – B

1. Explain the Cobb-Douglas Production Function.
2. Discuss the short-run and long-run production function.
3. Explain the law of diminishing returns.
4. Discuss the increasing returns to scale.
5. Enumerate the causes for increasing returns to scale.
6. Discuss the decreasing returns to scale.
7. Examine the causes for decreasing returns to scale.
8. Discuss the constant return to scale.
9. Examine the causes for constant returns to scale.
10. Explain the Law of variable proportion.
11. Explain the Total Product, Average Product Marginal Product.
12. Explain the law of returns to scale.
13. Discuss the Economies of Scale.
14. Examine the internal economies of scale?
15. Examine the external economies of scale?
16. Explain the managerial Uses of Cost Analysis.
17. Explain the different types of cost,
18. Differentiate Implicit or Imputed Costs and Explicit Costs
19. Differentiate Fixed costs and variable costs.
20. Discuss the determinants of Costs.
21. Discuss the importance of average and marginal revenue.
22. Discuss the short run and long run average cost?
23. Explain the breakeven point.
24. Bring out the uses of a break even analysis.

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF MANAGEMENT (UG)
I BBA - II SEMESTER
MANAGERIAL ECONOMICS
UNIT II - MULTIPLE CHOICE QUESTIONS

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	Law of demand establishes qualitative or directional relationship between _____	demand and price	demand and supply	cost and price	cost and income	demand and price
2	If the demand curve is rectangular hyperbola, the elasticity is _____	Relatively elastic	Perfectively Inelastic	Relatively Inelastic	unity	unity
3	In a typical demand schedule, quantity demanded varies _____	directly with price	proportion with price	inversely with price	independent of price	inversely with price
4	Which one is not a type of demand?	Price demand	Derived demand	Joint Demand	Supply demand	Supply demand
5	A table indicating various levels of demand at various prices is termed as _____	demand chart	demand schedule	demand table	price table	demand schedule
6	Who introduced the concept of elasticity of demand?	Adam Smith	Robinson	Marshall	Joel Dean	Marshall
7	The law of demandis a _____ statement	indicative	qualitative	illustrative	selective	qualitative
8	Which is not the type of elasticity o demand?	Price elasticity	Income elasticity	supply elasticity	cross elasticity	supply elasticity
9	The Cross elasticity of demand may be Substitute or _____	Positive	Negative	Normative	Complementary	Complementary

10	Price elasticity of demand for luxury goods will be _____ elastic	infinitively	relatively	perfectly	zero	infinitively
11	_____refers to the interaction between sellers and buyers of a good or service at a mutually agreed upon price.	Economy	Market	Society	City	Market
12	_____is an effective desire, as it	Economy	Market	Supply	Demand	Demand
13	A commodity demanded for its own sake by the final consumer it is	Consumer	Producer	Industrial	Shopping	Consumer
14	A final _____ is one who derives satisfaction from a good without any further value addition.	Customers	Traders	Consumers	Producers	Consumers
15	Goods which create joint demand are _____ goods.	Consumer	Producer	Industrial	Complementary	Complementary
16	Goods that compete with each other to satisfy any particular want are called_____	Substitutes	Producer	Industrial	Complementary	Substitutes
17	Demand for an individual consumer is called _____ demand.	Social	Individual	Industrial	General	Individual
18	Normally, Price has a _____ effect	Normative	Aggressive	Positive	Negative	Negative
19	Normally, Income bears a _____ relationship with demand.	Normative	Aggressive	Positive	Negative	Positive
20	Complements are demanded _____	Jointly	Aggressively	Positively	Negatively	Jointly
21	Consumer's surplus is also known as_____	indifference surplus	elasticity of supply	buyer's surplus	indifference surplus	buyer's surplus

22	Which utility measuring approach, is utility ranked in order of preference, but not measured?	Cardinal	Ordinal	Cardinal and Ordinal	Modern approach	Ordinal
23	Which shows various combinations of two products that give same amount of satisfaction?	Iso-cost curve	Marginal utility cu	Iso-quant	Indifference curve	Indifference curve
24	Indifference curve slopes,	Downward to the right.	upward to the right	Downward to the left	Upward to the left	Downward to the right
25	The process of capital formation includes,	capital of savings	Mobilization of sav	Investment of saving	capital of savings,Mobilization of savings and Investment of savings	capital of savings,Mobilization of savings and Investment of savings
26	Internal economies is related to _____	Marketing economies	Financial economies	Labour economies	Marketing, Financial and Labour Economics	Financial and Labour Economics
27	When the output produced is maximum for the given level of input the firms achieve_____	Maximum profit	Technical efficienc	Economic efficiency	minimum profit	Technical efficiency
28	Which of the following cost curve is U shaped?	Average cost curve	Marginal cost curve	Average fixed cost curve	Average variable cost curve.	Average variable cost curve.
29	The point where TR curve cuts TC curve is called_____	equilibrium point	split off point	point of inflexion	Break even point	Break even point
30	The shape of TFC curve is_____	Horizontal line	Downward sloping	U shaped	Upward sloping	Horizontal line
31	Indicate which of the following is a variable cost?	Cost of raw materials	Cost of machine	Interest on capital	rent payment for buildings	Cost of raw materials
32	Few sellers is the feature of _____	monopoly	oligopoly	perfect competition	monopolistic competition	oligopoly

33	Market which have two firms are known as_____	Oligopoly	monopoly	Duopoly	perfect competition	Duopoly
34	which item is not included in public utilities?	Water supply	Accessories	Gas supply	Electricity	Accessories
35	supply curve of a perfectly competitive firm is	Vertical	Upward sloping	horizontal	Downward sloping	Upward sloping
36	In perfect competition a fiem increases profit when _____ exceeds _____	TC, TR.	MC, MR.	AR, AC	TR, TFC	AR, AC
37	The discriminating monopoly can be categorized as _____	Personal	place	use	Personal, place and use	Personal, place and use
38	which is not a phase of business cycle?	Depression	Accumulation	Recession.	recovery	Accumulation
39	which is not an instrument of fiscal policy in controlling business cycle?	Taxation	investment	borrowing	spending	investment
40	The fluctuations or movement in economic activity are commonly classified as _____	secular trends	cyclical fluctuations	random fluctuations	secular trends only	secular trends, cyclical fluctuations and random fluctuations
41	which is the most preferred methods of measuring inflation?	WPI	CPI	NID	WPI, CPI and NID	WPI
42	Who gains in inflation?	Savers.	Creditors.	Pensioners	debtors	debtors
43	Economics deals with what is and normative economics deals with - _____	Positive, what ought to be	negative, what ought to be	Positive and negative	Narrow sense	Positive, what ought to be

44	_____ deals with the behavior of individual decision makings units such as consumers, resource owners and so on.	Macro Economics	Micro Economics	Mini Economics	Minimum profit	Micro Economics
45	There are two methods of constructing an economics theory, they are _____ and _____methods.	Inductive	Deductive	Inductive and Deductive	Active and Passive	Inductive and Deductive
46	In a _____economy, public and private sectors exist by side	Macro Economy	Micro Economy	Mini Economy	Mixed Economy	Mixed Economy
47	Capitalism is the system that advocates _____to solve the basic economic problems.	Price Mechnanism	Profit Mechanism	Loss Mechnaism	profit only	Price Mechnanism
48	Business economics is a science which deals with the application of _____ in business practices	Economic theory	commerce theory	macro theory	mini theory	Economic theory
49	_____ means the process of choosing one action from two or more alternatives available	choice	Decision Making	option making	All the above	Decision Making
50	A Firm’s profitability depends much o	price	Income	cost	Demand	cost
51	Generally, _____ are the primary measure of the success of any business	loss	profit	profit and loss	deficit	profit and loss
52	The guiding principle of business economics is not _____ but avoiding loss	Profit maximization	Loss maximization	Profit minimization	Loss minimization	Profit maximization

53	The law of demand states that there is an _____ relationship between price and quantity demanded	converse	Inverse	discuss	verse	Inverse
54	A _____along the demand curve is caused by a change in the price of the good only	Movement	Progress	growth	inoperation	Movement
55	Assuming that bread and jam are complements. If the price of jam increase, the equilibrium quantity for bread will_____	Increase	neutral	Decrease	constant	Decrease
56	_____ goods are those which can replace each other in use.	fact	No replace	substitute	place	substitute
57	There is a direct relationship between _____ of the consumer and his demand	Expenses	Gain	loss	Inocome	Income
58	Elasticity of demand tells the _____ of change in demand to the change in price.	Rate/quantum	charge	low rate	high rate	Rate/quantum
59	_____ elasticity of demand measures changes in the quality demanded of good x due to change in the price of good.	straight	right	left	cross	cross
60	Low price of a good generally keeps its price elasticity of demand as _____	high	medium	normal	low	low

UNIT-III – PRICING UNDER DIFFERENT MARKETS

SYLLABUS

Unit – III : Main Forms of Market : Basis of Classification - Perfect Competition – Features – Short run Equilibrium and Long run Equilibrium – Price Determination – Monopoly Market – Features – Short run Equilibrium and Long run Equilibrium – Price Discrimination – Degrees of Price Discrimination. Oligopoly Market Competition – Features – Price Leadership – Price Rigidity – Cartel – Collusive and Non-Collusive – Oligopsony – Features – Monopolistic Competition – Features – Product Differentiation – Selling Cost – Short run Equilibrium and Long run Equilibrium – Monopsony – Duopoly Market – Features.

Meaning of Market and Market Structure

Market in economics does not refer to a place or places but to a commodity and also to buyers and sellers of that commodity who are in competition with one another According to Pappas and Hirschey, "Market structure refers to the number and size distribution of buyers and sellers in the market for a good or service".

It indicates a set of market characteristics that determine the nature of market in which a firm operates. Different market structures affect the behavior of sellers and buyers in different manners.

The term market hence implies:

i. Existence of a commodity to be traded.
ii. Existence of sellers and buyers.
iii. Establishment of contact between the sellers and buyers.
iv. Willingness and ability to buy and sell a commodity and
v. Existence of a price at which the given commodity is to be bought and sold.

Among the different market situations, perfect competition and monopoly form the two extremes. In between these two market situations we come across a number of market situations which may be collectively termed as imperfect markets. In these imperfect markets, we notice the elements of competition as well as monopoly. They are bi-lateral monopoly, monopsony (one buyer), duopoly (two sellers) duopsony (two buyers),

oligopoly (few sellers), oligopsony (few buyers) and monopolistic competition (many sellers). This can be better understood by the following chart.

CLASSIFICATION OF MARKET

Market may be classified into different types:

On the basis of area

Markets may be classified on the basis of area into local, national and international markets. If the buyers and sellers are located in a particular locality, it is called as a local market, e.g. fruits, vegetables etc. These goods are perishable; they cannot be stored for a long time; they cannot be taken to distant places. When a commodity is demanded and supplied all over the country, national market is said to exist. When a commodity commands international market or buyers and sellers all over the world, it is called international market.

Whether a market will be local, national or international in character will depend upon the following factors: (a) nature of commodity; (b) taste and preference of the people; (c) availability of storage; (d) method of business; (e) political stability at home and abroad; if) portability of the commodity.

On the basis of time

Time element has been used by Marshall for classifying the market. On the basis of time, market has been classified into very short period, short period, long period and very long period. Very short period market refers to the market in which commodities that are fixed in supply or are perishable are transacted. Since supply is fixed, only the changes in demand influence the price. The short period markets are those where supply can be increased but only to a limited extent. Long period market refers to a market where adequate time is available for changing the supply by changing the fixed factors of production. The supply of commodities may be increased by installing a new plant or machinery and the output can be changed accordingly. Very long period or secular period is one in which changes take place in factors like population, supply of capital and raw material etc.

On the basis of nature of transactions

Markets are classified on the basis of nature of transactions into two broad categories viz., Spot market and future market. When goods are physically transacted on the spot, the market is called as spot market. In case the transactions involve the agreements of future exchange of goods, such markets are known as future markets.

On the basis of volume of business

Based on the volume of business, markets are broadly classified into wholesale and retail markets. In the wholesale markets, goods are transacted in large quantities. Wholesale markets are in fact, a link between the producer and the retailer while the retailer is a link between the wholesaler and the consumer.

On the basis of status of sellers

During the process of marketing, a commodity passes through a chain of sellers and middlemen. Markets can be classified into primary, secondary and terminal markets. The primary market consists of manufacturers who produce and sell the product to the wholesalers. The wholesalers who are an international link between the manufacturers and retailers constitute secondary markets while the retailers who sell it to the ultimate consumer constitute the terminal market.

On the basis of regulation

On this basis, market is classified into regulated and unregulated markets. For some goods and services, the government stipulates certain conditions and regulations for their transactions. Market of goods and services is called regulated market. On the other hand, goods and services whose transactions are left to the market forces belong to unregulated market. Regulations of market by the government become essential for those goods whose supply or price can be manipulated against the interests of the general public.

On the basis of competition

Markets are classified on the basis of nature of competition into perfect competition and imperfect competition.

Kinds of Markets

Perfect Competition

Perfect competition is a comprehensive term which includes pure competition also. Before we discuss the details of perfect competition, it is necessary to have a clear idea regarding the nature and characteristics of pure competition.

Pure Competition is a part of perfect competition. Competition in the market is said to be pure when the following conditions are satisfied:

1. Prevalence of a large number of buyers and sellers.
2. The commodity supplied by each firm is homogeneous.
3. Free entry and exit of firms.
4. Absence of any kind of monopoly element.

Under these conditions no individual producer is in a position to influence the market price of the product.

According to Prof. E.H. Chamberlin - **"Under Pure Competition, the individual sellers market being completely merged with the general one, he can sell as much as he please at the going price".**

A perfectly competitive market is one in which the number of **buyers and sellers are very large, all engaged in buying and selling a homogeneous product without any artificial restriction and possessing perfect knowledge of market at a time.**

According to Bilas, **"the perfect competition is characterized by the presence of many firms: They all sell identically the same product. The seller is the price – taker".**

Features of the Perfect Competition

1. **Existence of very large number of buyers and sellers**
2. **Homogenous products**

Different firms constituting the industry produce homogenous goods. They are identical in character. Hence, no firm can raise its price above the general level.

3. **Free entry and exit of firms**

There is absolute freedom to firms to get in or get out of the industry. If the industry is making profits, new firms are attracted into the industry.

4. **Existence of single price**

Each unit bought and sold, in the market commands the same price since products are homogeneous.

5. **Perfect knowledge of the market**

All sellers and buyers will have perfect knowledge of the market. Sellers cannot influence buyers and buyers cannot influence sellers.

6. **Perfect mobility of factors of Production**

Factors of production are free to move into any use or occupation in order to earn higher rewards. Similarly, they are also free to come out of the occupation or industry if they feel that they are under remunerated.

7. **Full and unrestricted competition**

Perfectly competitive market is free from all sorts of monopoly, oligopoly conditions. Since there are very large number of buyers and sellers, it is difficult for them to join together and form cartels or some other forms of organizations. Hence, each firm acts independently.

8. **Absence of transport cost**

All firms will have equal access to the market. Market price charged by the sellers should not vary because of differences in the cost of transportation.

9. Absence of artificial Government controls

The Government should not interfere in matters pertaining to supply and price. It should not place any barriers in the way of smooth exchange. Price of a commodity must be determined only by the interaction of supply and demand forces.

10. The market price is flexible over a period of time

Market price changes only because of changes in either demand or supply force or both. Thus, price is not affected by the sellers, buyers, firm, industry or the Government.

11. Normal Profit

As the market price is equal to cost of production, the firm can earn only normal profits under perfect competition. Normal profits are those which are just sufficient to induce the firms to stay in business. It is the minimum reasonable level of profit which the entrepreneur must get in the long run. It is a part of total cost of production because it is the price paid for the services of the entrepreneur, i.e., profit is an item of expenditure to a firm.

Special Features of Perfect Competition

i. It is an extreme form of market situation rarely to be found in the real world.
ii. It is a mere concept, a myth, an illusion and purely theoretical in nature.
iii. It is a hypothetical model.
iv. It is an ideal market situation.

Equilibrium or Market price = AR= MR

Equilibrium of the Industry and Firm under Perfect Competition

1. Equilibrium of the Industry in the short run

The term 'Equilibrium' in physical science implies a state of balance or rest. In economics, it refers to position or situation from which there is no incentive to change. **At the equilibrium point, an economic unit is maximizing its benefits or advantages.** Hence, always there will be a tendency on the part of each economic unit to move towards the equilibrium condition. Reaching the position of equilibrium is a basic objective of all firms.

In the short period, time available is too short and hence all types of adjustments in the production process are impossible. As plant capacity is fixed, output can be increased only by intensive utilization of existing plants

and machineries or by having more shifts. Fixed factors remain the same and only variable factors can be changed to expand output. Total number of firms remains the same in the short period. Hence, total supply of the product can be adjusted to demand only to a limited extent.

In the short run, price is determined in the industry through the interaction of the forces of demand and supply. This price is given to the firm. Hence, the firm is a price taker and not price maker. On the basis of this price, a firm adjusts its output depending on the cost conditions.

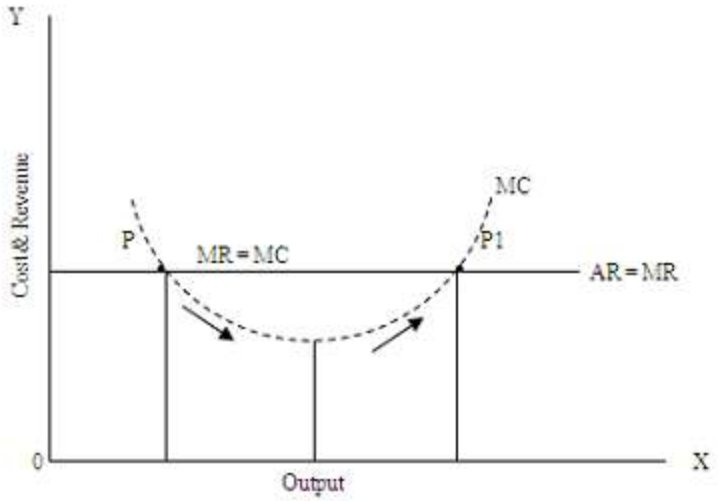
An industry under perfect competition in the short run, reaches the position of equilibrium when the following conditions are fulfilled:

1. There is no scope for either expansion or contraction of the output in the entire industry. This is possible when all firms in the industry are producing an equilibrium level of output at which MR = MC. In brief, the total output remains constant in the short run at the equilibrium point. Thus a firm in the short run has only **temporary equilibrium**.
2. There is no scope for the new firms to enter the industry or existing firms to leave the industry.
3. Short run demand should be equal to short run supply. The price so determined is called as **'subnormal price'.** Normal price is determined only in the long run. Hence, short run price is not a stable price.

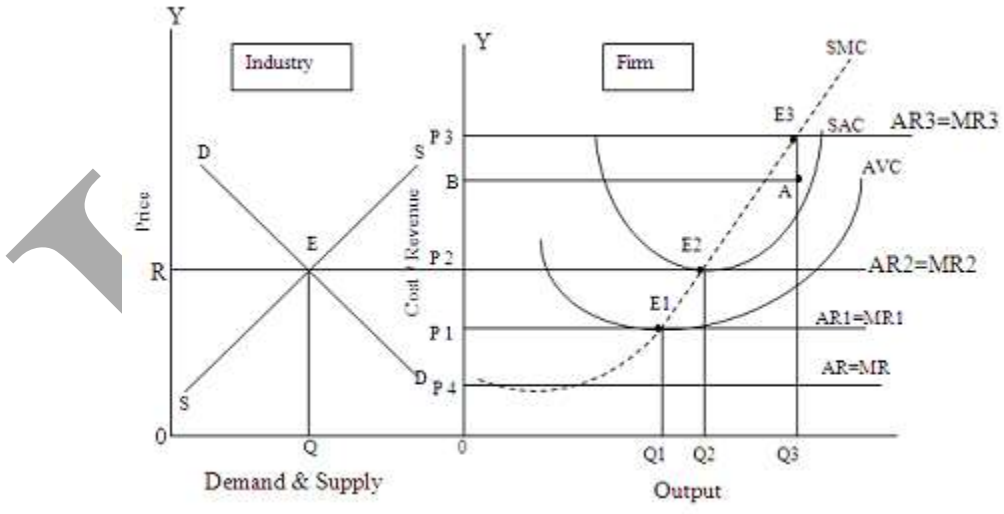
Equilibrium of the competitive firm in the short run

A competitive firm will reach equilibrium position at the point where short run MR equals MC. At this point equilibrium output and price is determined.

The firm in the short run will have only temporary equilibrium. The short run equilibrium price is not a stable price. It is also called as sub – normal price.



The competitive firm, in the short run, will not be in a position to cover its fixed costs. But it must recover short run variable costs for its survival and to continue in the industry. A firm will not produce any output unless the price is at least equal to the minimum AVC. If short run price is just equal to AVC, it will not cover fixed costs and hence, there will be losses. But it will continue in the industry with the hope that it will recover the fixed costs in the future.



If price is above the AVC and below the AC, it is called as "Loss minimization" zone. If the price is lower than AVC, the firm is compelled to stop production altogether.

While analyzing short term equilibrium output and price, apart from making reference to SMC and AVC, we have to look into AC also. If AC = price, there will be normal profits. If AC is greater than price, there will be losses and if AC is lower than price, then there will be super normal profits.

In the short run, a competitive firm can be in equilibrium at various points E1, E2 and E3 depending upon cost conditions and market price. At these various unstable equilibrium points, though MR = MC, the firm will be earning either super normal profits or incurring losses or earning normal profits.

In the case of the firm:

1. At OP4 price the firm will neither cover AFC nor AVC and hence it has to wind up its operations. **It is regarded as shut-down point.**
2. At OP1 price, OQ1 is the equilibrium output. E1 indicates the price or AR = AVC only. It does not cover fixed costs. **The firm is ready to suffer this loss and continue in business with the hope that price may go up in the future.**
3. At OP2 price, OQ2 is the equilibrium output. E2 indicates the price = AR = AC. At this point MR is also equal to MC. At this level of output total average revenue = total average cost hence, **the firm is earning only normal profits.** It is also known as Break – even point of the firm, a zone of no loss or no profit. The distance between two equilibrium points E2 and E1 indicates loss-minimization zone.
4. At OP3 price, OQ3 is the output produced by the firm. At E3, MR = MC. But AR is greater than AC. For OQ3 output, the total cost is OQ3AB. The total revenue is OQ3E3P3. Hence, P3E3AB is the **total super normal profits**.

Thus in the short run, a firm can either incur losses or earn super normal profits. The main reason for this is that the producer does not have adequate time to make all kinds of adjustments to avoid losses in the short run.

In case of the industry, E indicates the position of equilibrium where short run demand is equal to short run supply. OR indicates short run price and OQ indicates short run demand and supply.

Equilibrium of the Industry in the long run

In the long run, there is adequate time to make all kinds of changes, adjustments and readjustments in the productive process. All factor inputs become variable in the long run. Total number of firms can be varied and plant capacity also can be changed depending upon the nature of requirements. Economies of scale, technological improvements, better management and organization may reduce production costs substantially in the long run. Hence, production can be either increased or decreased according to the needs of the individual firms and the industry as a whole. In short, supply of the product can be fully adjusted to its demand in the long period.

An industry, in the long run will be reaching the position of equilibrium under the following conditions:

1. At the point of equilibrium, the long run demand and supply of the products of the industry must be equal to each other. This will determine long run normal price.
2. There will be no scope for the industry to either expand or contract output. Hence, the total production remains stable in the long run.
3. All the firms in the industry should be in the position of equilibrium. All firms in the industry must be producing an equilibrium level of output at which long run MC is equated to long run MR. (MC = MR).
4. There should be no scope for entry of new firms into the industry or exit of old firms out of the industry. In brief, the total number of firms in the industry should remain constant.
5. All firms should be earning only normal profits. This happens when all firms equate AR (Price) with AC. This will help the industry in attaining a stable equilibrium in the long run.

Equilibrium of the firm in the long run

A competitive firm reaches the equilibrium position when it maximizes its profits. This is possible when:

1. The firm would produce that level of output at which MR = MC and MC curve cuts MR curve from below. The firm adjusts its output and the scale of its plant so as to equate MC with market price.

Price = MC = MR

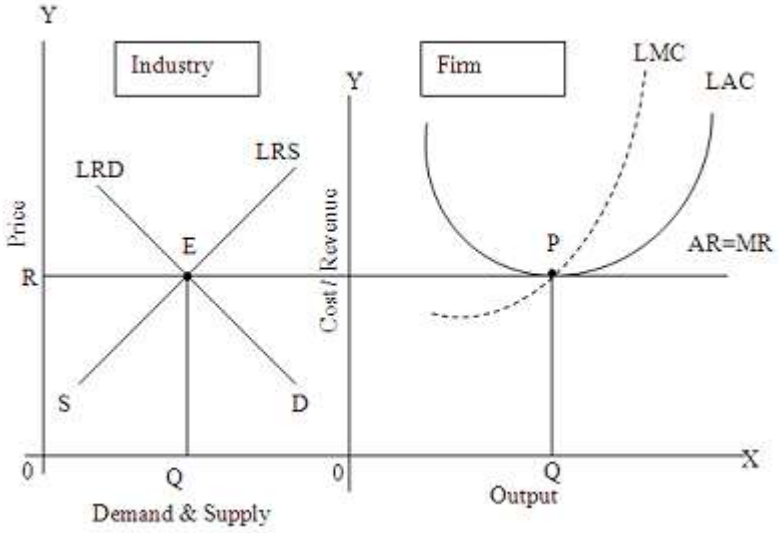
2. The firm in the long run must cover its full costs and should earn only normal profits. This is possible when long run normal price is equal to long run average cost of production. Hence,

Price = AR = AC

3. When AR is greater than AC, there will be place for super normal profits. This leads to entry of new firms – increase in total number of firms – expansion in output – increase in supply – fall in price – fall in the ratio of profits. This process will continue till supernormal profits are reduced to zero. On the other hand, when AC is greater than AR the industry will be incurring losses. This leads to exit of old firms, number of firms decrease, contraction in output, rise in price, and rise in the ratio of profits. Thus, losses are avoided by automatic adjustments. Such adjustments will continue till the firm reaches the position of equilibrium when AC becomes equal to AR. Thus losses and profits are incompatible with the position of equilibrium. Hence,

Price = MR = MC = AR = AC

4. The firm is operating at its minimum AC making optimum use of available resources.



In the case of the industry, E is the position of equilibrium at which LRS = LRD, indicating OR as the equilibrium price and OQ as the equilibrium quantity demanded and supplied.

In case of the firm P indicates the position of equilibrium. At P, LMR = LMC and LMC curve cuts LMR curve from below. At the same point P the minimum point of LAC is tangent to LAR curve. Hence,.

LAR = LAC

A competitive firm in the long run must operate at the minimum point of the LAC curve. It cannot afford to operate at any other point on the LAC curve. Other wise, it cannot produce the optimum output or it will incur losses.

Time will play an important role in determining the price of a product in the market. As the time under consideration is short, demand will have a more decisive role than supply in the determination of price. Longer the time under consideration, supply becomes more important than demand in the determination of price.

The price determined in the long run is called as normal price and it remains stable.

Market price:

It refers to that price which is determined by the forces of demand and supply in the very short period where demand plays a major role than supply. Supply plays a passive role. Market price is unstable.

Normal price:

It is determined by demand and supply forces in the long period. It includes normal profits also. It is stable in nature.

Monopoly

Meaning and definition:

The word monopoly is made up of two syllables – 'MONO' means single and "POLY" means to sell. Thus, monopoly means existence of a single seller in the market. **Monopoly is that market form in which a single producer controls the whole supply of a single commodity which has no close substitutes.** Monopoly may be defined as a condition of production in which a person or a number of persons acting in combination have the power to fix the price of the commodity or the output of the commodity. It is a situation where there exists a single control over the market producing a commodity having no substitutes and no possibilities for any one to enter the industry to compete.

According to Prof. Watson – "A monopolist is the only producer of a product that has no close substitutes".

Features of monopoly

1. **Absence of competition**

Absence of competition in the market creates a situation of monopoly and hence the seller faces no threat of competition.

2. **Existence of a single seller**

There will be only one seller in the market who exercises single control over the market.

3. **Absence of substitutes**

There are no close substitutes for his product with a strong cross elasticity of demand. Hence, buyers have no alternatives.

4. **Control over supply**

He will have complete control over output and supply of the commodity.

5. Price Maker

The monopolist is the price – maker and in taking decisions on price fixation, he is independent. He can set the price to the best of his advantage. Hence, he can either charge a high price for all customers or adopt price discrimination policy.

6. Entry barriers

Entry of other firms is barred somehow. Hence, monopolist will not have direct competitors or direct rivals in the market.

7. Firm and industry is same

There will be no difference between firm and an industry.

8. Nature of firm

The monopoly firm may be a proprietary concern, partnership concern, Joint Stock Company or a public utility which pursues an independent price-output policy.

9. Existence of super normal profits

There will be place for supernormal profits under monopoly, because market price is greater than cost of production.

There are different kinds of monopolies – Private and public, pure monopoly, simple monopoly and discriminatory monopoly. It is to be clearly understood that with the exception of public utilities or institutions of a similar nature, whose price is set by regulatory bodies, monopolies rarely exist. Just like perfect competition, pure monopoly does not exist. Hence, we make a detailed study of simple monopoly and discriminatory monopoly in the foregoing analysis.

Price – Output Determination Under Monopoly

Assumptions

a. The monopoly firm aims at maximizing its total profit.
b. It is completely free from Govt. controls.
c. It charges a single & uniform high price to all customers.

It is necessary to note that the price output analysis and equilibrium of the firm and industry is one and the same under monopoly.

As output and supply are under the effective control of the monopolist, the market forces of demand and supply do not work freely in the determination of equilibrium price and output in case of the monopoly

market. While fixing the price and output, the monopoly firm generally considers the following important aspects.

1. The monopolist can either fix the price of his product or its supply. He cannot fix the price and control the supply simultaneously. He may fix the price of his product and allow supply to be determined by the demand conditions or he may fix the output and leave the price to be determined by the demand conditions.
2. It would be more beneficial to the monopolist to fix the price of the product rather than fixing the supply because it would be difficult to estimate the accurate demand and elasticity of demand for the products.
3. While determining the price, the monopolist has to consider the conditions of demand, cost of the product, possibility of the emergence of substitutes, potential competition, import possibilities, government control policies etc.
4. If the demand for his product is inelastic, he can charge a relatively higher price and if the demand is elastic, he has to charge a relatively lower price.
5. He can sell larger quantities at lower price or smaller quantities at a higher price.
6. He should charge the most reasonable price which is neither too high nor too low.
7. The most ideal price is that under which the total profit of the monopolist is the highest.

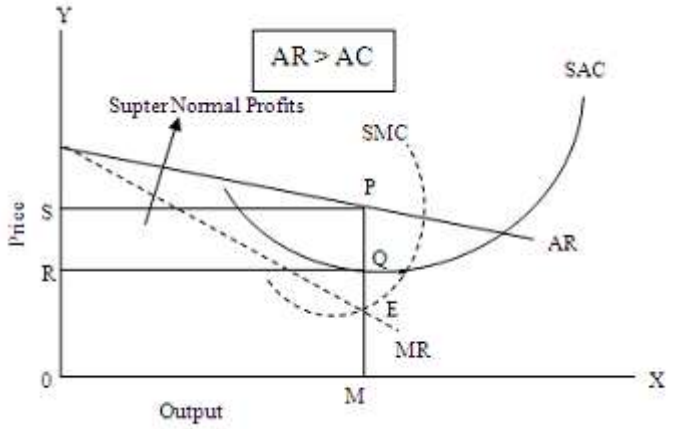
Price-Output Determination in the Short Period

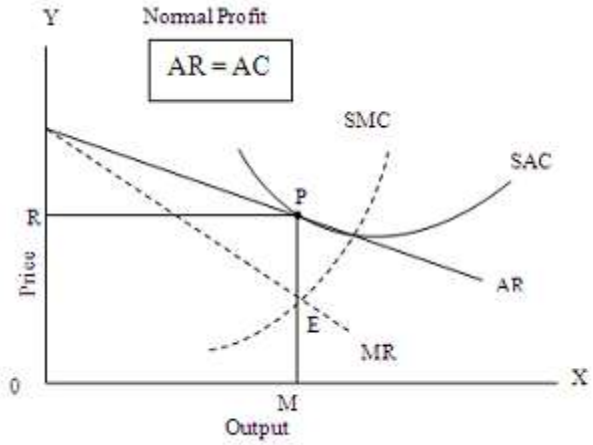
Short period is a time period in which there are two types of factors of production. One is the fixed factors and the other is the variable factors. In the short period, production can be changed only by changing the variable factors of production. Fixed factors of production cannot be changed. In other words, in the short period, supply can be changed only to some extent. In this period volume of production can be changed but capacity of the plant cannot be changed. He can increase the supply only with the help of existing machines and plants. New factories and plant-equipment cannot be installed.

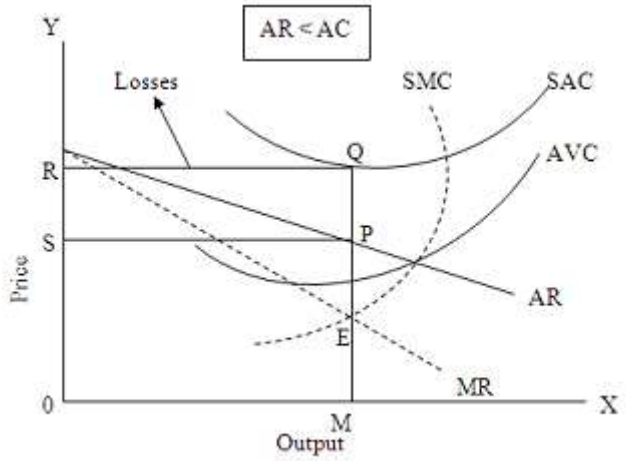
The aim of a monopolist is to earn maximum profits or suffer minimum losses if the circumstances compel. Monopolist, being single seller of his product, can fix his price equal to, above or less than the short period average cost of the product. Thus, he can earn normal profits, supernormal profits or incur losses even in the short period. This depends upon the nature and extent of the demand for his product. In order to earn maximum profits or suffer minimum losses, a monopolist compares his marginal revenue (MR) with marginal cost (MC). If marginal revenue exceeds marginal cost of a product, the monopolist can increase his profit by increasing his production. On the contrary, if MC exceeds MR at a particular level of output, the

monopolist can minimize his losses by reducing his production. So the monopolist is said to be in equilibrium where marginal revenue is equal to marginal cost.

In the short period, a monopoly firm can earn supernormal profits, normal profits or incur losses. In case of losses, price must be covering at least the average variable costs. Otherwise the firm will stop production. The maximum loss can be equal to fixed costs. The three cases of monopoly equilibrium can be shown through the figures drawn below.







In figure (a) AR > AC. Hence, super normal profits.

In figure (b) AR = AC. Hence, normal profits.

In figure (c) AR < AC. Hence, losses.

The figures explain how a monopoly firm can earn supernormal profits, normal profits or incur losses in the short period.

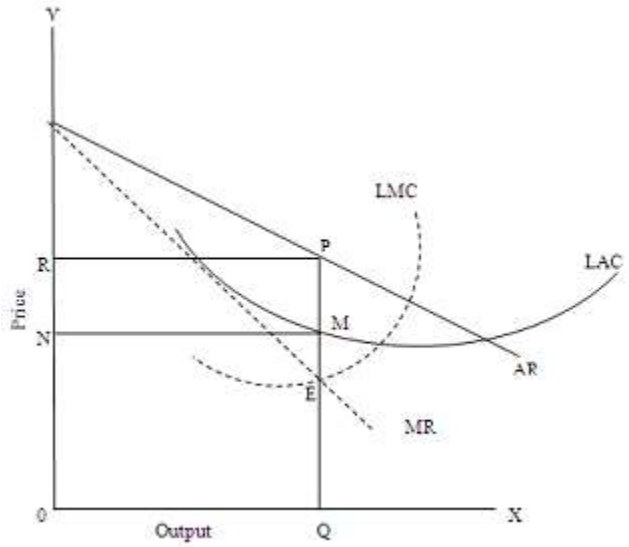
Price-output determination in the long run

In the long run, there is adequate time to make all kinds of adjustments in both fixed as well as variable factor inputs. Supply can be adjusted to demand conditions. The total amount of long run profits will depend on the cost conditions under which the monopolist has to operate and the demand curve he has to face in the long run.

Under monopoly, the AR or demand curve slope downwards from left to right. This is because the monopolist can increase his sales and maximize his profits only when he reduces the price. MR is less than AR and hence, the MR curve lies below the AR curve. This is in accordance with the usual relationship between AR & MR.

The cost curve of the monopoly firm is influenced by the laws of returns. The price he has to charge for his product mainly depends on the nature of his cost curves.

The monopoly firm, in the long run, will continue its operations till it reaches the equilibrium point where long run MR equals long run MC. The price charged at this level of output is known as equilibrium price.



In the diagram, the monopoly firm reaches the position of equilibrium at E. At this point, MR = MC and MC curve cuts MR curve from below. The monopolist will stop his output before AC reaches its minimum point. He does not bother to reach the minimum point on AC.

He restricts his output in order to maximize his profit, OQ is the output. The price charged by the firm is QR (PQ) which is equal to AR. This price is higher than average cost QM per unit. The excess profit per unit of output is PM and the total profits of the firm is PM X RN = NRPM . Under monopoly, no doubt MR = MC but M R is less than AR. **Hence, monopoly price = AR only. Price is greater than AC, MC and MR.**

Generally speaking, monopoly price is slightly higher than that of competitive price because market price is over and above MC, MR and AC. The single seller has complete control over the supply as he can successfully prevent the entry of other new firms into the market. Thus, the monopoly power is reflected on its price. Monopoly price is generally higher than competitive price and thus detrimental to the interests of the society.

Monopoly price need not be high always on account of the following reasons:

1. Due to the operation of both internal as well as external economies of scale, he may reduce the cost of production and hence, price too.
2. The monopolist need not spend more money on sales promotion programmes. He can save quite a lot of money and charge a lower price for his product.
3. He has the fear that consumers may boycott his product if he charges a very high price.

4. There is the fear of discovery of new substitutes by other competitors in the market. Hence, he charges low prices.

5. He is afraid of the Govt. intervention in controlling monopoly power and hence, he may charge a lower price.

6. He may spend lot of money on R&D and reduce cost of operation. Cost reduction may facilitate price reduction.

Thus, in order to maintain the good will of the consumers and to secure good business, instead of charging high price, he may charge a relatively lower price.

Price Discrimination

Generally, speaking the monopolist will not charge uniform price for all the customers in the market. He will follow different methods under different circumstances. **The policy of price discrimination refers to the practice of a seller to charge different prices for different customers for the same commodity, produced under a single control without corresponding differences in cost.** When a monopoly firm adopts this policy, it will become a discriminatory monopoly. According to Prof. Benham, "Monopolist may be able however, to divide his sales among a number of different markets and to charge a different price in each market."

According to Mrs. Joan Robbinson "The act of selling the same article produced under a single control at different prices to different customers is known as price discrimination."

Forms of price discrimination

1. Personal differences:

This is nothing but charging different prices for the same commodity because of personal differences arising out of ignoranc e and irrationality of consumers, preferences, prejudices and needs.

2. Place:

Markets may be divided on the basis of entry barriers, for e.g. price of goods will be high in the place where taxes are imposed. Price will be low in the place where there are no taxes or low taxes.

3. Different uses of the same commodity:

When a particular commodity or service is meant for different purposes, different rates may be charged depending upon the nature of consumption. For e.g. different rates may be charged for the consumption of electricity for lighting, heating and productive purposes in industry and agriculture.

4. Time:

Special concessions or rebates may be given during festival seasons or on important occasions.

5. Distance:

Railway companies and other transporters, for e.g., charge lower rates per KM if the distance is long and higher rates if the distance is short.

6. Special orders:

When the goods are made to order it is easy to charge different prices to different customers. In this case, particular consumer will not know the price charged by the firm for other consumers.

7. Nature of the product:

Prices charged also depends on nature of products e.g., railway department charge higher prices for carrying coal and luxuries and less prices for cotton, necessaries of life etc.

8. Quantity of purchase:

When customers buy large quantities, discount will be allowed by the sellers. When small quantities are purchased, discount may not be offered.

9. Geographical area:

Business enterprises may charge different prices at the national and international markets. For example, dumping – charging lower price in the competitive foreign market and higher price in protected home market.

10. Discrimination on the basis of income and wealth:

For e.g., A doctor may charge higher fees for rich patients and lower fees for poor patients.

11. Special classification of consumers:

For E.g., Transport authorities such as Railway and Roadways show concessions to students and daily travelers. Different charges for I class and II class traveling, ordinary coach and air conditioned coaches, special rooms and ordinary rooms in hotels etc.

12. Age:

Cinema houses in rural areas and transport authorities charge different rates for adults and children.

13. Preference or brands:

Certain goods will be sold under different brand names or trade marks in order to attract customers. Different brands will be sold at different prices even though there is not much difference in terms of costs.

14. Social and or professional status of the buyer:

A seller may charge a higher price for those customers who occupy higher positions and have higher social status and less price to common man on the street.

15. Convenience of the buyer:

If a customer is in a hurry, higher price would be charged. Otherwise normal price would be charged.

16. Discrimination on the basis of sex:

In selling certain goods, producers may discriminate between male and female buyers by charging low prices to females.

17. If price differences are minor, customers do not bother about such discrimination.

18. Peak season and off peak season services

Hotel and transport authorities charge different rates during peak season and off-peak seasons.

Pre-Requisite Conditions for Price Discrimination (when price descrimination is possible)

1. Existence of imperfect market:

Under perfect competition there is no scope for price discrimination because all the buyers and sellers will have perfect knowledge of market. Under monopoly, there will be place for price discrimination as there are buyers with incomplete knowledge and information about the market.

2. Existence of different degrees of elasticity of demand in different markets:

A Monopolist will succeed in charging higher price in inelastic market and lower price in the elastic market.

3. Existence of different markets for the same commodity:

This will facilitate price discrimination because buyers in one market will not be knowing the prices charged for the same commodity in other markets.

4. No contact among buyers:

If there is possibility of contact and communication among buyers, they will come to know that discriminatory practices are followed by buyers.

5. No possibility of resale:

Monopoly product purchased by consumers in the low priced market should not be resold in the high priced market. Prevention of re exchange of goods is a must for price discrimination.

6. Legal sanction:

In some cases, price discrimination is legally allowed. For E.g., The electricity department will charge different rates per unit of electricity for different purposes. Similarly charges on trunk calls; book post, registered posts, insured parcel, and courier parcel are different.

7. Buyers illusion:

When consumers have an irrational attitude that high priced goods are of high quality, a monopolist can resort to price-discrimination.

8. Ignorance and lethargy:

Due to laziness and lethargy consumers may not compare the price of the same product in different shops. Ignorance of consumers with regard to price variations would enable the monopolist to charge different prices.

9. Preferences and Prejudices of buyers:

The monopolist may charge different prices for different varieties or brands of the same product to different buyers. For e.g. low price for popular edition of the book and high price for deluxe edition.

10. Non-Transferability features:

In case of direct personal services like private tuitions, hair-cuts, beauty and medical treatments, a seller can conveniently charge different prices.

11. Purpose of service:

The electricity department charges different rates per unit of electricity for different purposes like lighting, AEH, agriculture, industrial operations etc. railways charge different rates for carrying perishable goods, durable goods, necessaries and luxuries etc.

12. Geographical distance and tariff barriers:

When markets are separated by large distances and tariff barriers, the monopolist has to charge different prices due to high transport cost and high rate of taxes etc.

Oligopoly

The term oligopoly is derived from two Greek words “Oligoi” means a few and ‘Poly’ means to sell. **Under oligopoly, w e come across a few producers specializing in the production of identical goods or differentiated goods competing with one another.**

The products traded by the oligopolists may be differentiated or homogeneous. In the case of former, we can give the e.g., of automobile industry where different model of cars, ambassador, fiat etc., are manufactured. Other examples are cigarettes, refrigerators, T.V. sets etc., pure or homogeneous oligopoly includes such industries as cooking and commercial gas cement, food, vegetable oils, cable wires, dry batteries, petroleum etc., In the modern industrial set up there is a strong tendency towards oligopoly market situation. To avoid the wastes of competition in case of competitive industries and to face the emergence of new substitutes in case of monopoly industries, oligopoly market is developed. e.g., an electric refrigerator, automatic washing machines, radios etc.

Types of Oligopoly:

1. Pure or Perfect Oligopoly:

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

2. Imperfect or Differentiated Oligopoly:

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

3. Collusive Oligopoly:

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

4. Non-collusive Oligopoly:

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

Features of Oligopoly:

The main features of oligopoly are elaborated as follows:

1. Few firms:

Under oligopoly, there are few large firms. The exact number of firms is not defined. Each firm produces a significant portion of the total output. There exists severe competition among different firms and each firm

try to manipulate both prices and volume of production to outsmart each other. For example, the market for automobiles in India is an oligopolist structure as there are only few producers of automobiles.

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

2. Interdependence:

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

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

3. Non-Price Competition:

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

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

4. Existence of Price Rigidity:

In oligopoly situation, each firm has to stick to its price. If any firm tries to reduce its price, the rival firms will retaliate by a higher reduction in their prices. This will lead to a situation of price war which benefits none. On the other hand, if any firm increases its price with a view to increase its profits; the other rival firms will not follow the same. Hence, no firm would like to reduce the price or to increase the price. The price rigidity will take place.

5. Barriers to Entry of Firms:

The main reason for few firms under oligopoly is the barriers, which prevent entry of new firms into the industry. Patents, requirement of large capital, control over crucial raw materials, etc, are some of the reasons,

which prevent new firms from entering into industry. Only those firms enter into the industry which is able to cross these barriers. As a result, firms can earn abnormal profits in the long run.

6. Role of Selling Costs:

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

Selling costs are more important under oligopoly than under monopolistic competition.

7. Group Behaviour:

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

8. Nature of the Product:

The firms under oligopoly may produce homogeneous or differentiated product.

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

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

9. Indeterminate Demand Curve:

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

Price – Output Determination under Oligopoly

(a) If an industry is composed of few firms each selling ***identical or homogenous products*** and having powerful influence on the total market, the price and output policy of each is likely to affect the other appreciably, therefore they will try to promote ***collusion.***

(b) In case there is ***product differentiation***, an oligopolist can raise or lower his price without any fear of losing customers or of immediate reactions from his rivals. However, keen rivalry among them may create condition of ***monopolistic competition.***

There is no single theory which satisfactorily explains the oligopoly behaviour regarding price and output in the market. There are set of theories like Cournot Duopoly Model, Bertrand Duopoly Model, the Chamberlin Model, the Kinked Demand Curve Model, the Centralised Cartel Model, Price Leadership Model, etc., which have been developed on particular set of assumptions about the reaction of other firms to the action of the firm under study.

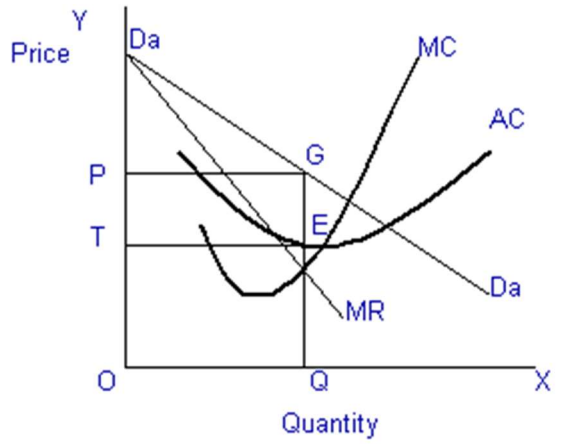
COLLUSIVE OLIGOPOLY:

The degree of imperfect competition in a market is influenced not just by the number and size of firms but by how they behave. When only a few firms operate in a market, they see what their rivals are doing and react. 'Strategic interaction' is a term that describes how each firm's business strategy depends upon its rivals' business behaviour.

When there are only a small number of firms in a market, they have a choice between 'cooperative' and 'non-cooperative' behaviour:

- Firms act ***non-cooperatively*** when they act on their own without any explicit or implicit agreement with other firms. That's what produces 'price wars'.
- Firms operate in a ***cooperative*** mode when they try to minimise competition between them. When firms in an oligopoly actively cooperate with each other, they engage in 'collusion'. Collusion is an oligopolistic situation in which two or more firms jointly set their prices or outputs, divide the market among them, or make other business decisions jointly.

A 'cartel' is an organisation of independent firms, producing similar products, which work together to raise prices and restrict output. It is strictly illegal in Pakistan and most countries of the world for companies to collude by jointly setting prices or dividing markets. Nonetheless, firms are often tempted to engage in 'tacit collusion', which occurs when they refrain from competition without explicit agreements. When firms tacitly collude, they often quote identical (high) prices, pushing up profits and decreasing the risk of doing business. The rewards of collusion, when it is successful, can be great. It is more illustrated in the following diagram:



The above diagram illustrates the situation of oligopolist A and his demand curve DaDa assuming that the other firms all follow firm A's lead in raising and lowering prices. Thus the firm's demand curve has the same elasticity as the industry's DD curve. The optimum price for the collusive oligopolist is shown at point G on DaDa just above point E. This price is identical to the monopoly price, it is well above marginal cost and earns the colluding oligopolists a handsome monopoly profit.

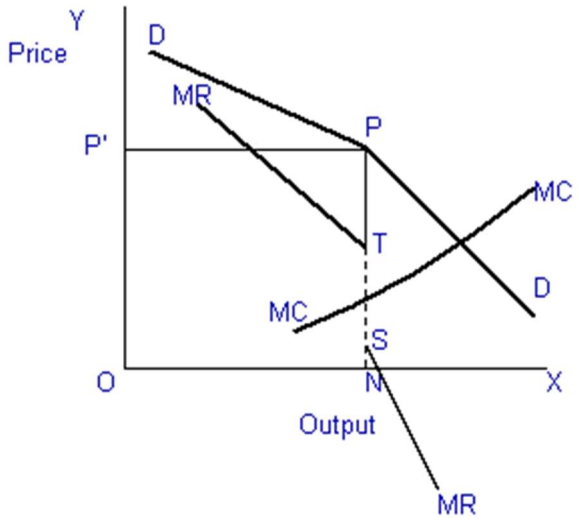
PRICE DETERMINATION MODELS OF OLIGOPOLY:

1. Kinky Demand Curve: The kinky demand curve model tries to explain that in non-collusive oligopolistic industries there are not frequent changes in the market prices of the products. The demand curve is drawn on the assumption that the kink in the curve is always at the ruling price. The reason is that a firm in the market supplies a significant share of the product and has a powerful influence in the prevailing price of the commodity. Under oligopoly, a firm has two choices:

(a) The first choice is that the firm ***increases the price*** of the product. Each firm in the industry is fully aware of the fact that if it increases the price of the product, it will lose most of its customers to its rival. In such a case, the upper part of demand curve is more elastic than the part of the curve lying below the kink.

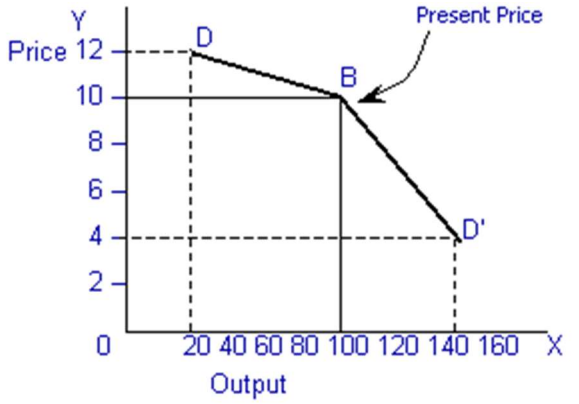
(b) The second option for the firm is to ***decrease the price.*** In case the firm lowers the price, its total sales will increase, but it cannot push up its sales very much because the rival firms also follow suit with a price cut. If the rival firms make larger price cut than the one which initiated it, the firm which first started the price cut will suffer a lot and may finish up with decreased sales. The oligopolists, therefore avoid cutting price, and try to sell their products at the prevailing market price. These firms, however, compete with one

another on the basis of quality, product design, after-sales services, advertising, discounts, gifts, warrantees, special offers, etc.



In the above diagram, we shall notice that there is a discontinuity in the marginal revenue curve just below the point corresponding to the kink.During this discontinuity the marginal cost curve is drawn. This is because of the fact that the firm is in equilibrium at output ON where the MC curve is intersecting the MR curve from below.

The kinky demand curve is further explained in the following diagram:



In the above diagram, the demand curve is made up of two segments DB and BD'. The demand curve is kinked at point B. When the price is Rs. 10 per unit, a firm sells 120 units of output. If a firm decides to

charge Rs. 12 per unit, it loses a large part of the market and its sales come down to 40 units with a loss of 80 units. In case, the producer lowers the price to Rs. 4 per unit, its competitors in the industry will match the price cut. Its sales with a big price cut of Rs. 6 increases the sale by only 40 units. The firm does not gain as its total revenue decreases with the price cut.

2. Price Leadership Model: Under price leadership, one firm assumes the role of a price leader and fixes the price of the product for the entire industry. The other firms in the industry simply follow the price leader and accept the price fixed by him and adjust their output to this price. The price leader is generally a very large or dominant firm or a firm with the lowest cost of production. It often happens that price leadership is established as a result of price war in which one firm emerges as the winner.

In oligopolistic market situation, it is very rare that prices are set independently and there is usually some understanding among the oligopolists operating in the industry. This agreement may be either tacit or explicit.

Types of Price Leadership: There are several types of price leadership. The following are the principal types:

(a) Price leadership of a dominant firm, i.e., the firm which produces the bulk of the product of the industry. It sets the price and rest of the firms simply accepts this price.

(b) Barometric price leadership, i.e., the price leadership of an old, experienced and the largest firm assumes the role of a leader, but undertakes also to protect the interest of all firms instead of promoting its own interests as in the case of price leadership of a dominant firm.

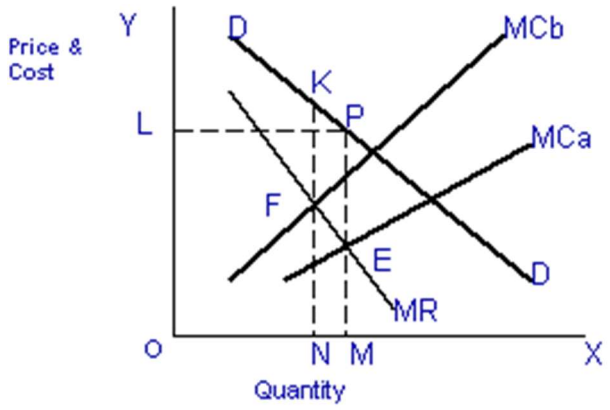
(c) Exploitative or Aggressive price leadership, i.e., one big firm built its supremacy in the market by following aggressive price leadership. It compels other firms to follow it and accept the price fixed by it. In case the other firms show any independence, this firm threatens them and coerces them to follow its leadership.

Price Determination under Price Leadership: There are various models concerning price-output determination under price leadership on the basis of certain assumptions regarding the behaviour of the price leader and his followers. In the following case, there are few assumptions for determining price-output level under price leadership:

(a) There are only ***two firms A and B*** and firm A has a lower cost of production than the firm B.

(b) The ***product is homogenous or identical*** so that the customers are indifferent as between the firms.

(c) Both A and B have ***equal share in the market***, i.e., they are facing the same demand curve which will be the half of the total demand curve.



In the above diagram, MCa is the marginal cost curve of firm A and MCb is the marginal cost curve of firm B. Since we have assumed that the firm A has a lower cost of production than the firm B, therefore, the MCa is drawn below MCb.

Now let us take the firm A first, firm A will be maximising its profit by selling OM level of output at price MP, because at output OM the firm A will be in equilibrium as its marginal cost is equal to marginal revenue at point E. Whereas the firm B will be in equilibrium at point F, selling ON level of output at price NK, which is higher than the price MP. Two firms have to charge the same price in order to survive in the industry. Therefore, the firm B has to accept and follow the price set by firm A. This shows that firm A is the price leader and firm B is the follower.

Since the demand curve faced by both firms is the same, therefore, the firm B will produce OM level of output instead of ON. Since the marginal cost of firm B is greater than the marginal cost of firm A, therefore, the profit earned by firm B will be lesser than the profit earned by firm A.

Difficulties of Price Leadership: The following are the challenges faced by a price leader:

(a) It is difficult for a price leader to correctly assess the reactions of his followers.

(b) The rival firms may secretly charge lower prices when they find that the leader charged unduly high prices. Such price cutting devices are rebates, favourable credit terms, money back guarantees, after delivery free services, easy instalment sales, etc.

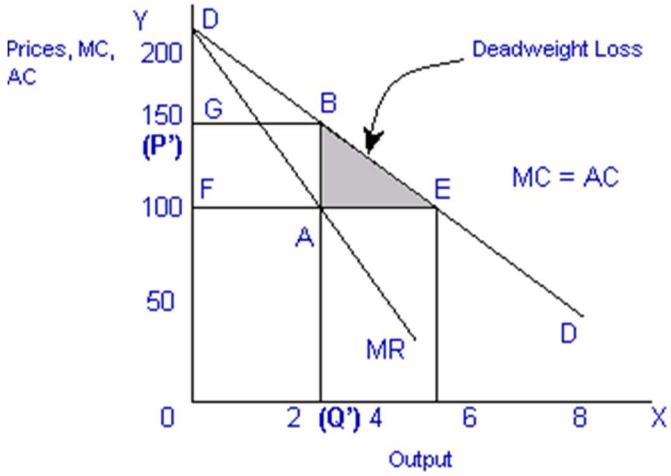
(c) The rivals may indulge in non-price competition. Such non-price competition devices are heavy advertisement and sales promotion.

(d) The high price set by the price leader may also attract new entrants into the industry and these new entrants may not accept his leadership.

ECONOMIC COSTS OF IMPERFECT COMPETITION AND OLIGOPOLY:

(a) The cost of inflated prices and insufficient output: The monopolist, by keeping the output a little scarce, raises its price above marginal cost. Hence, the society does not get as much of the monopolist's output as it wants in terms of product's marginal cost and marginal value. The same is true for oligopoly and monopolistic competition.

(b) Measuring the waste from imperfect competition: Monopolists cause economic waste by restricting output. If the industry could be competitive, then the equilibrium would be reached at the point where MC = P at point E. Under perfect competition, this industry's quantity would be 6 with a price of 100. The monopolist would set its MC equal to MR (not to P), displacing the equilibrium to Q = 3 and P = 150. The GBAF is the monopolist's profit, which compares with a zero-profit competitive equilibrium. Economists measure the economic harm from insufficiency in terms of the deadweight loss; this term signifies the loss in real income that arises because of monopoly, tariffs and quotas, taxes, or other distortions. The efficiency loss is the vertical distance between the demand curve and the MC curve. The total deadweight loss from the monopolist's output restriction is the sum of all such losses represented by the grey triangle ABE:



In the above diagram, DD curve represents the consumers' marginal utility at each level of output, while the MC curve represents the opportunity cost of the devoting production to this good rather than to other industries. For example, at Q = 3, the vertical difference between B and A represents the utility that would be gained from a small increase to the output of Q. Adding up all the lost social utility from Q = 3 to Q = 6 gives the shaded region ABE.

Monopolistic Competition

Perfect competition and monopoly are the two extreme forms of market situations, rarely to be found in the real world. Generally, markets are imperfect. A number of attempts have been made by different economists like Piero Shraffa, Hotelling, Zeuthen and others in the early 1920's, Mrs Joan Robinson and Prof Chamberlin in 1930's to explain the behavior of imperfect competition.

Prof. Chamberlin is the main architect of the theory of Monopolistic Competition. This market exhibits the characteristics of both competition and monopoly. Since modern markets are combined and integrated with monopoly power and competitive forces they are called as Monopolistic Competition. **It is a market structure in which a large number of small sellers sell differentiated products which are close, but not perfect substitutes for one another.** Under this market, the products produced and sold are different, but they are close substitutes for one another. This leads to competition among different sellers. Thus, in this market situation every producer is a sort of monopolist and between such "mini-monopolists" there exists competition. It is one of most popular and realistic market situation to be found in the present day world. A

number of examples may be given for this kind of market. Tooth paste, blades, motor cycles and bicycles, cigarettes, cosmetics, biscuits, soaps and detergents, shoes, ice – creams etc.

Characteristics of Monopolistic Competition

1. Existence of a large Number of firms:

Under Monopolistic competition, the number of firms producing a product will be large. The size of each firm is small. No individual firm can influence the market price. Hence, each firm will act independently without worrying about the policies followed by other firms. Each firm follows an independent price-output policy.

2. Market is characterized by imperfections

Imperfections may arise due to advertisements, differences in transport cost, irrational preferences of consumers, ignorance about the availability of different brands of products and prices of products etc., sellers may also have inadequate knowledge about market and prices existing at different segments of markets.

3. Free entry and exit of firms

Each firm produces a very close substitute for the existing brands of a product. Thus, differentiation provides ample opportunity for a firm to enter with the group or industry. On the contrary, if the firm faces the problem of product obsolescence, it may be forced to go out of the industry.

4. Element of monopoly and competition

Every firm enjoys some sort of monopoly power over the product it produces. But it is neither absolute nor complete because each product faces competition from rival sellers selling different brands of the product.

5. Similar products but not identical

Under monopolistic competition, the firm produces commodities which are similar to one another but not identical or homogenous. For E.g. toothpastes, blades, cigarettes, shoes etc,

6. Non-price competition

In this market, there will be competition among “Mini-monopolists” for their products and not for the price of the product. Thus, there is “product competition” rather than “price competition”.

7. Definite preference of the consumers

Consumers will have definite preference for particular variety or brands loyalty owing to the special features of a product produced by a particular firm.

8. Product differentiation

The most outstanding feature of monopolistic competition is product differentiation. Firms adopt different techniques to differentiate their products from one another. It may take mainly two forms:

a. Real product difference:

It will arise –

i. When they are produced out of materials of higher quality, durability and strength.

ii. When they are extraordinary on the basis of workmanship, higher cost of material, color, design, size, shape, style, fragrance etc.

iii. When personal care is taken to produce it.

b. Imaginary product difference:

Producers adopt different methods to differentiate their products from that of other close substitutes in the following manner.

i. Proper location of sales depots in busy and prestigious commercial centers.

ii. Selling goods under different trade marks, patenting rights, different brands and packing them in attractive wrappers or containers.

iii. Providing convenient Working hours to customers.

iv. Home delivery of goods with no extra cost.

v. Courteous treatment to customers, quick and prompt delivery of goods in time and developing cordial, personal and friendly relations with them.

vi. Offering gifts, discounts, lucky dip schemes, special prices, guarantee of repairs and other free services, guarantee of products, fair dealings, sales on credit or credit cards & debit cards etc.

vii. Agreement to take back goods if they are unsatisfactory.

viii. Air conditioned stores etc.

9. Selling Costs

All those expenses which are incurred on sales promotion of a product are called as selling costs. In the words of Prof. Chamberlin – "selling Costs are those which are incurred by the producers (sellers) to alter the position or shape of the demand curve for a product". In short, selling costs represents all those selling activities which are directed to persuade buyers to change their preferences so as to maximized the demand for a given commodity. Selling costs include expenses on sales depots, decoration of the shop, commission given to intermediaries, window displays, demonstrations, exhibitions, door to door canvassing, distribution

of free samples, printing & distributing pamphlets, cinema slides, radio, T.V., newspaper advertisements (informative and manipulative advertisements) etc.

10. The concept of Industry & Product Groups

Prof. Chamberlin introduced the concept of group in place of industry. Industry in economics refers to a number of firms producing similar products. Under monopolistic competition no doubt, different firms produce similar products but they are not identical. Hence, Prof. Chamberlin has made an attempt to redefine the industry. According to him, the monopolistically competitive industry is a 'group'of firms producing a "closely related" commodity referred to as "product group" thus group refers to a collection of firms that produce closely related but not identical products.

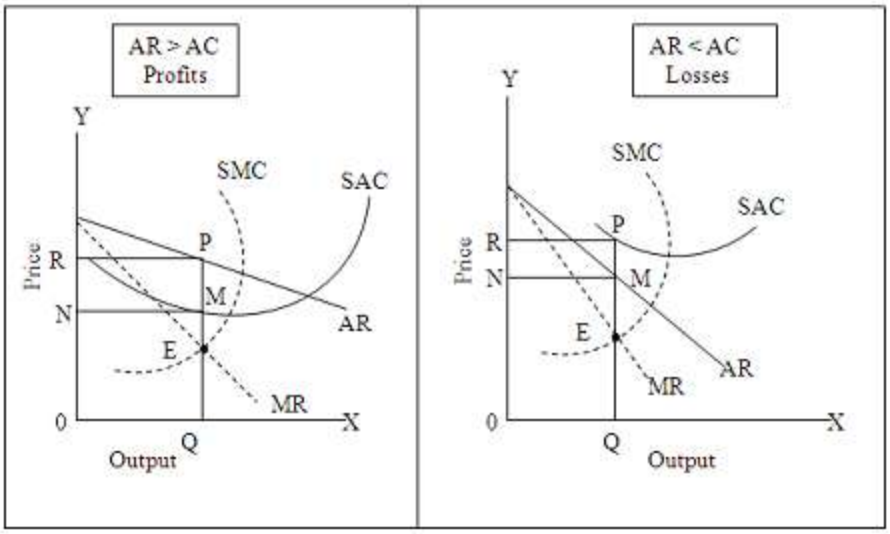
11. More elastic demand curve

Product differentiation makes the demand curve of the firm much more elastic. It implies that a slight reduction in the price of one product assuming the price of all other products remaining constant leads to a large increase in the demand for the given product.

PRICE – OUTPUT DETERMINATION

Short run equilibrium

Short period is a period of time where time is inadequate to make all sorts of changes and adjustments in the productive process. The demand & cost conditions may vary substantially forcing the firm either to charge a higher or lower price leading to supernormal profits or losses. However, each firm fixes such price and produce output which maximizes its profit. The equilibrium price and output is determined at the point where Short run Marginal cost equals Marginal revenue. Thus, the first condition for Short run equilibrium is MC = MR.



The first diagram shows supernormal profits. In this case, price (AR) is greater than AC (cost Per Unit). MQ is the cost per unit and total cost for OQ output is = MQ X OQ = ONMQ. PQ is the price or revenue per unit and the total revenue for OQ output is = PQ X OQ = ORPQ. Supernormal profit = TR (ORPQ) – TC (ONMQ). Hence, NRPM is the total profit.

The second diagram shows losses. In this case, AC is greater than AR. PQ is the cost per unit and the total cost is PQ x OQ = ORPQ. MQ is the revenue per unit & the total revenue for OQ output is MQ X OQ = ONMQ.

Total losses = TC (ORPQ) – TR (ONMQ) = NRPM. Thus, in the Short run, there will be place for supernormal profits or losses.

Price output determination in the long run

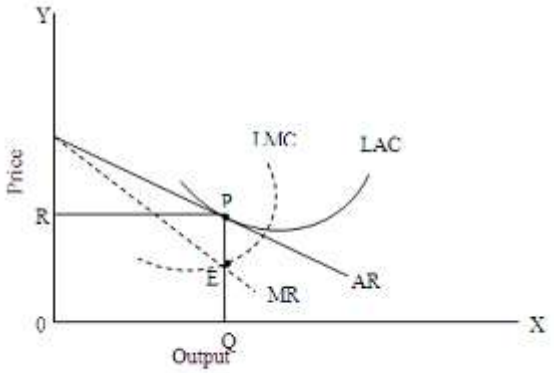
Long run is a period of time where a firm will get adequate time to make any changes in the productive process or business. A firm can initiate several measures to minimize its production costs and enjoy all the benefits of large scale production. The cost conditions, as a result differ slightly in the long run. While fixing the price, a firm in the long run should consider its AC & AR.

Generally speaking in the long run a firm can earn only normal profits. If AR is greater than AC, there will be super normal profits. This leads to entry of new firms – increase in the total number of firms – total production – fall in prices – decline in profit ratio. On the other hand, if AC is greater than AR, there will be losses. This leads to exit of old firms – decrease in the number of firms – total production – rise in prices –

increase in profit ratio. Thus, the entry and exit of firms continue till AR becomes equal to AC. Thus, in the long run, two conditions are required for the equilibrium of the firm –

1) MR=MC and

2) AR=AC. However, it should be noted that price is greater than MR & MC.



In the diagram E is the equilibrium position where MR = MC and MC curve cuts MR curve from below. At P, AR = AC = price.

It is necessary to understand that a firm under monopolistic competition in the long run also can earn supernormal normal profits. Prof. Stonier & Hague suggest that a firm can go for innovation to introduce new changes in the context of a modern competitive business. This appears to be more realistic because today almost all firms make heavy profits. Hence, it is regarded as one of the most practical forms of market situations in the present day world.

Duopoly Competition

"Duopoly is that situation of a market in which there are two producers of a product, either perfectly identical or almost identical. They are not bound by the agreement regarding price or quantity of production." Dr. John.

Following are the characteristics of duopoly:

i. Two producers or sellers of a product

ii. Perfectly identical or almost identical products

iii. Independent price policy followed by both the sellers or they may agree upon a uniform price

iv. Both the sellers may compete with each other or agree to co-operate with each other

Duopoly can be of two types, which are explained as follows:

i. Duopoly without product differentiation:

Refers to a type of duopoly when organizations sell identical products. In such a situation, an agreement may be formed between organizations to set a fixed price or divide the markets. In case, if there is no agreement, the price war may take place among organizations.

The one with the lower price would gain the market share and a simple monopoly would be established. Organizations will be able to maximize the profits in case they collude together by charging same prices.

ii. Duopoly with product differentiation:

Refers to a duopoly market when the organizations sell differentiated products. There is no fear of rivals and there will be no agreement between the organizations. The organization with better products will gain supernormal profits.

There are three types of duopoly models pertaining to price-output decisions under duopoly market situation;

1. Cournot's Duopoly Model:

Cournot duopoly model was propounded by a French economist, Augustin Cournot in 1838 for price-output determination under duopoly. Cournot model is based on the market condition in which there are only two sellers, that is duopoly. However, the model is also applicable to oligopolistic market conditions. Let us explain the model with the help of an example taken by Cournot. Suppose there are two producers, each operating two identical springs of mineral water, being produced at zero cost.

Following assumptions are taken in this model:

i. Both the producers operate at zero cost of producing water

ii. Both the producers face the same demand curve with negative slope

iii. Both the producers assumes that competitors will not react to the change in price or output

Figure shows the Cournot's duopoly model:

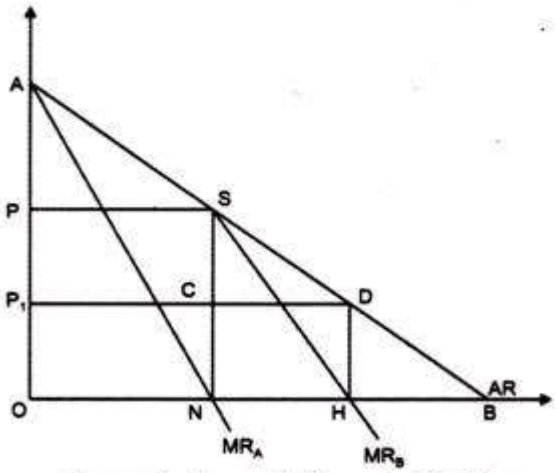


Figure-6: Cournot's Duopoly Model

In the Figure, the demand curve (AR curve) faced by two organizations for mineral water is given by a straight line AB. The total output produced is equal to OB where maximum daily output of each mineral spring is ON = NB. Assume that producer A starts the business first. It implies that he/she is the monopolist and produces ON level of the output, which is the maximum level of output.

Since costs are zero, the profit will be equal to ONPS. The price charged is equal to OP. Now, suppose that the producer B enters into business and notices that producer A is producing ON amount of output. The market which is unsupplied by A is the market open for B equal to NB. B will produce output assuming that A will not change its price and output (as he is making maximum profits).

The demand curve faced by producer B is equal to SB and thus, MRB can be drawn equal to SH. At this point, price falls to OP1 and thus output produced is equal to NH (one-fourth of the market = ½ of NB=½ of ½=¼). The total profits of producer B are equal of NHCD.

From the Figure, it can be seen that with the entry of producer B, price has fallen to P1, which has decreased the profits of A to ONCP1. Thus, A would make adjustments in price and output assuming that B would not change his output and price levels. He/she would produce ½ of the (OB-NH) of the market.

OB-NH =1-¼= ¾

Thus, output produced by A is= ½(3/4) = 3/8.

Now, B will notice that his/her total profits are less than that of A. Thus, he/she will produce ½ of (OB- new output of A)

= ½(1-3/8) = 1/2 5/8= 5/16 of the market

This process of adjustments will continue until both of their market shares are equal to one third. Till that, B would continue to gain and A would continue to lose. This model concludes that under Cournot's duopoly

situation, each seller ultimately supplies one- third of the market. Both the producers charge the same price and one-third of the market remains unsupplied.

Cournot's model attains the stable equilibrium; however it is criticized on the following grounds:

i. Assumes that each producer would be producing the same level of output. However, this assumption is wrong as output of the rivals does not remain fixed.

ii. Assumes that the cost of production remains nil, which is not true in every kind business.

2. Edge-worth Model:

As discussed, in Cournot model, the output of rival organization is assumed to be constant and unchanged. In the Edge-worth model, the price of the rival organization is assumed to be unchanged.

The assumptions of this model are as follows:

i. Each organization believes that its rival organization will not change its price

ii. Neither of the organizations can produce an output as large as the competitive output

iii. The maximum possible output is the same for both the organizations

iv. The product is homogenous, which implies there are no brand and quality variations

v. Consumers prefer to buy at the lowest price possible

The Edge-worth model is explained with the help of Figure

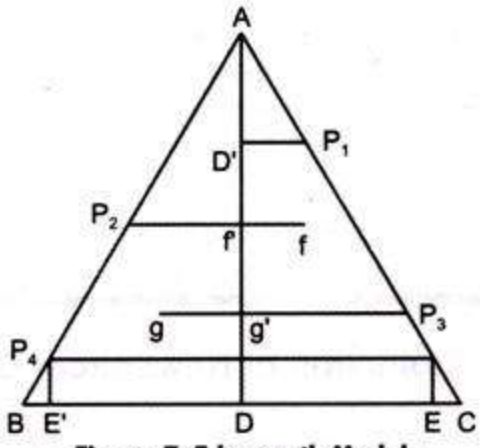


Figure-7: Edgeworth Model

In Figure AC is the organization A's demand curve, whereas AB is the organization's B's demand curve. The maximum output that can be produced by A and B is DE and DE', respectively. Suppose organization A is the first to enter the market and sets the price P1 where output is D'P1. Now, organization B enters the market and sets price lower than A that is P2.

In such a case, organization B captures the market share of A which is equal to ff'. Now, A reacts and lowers its price to P3 and captures B's market share equal to gg'. This process will continue until price equals P4 and output produced by both A and B equals maximum output.

At P4, no one can snatch the market share of each other. Now, A again raises the price to P1 considering that B has fixed its entire supply at P4. B again follows A and thus process continues between P1 and P4.

3. Chamberlin Model:

Chamberlin model is based on an assumption that both the organizations existing in the market are mutually interdependent on each other.

Let us understand Chamberlin model with the help of Figure

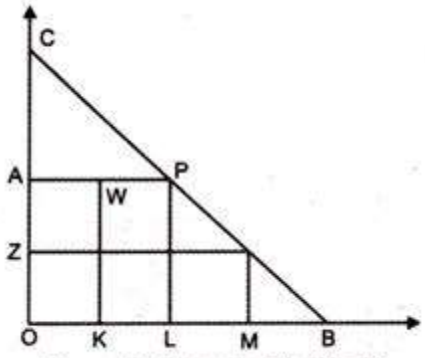


Figure-8: Chamberlin Model

Suppose there are two organizations A and B in the market. Organization A enters the market first. In Figure, BC is the demand curve and OL is the total output produced by A which is sold at price OA. The total profit is OLPA. Now, producer B enters the market and produce LM level of output. Thus, the total quantity produced is equal to OL + LM – OM.

Part – B

1. Define market.
2. Define market structure
3. What is perfect competition?
4. What is pure competition?
5. List the features of the Perfect Competition
6. What is normal profit?
7. What is abnormal profit?
8. What is super- normal profit?
9. What is equilibrium price?
10. Give for conditions for profit maximisaation.
11. What is market price?
12. Give the condition for equilibrium in perfect competition.
13. Define monopoly.
14. List the features of monopoly competition.
15. Define duopoly.
16. Write a note on Duopoly without product differentiation.
17. Write a note on Duopoly with product differentiation.
18. List the assumptions of Cournot's Duopoly Model
19. Bring out the features of duopoly competition.
20. What is Monopolistic Competition?
21. List the characteristics of Monopolistic Competition.
22. What is Product differentiation of monopolistic competition?
23. What is Selling Costs?
24. Define Oligopoly competition.
25. Write a note on types of Oligopoly.
26. What is Collusive Oligopoly?
27. What is Non - Collusive Oligopoly?
28. List the features of Oligopoly.

29. What is Non-Price Competition of oligopoly?
30. What is Price Rigidity of oligopoly?
31. What is Group Behaviour of oligopoly?
32. What is cartel?
33. What is Kinked Demand Curve?
34. What is Price Leadership?
35. Bring out the types of Price Leadership.
36. What is oligopsony?
37. List the features of oligopsony.
38. What is monopsony?
39. List the features of monopsony.

Part – B

1. Discuss different market structures and their features.
2. Explain price and output determination under perfect competition.
3. Examine the features of the Perfect Competition.
4. Discuss the conditions for profit maximisaation under different market competition.
5. Explain the features of monopoly competition.
6. Explain duopoly without product differentiation and with product differentiation.
7. Explain the Cournot's Duopoly Model
8. Discuss the features of duopoly competition.
9. Explain the features of Monopolistic Competition.
10. Explain the Product differentiation and selling cost of monopolistic competition?
11. Explain different types of Oligopoly competition.
12. Discuss the Collusive Oligopoly and Non - Collusive Oligopoly.
13. Discuss the features of Oligopoly.
14. Explain the Non-Price Competition and Price Rigidity features of oligopoly.
15. Explain the reasons for Kinked Demand Curve of oligopoly competition.
16. Explain the Price Leadership Model.
17. Explain how price is determined under monopoly competition.
18. Explain the price and output determination under duopoly competition.
19. Explain the price and output determination under monopolistic competition.
20. Explain how Price is determined under oligopoly competition.
21. Discuss the features of Monopsony market.
22. Examine the characteristics of oligopsony market competition.

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF MANAGEMENT (UG)
I BBA - II SEMESTER
MANAGERIAL ECONOMICS
UNIT III MULTIPLE CHOICE QUESTIONS

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	_____ is the process of transformation of inputs into goods and services of utility to consumers and producers	Production	Sales	Purchases	Costs	Production
2	There are _____ factors of production	one	two	three	five	five
3	_____ Product is total product per unit of variable input.	Minimum	Average	Maximum	Marginal	Average
4	_____ Product is the addition in total output per unit change in variable input	Minimum	Average	Maximum	Marginal	Marginal
5	_____ curves are different combinationa of two consumption baskets corresponding to a given level of utility.	Difference	Cost	Indifference	Production	Indifference
6	An _____ is the locus of all technically efficient combinations for producing a given level of output	Isoquant	Income	Idea	Isocost	Isoquant

7	Production function is a relationship between physical _____ and physical outputs over a given period of time.	Cost	Income	inputs	Expenditure	inputs
8	There is substitutability between the factors of _____, but the factors are not perfect substitutes	marketing	costing	production	sales	production
9	Higher the _____ greater is the volume of output	cost	income	isocost	isoquant	isoquant
10	In case of a homogeneous production function, the expansion path is _____	Convex	Concave	Linear	Curvilinear	Linear
11	If Average product of labour is positive but declining, marginal product of labour could be _____	Declining but positive	Zero	Negative	Declining but positive, Zero and Negative	Declining but positive, Zero and Negative
12	Land, Labour, Capital, Enterprise and _____ are the factors of production	Finance	Organization	Expenditure	Income	Organization
13	Production is known as the conversion of _____ into outputs.	inputs	finance	goods	income	inputs
14	Capital is defined as the _____ means of production	sold	marketed	produced	financed	produced
15	Isoquants are also known as _____ curves	Isoproduct	Isocost	Isoincome	Iso	Isoproduct
16	Which of the following is not a long run concept?	Expansion path	Isoquant	Returns to scale	Law of variable proportion	Law of variable proportion

17	_____ means Sacrifice	Income	Cost	Inputs	Idea	Cost
18	_____ are more or less social and psychological in nature	Income	Cost	Inputs	Real costs	Real costs
19	_____ do not involve actual payment or cash outflow or reduction in assets	Implicit costs	Explicit costs	Opportunity costs	Marginal costs	Implicit costs
20	_____consist of private costs of the firm and social costs paid by the society	Implicit costs	Social costs	Opportunity costs	Marginal costs	Social costs
21	Low price of a good generally keeps its price elasticity of demand as _____	high	medium	low	normal	low
22	In the case of inferior goods, the income elasticity of demand is _____	positive	negative	positive, negative	negative, positive	negative
23	when as a result of increase in price of goods, total expenditure made on goods falls, price elasticity of demand is _____ than unity.	Greater	lesser	nominal	cardinal	Greater
24	_____ is the scientific and analytical estimation of demand for a product for a particular period of time.	Demand forecasting	forecasting	claim	supply	Demand forecasting
25	_____refers to the opinion of the buyers, sales force to have the knowledge of emerging trend in market demand.	questionnaire method	interview method	Survey/opinion method	Schedule	Survey/opinion method

26	Collective opinion method is also known as the _____	Sales force opinion	purchase force opinion method	Sales return opinion	purchase return opinion	Sales force opinion
27	The past data is arranged chronologically with regular intervals of time. This type of data is called_____	Cost series	price series	time series	gap series	time series
28	_____establishes the relationship between quantity demanded and one or more independent variables.	Co-relation r	independent method	quantity method	Regression method.	Regression method.
29	The law of supply states that firms will _____ of the commodity when prices are high and vice versa	purchase more	sell more	purchase less	sell less	sell more
30	Market _____ occurs where demand and supply are equal.	Equilibrium	utility	elastic	supply	Equilibrium
31	Commodities which are perishable in nature have _____ supply	elastic	expand	inelastic	infinite	inelastic
32	When a supply of a commodity decreases on a fall in its price, it is called _____	demand	Contraction of supply	consumer surplus	surplus	Contraction of supply
33	_____ of a commodity is the total quantity that is available in a market at a certain time.	Stock	opening stock	closing stock	Common Stock	Stock

34	_____ is the measure of satisfaction a consumer derives out of consumption of a commodity.	utility	indifference	margin of safety	demand	utility
35	when total utility is maximum, marginal utility is zero, it is called _____point	saturation	diffusion	utility	growth	saturation
36	_____ is equal to the difference between the price a consumer is willing to pay and the price actually he pays for a commodity	surplus	customer surplus	consumer surplus	Customer deficit	consumer surplus
37	Cardinal utility approach is based on the _____school of thought.	Marshallian	Albert	economic	modern man	Marshallian
38	The assumption of _____ implies that an individual consumer's preferences are always consistent.	transitivity	saturation	utility	marginal utility	transitivity
39	The IC analysis explains the demand for inferior goods and solves _____	Veblen effec	Giffen paradox	speculative effect	goods	Giffen paradox
40	The book "Value and capital"was written by_____	JR Hicks	RGD Allen	Alfred Marshall	Thorstein veblen	JR Hicks
41	Which of the following is considered production in economics?	Driving for pleasure	Teaching for a fee	Boating for recreation	Donating blood	Teaching for a fee

42	In which stage of production would a rational producer like to operate_____	I stage-MP is maximum	II State –BothMP&AP are decreasing but positive	III Stage –MP is negative	either stage II or III	II State –BothMP&AP are decreasing but positive
43	In the short-run, when the output of a firm increases, its average fixed cost will _____	increase	decrease	remains constant	sustained	decrease
44	Perfect competition has the following features except _____	Homogeneous products	perfect knowledge	selling and transport cost occurs	free entry and exit	selling and transport cost occurs
45	Markets are being classified on the	demand and	Time	situation	Time, Situation, demand and supply	Time, Situation, demand and supply
46	There is a single seller of a commodity which has no close substitutes can be termed as	Pure monopoly	duopoly	monopoly	pure oligopoly	Pure monopoly
47	A firm that produces substitute goods can adopt the following pricing strategy_____	Transfer pricing	full costing	going rate pricing	Customary pricing	going rate pricing
48	When demand is slack and market is highly competitive the following method of pricing may be adopted_____	full cost pricing	marginal cost pricing	peak load pricing	penetration pricing	marginal cost pricing
49	The factors affecting the pricing policy are _____	Cost of product	competitors price	objectives of the business	Cost of product, Ccompetitors price and objectives of business	Cost of product, Ccompetitors price and objectives of business

50	pricing methods can be brought under the following methods	cost oriented	competition orie	c)both a and b	Cost and Competition oriented	Cost and Competition oriented
51	A perfectly competitive firm has all the following features except	price taker	quantity adjusted	price discriminator	perfectly informed	price discriminator
52	In which of the following types of market structures, is it impossible for a seller to charge different prices for the same good	monopoly	perfect competition	oligopoly	monopolistic competition	perfect competition
53	In perfect competition, a firm increases profit when_____exceeds	TC, TR	MC,MR	AR, AC	TR,TFC	TC, TR
54	the single control in monopoly may mean	single produce	organization	govt or quasi govt	Single producer, organizarion govt / quasi govt	Single producer, organizarion govt / quasi govt
55	Which one is not a type of monopoly?	legal monopoly	pure monopoly	simple monopoly	Discriminating monopoly	legal monopoly
56	The monopolist will not allow any consumers surplus for the buyer in _____	first degree price discriminati on	second degree price discrimination of the above.	third degree price discrimination	foruth degree price discrimination	third degree price discrimination
57	Under monopoly which cost curve is parallel to ox-axis?	AVC	FC	MC	AC	FC
58	In a monopolistically competitive market the number of firm is _____	one	two	few	very large	very large

59	Elasticity of production under monopolistic competition is _____	equal to one	more than one	less than one	equal to zero	more than one
60	Which forms of market structure does a firm has no control over the price of the product _____	Monopolistic competition	Perfect competition	Monopoly	Dduopoly	Monopolistic competition

MONETARY POLICY

SYLLABUS

Unit – V : Objectives of Monetary policy

Types of Monetary Policy – Instruments of Monetary policy – Objectives of Fiscal Policy – Types of Fiscal Policy – Instruments of Fiscal Policy –Budget Preparation – Deficit Budget. Balance of Trade and Balance of Payments – Current Account and Capital Account of BOP – Disequilibrium in BOP. Money supply – Commercial Banks – Central Banks – Functions – Process of Credit Creation and Money supply – High Powered Money – Money multiplier – Money and Interest rate – Theories of Interest.

Monetary Policy

Monetary policy implies those measures designed to ensure an efficient operation of the economic system or set of specific objectives through its influence on the supply, cost and availability of money. The concept of monetary policy has been defined in a different manner according to different economists;

Definition of Monetary Policy

Many economists have given various definitions of monetary policy. Some prominent definitions are as follows.

According to Prof. Harry Johnson,

"A policy employing the central banks control of the supply of money as an instrument for achieving the objectives of general economic policy is a monetary policy."

According to A.G. Hart,

"A policy which influences the public stock of money substitute of public demand for such assets of both that is policy which influences public liquidity position is known as a monetary policy."

Objectives of Monetary Policy

The objectives of a monetary policy in India are similar to the objectives of its five year plans. In a nutshell, planning in India aims at growth, stability and social justice. After the Keynesian revolution in economics, many people accepted significance of monetary policy in attaining following objectives.

- Rapid Economic Growth
- Price Stability
- Exchange Rate Stability
- Balance of Payments (BOP) Equilibrium
- Full Employment
- Neutrality of Money
- Equal Income Distribution

These are the general objectives which every central bank of a nation tries to attain by employing certain tools (Instruments) of a monetary policy. In India, the RBI has always aimed at the controlled expansion of bank credit and money supply, with special attention to the seasonal needs of a credit.

Rapid Economic Growth: It is the most important objective of a monetary policy. The monetary policy **can influence economic growth by controlling real interest rate and its resultant impact on the investment**. If the RBI opts for a cheap or easy credit policy by reducing interest rates, the investment level in the economy can be encouraged. This increased investment can speed up economic growth. Faster economic growth is possible if the monetary policy succeeds in maintaining income and price stability.

Price Stability: All the economics suffer from inflation and deflation. It can also be called as Price Instability. Both inflation and deflation are harmful to the economy. Thus, **the monetary policy having an objective of price stability tries to keep the value of money stable. It helps in reducing the income and wealth inequalities.** When the economy suffers from recession the monetary policy should be an 'easy money policy' but when there is inflationary situation there should be a 'dear money policy'.

Exchange Rate Stability: Exchange rate is the price of a home currency expressed in terms of any foreign currency. If this exchange rate is very volatile leading to frequent ups and downs in the exchange rate, the international community might lose confidence in our economy. The monetary

policy aims at maintaining the relative stability in the exchange rate. **The RBI by altering the foreign exchange reserves tries to influence the demand for foreign exchange and tries to maintain the exchange rate stability.**

Balance of Payments (BOP) Equilibrium: Many developing countries like India suffers from the Disequilibrium in the BOP. The Reserve Bank of India through its monetary policy tries to maintain equilibrium in the balance of payments. The BOP has two aspects i.e. the 'BOP Surplus' and the 'BOP Deficit'. The former reflects an excess money supply in the domestic economy, while the later stands for stringency of money. If the monetary policy succeeds in maintaining monetary equilibrium, then the BOP equilibrium can be achieved.

Full Employment: The concept of full employment was much discussed after Keynes's publication of the "General Theory" in 1936. It refers to absence of involuntary unemployment. In simple words 'Full Employment' stands for a situation in which everybody who wants jobs get jobs. However it does not mean that there is Zero unemployment. In that senses the full employment is never full. Monetary policy can be used for achieving full employment. **If the monetary policy is expansionary then credit supply can be encouraged. It could help in creating more jobs in different sector of the economy.**

Neutrality of Money: Economist such as Wicksted, Robertson have always considered money as a passive factor. According to them, money should play only a role of medium of exchange and not more than that. Therefore, the monetary policy should regulate the supply of money. The change in money supply creates monetary disequilibrium. Thus monetary policy has to regulate the supply of money and neutralize the effect of money expansion. However this objective of a monetary policy is always criticized on the ground that if money supply is kept constant then it would be difficult to attain price stability.

Equal Income Distribution: Many economists used to justify the role of the fiscal policy is maintaining economic equality. However in recent years economists have given the opinion that the monetary policy can help and play a supplementary role in attainting an economic equality. Monetary policy can make special provisions for the neglect supply such as agriculture, small-scale industries, village industries, etc. and provide them with cheaper credit for longer term. This can prove fruitful for these sectors to come up. Thus in recent period, monetary policy can help in reducing economic inequalities among different sections of society.

Role of Monetary Policy in developing economy

The monetary policy in a developing economy will have to be quite different from that of a developed economy mainly due to different economic conditions and requirements of the two types of economies.

A developed country may adopt full employment or price stabilisation or exchange stability as a goal of the monetary policy

But in a developing or underdeveloped country, economic growth is the primary and basic necessity. Thus, in a developing economy the monetary policy should aim at promoting economic growth, the monetary authority of a developing economy can play a vital role by adopting such a monetary policy which creates conditions necessary for rapid economic growth. Monetary policy can serve the following developmental requirements of developing economies.

1. **Developmental Role:**

Accelerating economic development by influencing the supply and uses of credit, controlling inflation, and maintaining balance of payment.

2. **Creation and Expansion of Financial Institutions**:

More banks and financial institutions should be set up, particularly in those areas which lack these facilities will help in increasing credit facilities, mobilising voluntary savings of the people, and channelizing them into productive uses.

3. **Effective Central Banking:**

To meet the developmental needs the central bank of an underdeveloped country must **function effectively to control and regulate the volume of credit through various monetary instruments, like bank rate, open market operations, cash-reserve ratio etc.**

4. **Integration of Organised and Unorganised Money Market**:

The unorganised money market remains outside the control of the central bank. By adopting effective measures, the monetary authority should integrate the unorganised and organised sectors of the money market.

5. **Developing Banking Habits:**

I**ncrease in the bank deposits by developing the banking habits of the people and popularising the use of credit instruments.**

6. **Monetisation of Economy:**

The monetary authority should take measures to monetise this non-monetised sector and bring it under its control.

7. **Integrated Interest Rate Structure:**

The monetary authority should take effective steps to integrate the interest rate structure of the economy. Moreover, a suitable interest rate structure should be developed which not only **encourages savings and investment in the country but also discourages speculative and unproductive loans.**

8. **Debt Management:**

Debt management is another function of monetary policy in a developing country. Debt management aims at (a) deciding proper timing and issuing of government bonds, (b) stabilising their prices, and (c) minimising the cost of servicing public debt.

9. **Maintaining Equilibrium in Balance of Payments**:

The monetary authority should adopt direct foreign exchange controls and other measures to correct the adverse balance of payments.

10. **Controlling Inflationary Pressures:**

Thus, the monetary policy in a developing economy should serve **to control inflationary tendencies by increasing savings by the people, checking expansion of credit by the banking system, and discouraging deficit financing by the government.**

11. **Long-Term Loans for Industrial Development:**

The **monetary authority should induce these banks to grant long-term loans to the industrial units by providing rediscounting facilities**.

12. **Reforming Rural Credit System**:

The monetary authority can play an important **role in providing both short-term and long term credit to the small arrangements, such as the establishment of cooperative credit societies, agricultural banks.**

Types of Monetary Policy

There are **two types of Monetary Policy:**

1. Expansionary Monetary Policy: The expansionary monetary policy is adopted when the economy is in a recession, and the unemployment is the problem. The expansion policy is undertaken with an aim to increase the aggregate demand by cutting the interest rates and increasing the supply of money in the economy. The money supply can be increased by buying the government bonds, lowering the interest rates and the reserve ratio. By doing so, the consumer spending increases, the private sector borrowings increases, unemployment reduces and the overall economy grows. Expansionary policy is also called as **"easy monetary policy".**

Although the expansionary monetary policy is useful during the slow period in a business cycle, it comes with several risks. Such as the economist must know when the money supply should be expanded so as to avoid its side effects like **inflation**. There is often a time lag between the time the policy is made and the time it is implemented across the economy, so up-to-the-minute analysis of the policy is quite difficult or impossible. Also, the central bank and legislators must know when to stop the supply of money in the economy and apply a **Contractionary Policy.**

2. Contractionary Monetary Policy: The Contractionary Monetary policy is applied when the inflation is a problem and economy needs to be slow down by curtailing the supply of money. The inflation is characterized by increased money supply and increased consumer spending. Thus, the Contractionary policy is adopted with an aim to decrease the money supply and the spendings in the economy. This is primarily done by increasing the interest rates so that the borrowing becomes expensive.

Thus, these are the monetary policies applied by the monetary authority to control the inflationary or recessionary pressures in the economy.

Instruments of Monetary Policy:

The instruments of monetary policy are of two types: first, quantitative, general or indirect; and second, qualitative, selective or direct. They affect the level of aggregate demand through the supply of money, cost of money and availability of credit. Of the two types of instruments, the first category includes bank rate variations, open market operations and changing reserve requirements. They are meant to regulate the overall level of credit in the economy through commercial banks. The selective credit controls aim at controlling specific types of credit. They include changing margin requirements and regulation of consumer credit. We discuss them as under:

Quantitative Methods

1. Bank Rate Policy
2. Open Market Operations
3. Variation of Cash Reserve Ratios
4. Fixation of Lending Rates of Commercial Banks
5. Credit Squeeze

Qualitative Methods

1. Fixation of Margin Requirements
2. Regulation of Consumer Credit
3. Control through Directives
4. Rationing of Credit
5. Prior Authorization Schemes
6. Moral Suasion
7. Direct Action
8. 'Repo' Transactions

Let us discuss these methods here under:

Quantitative Credit Control by RBI

These methods are called traditional methods because they have been in use for decades. Through these methods, the credit creation is controlled by changing the cash reserves of commercial banks.

The methods of Bank Rate Policy, open market operations and variation of Cash Reserve Ratios, etc., are designed to effect the lendable resources of commercial banks either directly affecting their reserve base or by making the cost of funds cheaper or dearer to them. The important methods of this nature are explained herein below:

1. Bank Rate Policy

According to the Reserve Bank of India Act, the Bank Rate is defined as **"the standard rate at which the RBI is prepared to buy or rediscount bills of exchange or other commercial papers eligible for purchase under the provisions of the Act ".**

Thus, the bank rate is the rate of interest at which RBI rediscounts the first-class bills in the hands of commercial banks to provide them with liquidity in case of need. However, presently RBI does not accept any bills for re-discounting. This function is being done by separate financial institutions like DHFI created for similar purposes.

The bank rate policy as an instrument of monetary control was not successful in India for a long time. The main factors responsible for this are

(i) Inherent inflexibility involved in the use of this instrument.

(ii) The dominance of the Public Sector whose investment requirements are cost inelastic.

(iii) The higher rate of inflation experienced in the economy.

(iv) Restricted availability of refinance facilities to banks.

(v) As the government expenditure increase, the tax burden also increases. Under heavy taxation, the businessmen feel that the interest rate is a minor factor. And the decrease in the importance of interest rate has led to the decline in the importance of bank rate.

The effectiveness of this instrument can be improved by restructured monetary system. Particularly necessary steps are to be taken to develop an active money market in the economy.

2. Open Market Operations

Open market operations are conducted by the RBI mainly with a view to manage short- term liquidity in the market. These operations directly or indirectly affect the reserves of the commercial banks and thereby the extent of credit creation is controlled.

Section17 (8) of the Reserve Bank of India Act confers legal powers on the Reserve Bank to use this instrument of monetary policy**. Under this section the Reserve Bank is authorized to purchase**

and sell the securities of the Central or State Government of any maturity and the security of a local authority specified by the central government on the recommendation of the banks central board..

It will sell the securities in open market to drain out excess liquidity from the financial system and thereby contraction of credit. When it buys securities it injects additional funds into the market and consequently credit expansion may take place. "Repos" and "Reverse Repos" transactions may be considered a supplementary operation to this system.

3. Variation of Cash Reserve Ratios

Under this requirement, certain percentage of Deposit liabilities of banks is impounded in cash form with RBI and/or to be maintained in liquid assets like government securities. The reserve requirements were originally evolved as a means for safeguarding the interests of depositors.

Later it was developed as an instrument of credit control. The variation in the reserve requirements has the effect of increasing or decreasing the funds available with commercial banks for lending. In India, the reserve requirements are of two types. They are,

(a) The Cash Reserve Ratio, and

(b) The Statutory Liquidity Ratio.

(a) Cash Reserve Ratio:

Under the provisions of the RBI Act, the Scheduled banks were required to maintain a minimum amount of cash reserve with the Reserve Bank. The reserve is made out of demand and time liabilities at certain percentage fixed by the RBI.

Section 42 (1) of the Act empowers the RBI to stipulate, by giving notification in the Gazette, the percentage of reserve, on the total net demand and time liabilities to be maintained by every banking company with RBI. In terms of Section 18 of RBI Act non-scheduled banks can maintain the cash reserve either with them or with RBI in cash.

The cash Reserve Ratio is required to be maintained in cash with RBI, in addition to the percentage to be maintained under the Statutory Liquidity Ratio. The cash Reserve Ratio cannot exceed 15% of the net demand and time Liabilities.

The Cash Reserve Ratio at the time of notification of banks was 3% which having been revised a number of times. The flat rate of 15% was introduced in the credit policy for the first half of 1989-90.

(b) Statutory Liquidity Ratio:

Under Section 24 of the Banking Regulation Act 1949, RBI is empowered to stipulate the liquid assets every banking company is required to hold against their demand and time liabilities in addition to cash reserve requirement.

Accordingly the banks both scheduled and non-scheduled have to maintain liquid assets in cash, gold or unencumbered approved securities amounting to not less than 25% of their net demand and time liabilities in India.

This requirement of 25% can be increased by the RBI from time to time by a notification in the official Gazette. But the ratio so prescribed cannot exceed 40% (In the first half of 1986-87 the ratio was 37%) however; Regional Rural Banks, non-scheduled Banks and co-operative Banks are allowed to maintain statutory Liquidity Ratio at 25% only. Further, all banks are required to maintain this reserve only at 25% in respect of N.R.E accounts.

The main object of SLR is,

(a) To assure solvency of Commercial banks by compelling them to hold low risk assets up to the stipulated extent.

(b) To create or support a market for government securities in the economy which do not have a developed capital market and

(c) To allocate resources to government for augmenting the resources of the Public Sector.

Banks like Regional Rural Banks may hold entire SLR requirements in the form of cash with the sponsor banks.

Effects of Statutory Liquidity Ratio

The main purpose of prescribing SLR is to ensure the liquidity position of banks in meeting the withdrawal requirements of depositors. Since these funds are mostly invested in Government Securities they are considered to be highly liquid and also no risk of loss of value, i.e., they can be encased at quick notice or immediately.

One of the effects of SLR is to raise or lower the liquidity requirements of banks thus affecting their capacity to lend. In order to discourage the banks from contravening the liquidity provisions, the RBI may not allow the defaulting banks access to further refinance and may charge additional interest on their borrowings from it.

4. Fixation of Lending Rates of Commercial Banks

The RBI controls the credit created by the commercial banks by fixing the lending rates of the banks. **When the lending rates are fixed at higher level, the credit becomes costlier and it may lead to contraction of credit. Similarly when the rates are lowered, it may result into expansion of credit.**

Besides controlling the rates of interest on the advances made by the banks, the RBI places certain restrictions on the grant of advances against term deposits. These relate to the quantum of advance that can be granted and the rate of interest to be charged.

5. Credit Squeeze

When the bank rate policy has not been successful in controlling the expansion of credit, the method of credit squeeze is useful. **Under this method, the maximum amount of bank credit is fixed at a certain limit. and, the maximum limit for commercial banks borrowing from the RBI is also fixed.**

The banks are not allowed to expand the credit beyond these limits. These limits may be fixed in general for all credits or may be sector-specific like for steel industry, textile industry, etc.

But it should be noted that a general credit squeeze may make the trade and industry suffer even for legitimate purposes. Reserve Bank rarely applies credit squeeze these days.

Qualitative Credit Control by RBI

The selective or qualitative credit control is intended to ensure an adequate credit flow to the desired sectors and preventing excessive credit for less essential economic activities. The RBI issues directives under Section 21 of the Banking Regulation Act 1949, to regulate the flow of banks' credit against the security of selected commodities.

It is usually applied to control the credit provided by the banks against certain essential commodities which may otherwise lead to traders using the credit facilities for hoarding and black marketing and thereby permitting spiralling prices of these commodities. The selective credit control measures by RBI are resorted to commodities like, wheat, sugar, oilseeds, etc.

Methods of Selective Credit Control

The RBI adopts a number of credit control methods from time to time. The important methods are given here under.

1. Fixation of Margin Requirements on Secured Loans

Here the term "margin "refers to a portion of the loan amount which cannot be borrowed from bank. In other words, the margin money is required to be brought in by the borrower from his own sources. This much percentage of money will not be lent by banks. The RBI lowers the margin to expand the credit and raises margin to contract or control the credit for stock market operations.

This system was introduced in 1956. The RBI has been prescribing minimum margin for advances against commodities under selective credit control. To begin with there was a single margin for each commodity..

2. Regulation of Consumer Credit

The credit facilities provided by the banks to purchase durable consumer goods like cars, refrigerators, T.V. furniture, etc. is called as consumer credit. If consumer credit is expanded, it leads to the increase in production of consumer goods in the country.

Such increased sale of consumer goods will affect savings of people and capital formation in the economy. Hence, RBI may control the consumer credit extended by the commercial banks. These days RBI does not use such credit control measure as increased consumption lead to more economic activity.

3. Control through Directives

The Reserve Bank of India (Amendment) Act and the Banking Companies Act has empowered the RBI to issue directives to a particular bank or to the banks in general in regard to the following:

The purpose for which advances may or may not be made, the maximum amount of advances that can be granted to any individual, firm or company; the margins to be maintained on secured loans, and the rate of interest to be charged, etc.

For example,

(a) Banks are not allowed to provide finance for speculative purposes in stock market operations or to deal in real estate business.

(b) No banks can make advances to a single borrower company beyond 25 per cent of its paid-up capital and reserves.

(c) Reserve Bank prescribes margin on advances made by banks against the security of Commodities covered under selective credit control measures like sugar.

(d) Advances made under DRI scheme should be only at interest rate prescribed by RBI, i.e., 4 per cent per annum.

The RBI has used this weapon for many times to bring down the prices of agricultural commodities. The directives are issued by the RBI as supplement to the traditional weapons of control like the bank rate policy, open market operations, etc.

4. Rationing of Credit

This method is used to control the scheduled banks borrowings from the RBI. The RBI shows **differential treatment in giving financial help to its member banks according to the purpose for which the credit is used.**

This is done by framing different eligibility rules for various kinds of paper, as well as offering differential rates of rediscount on different kinds of bills offered for rediscount.

The RBI prescribed a lower rate of interest on advances to sectors like export trade, small scale industries and agriculture. Higher rate of interest was fixed for general loans.

5. Credit Authorization Scheme

Under this Scheme, the commercial banks have to obtain the RBI's prior approval for sanctioning any fresh credit of Rs. 1 crore or more to any single party in the private sector and for sanctioning any fresh credit of Rs.5 crore or more to any single concern in the public sector. The scheme has however, been discontinued from November 1988. Presently no authorization is required from RBI for commercial banks sanctioning credit limit.

6. Moral Suasion

Originally this system was adopted to ensure that borrowers actual need that much credit facility and to find out the purposes for which it was required, was also ensured that most credit facility was not cornered by few borrowers.

In addition to the methods of credit control as given above, the RBI has been exercising moral suasion on banks. **Moral suasion is a means of strengthening mutual confidence an**

understanding between the monetary authority and the banks as well as financial institute and, therefore, is an essential instrument of monetary regulation.

7. Direct Action

When the moral suasion proves ineffective the RBI may have to use direct action on banks. The RBI is empowered to take certain penal actions against banks which do not follow the line of policy dictated by it. The banks in default will be made to suffer by way of the following:

(i) Levying penal interest rates on the defaulting banks.

(ii) Cancelling the licences of such banks (extreme step)

(iii) Refusing to grant refinance facilities to such banks

(iv) Putting lending restrictions on the banks.

(v) Not permitting opening of new branches for the banks.

(vi) Not allowing participation in money market, etc.

This method is essentially a corrective measure which may bring about some psychological pressure on the commercial banks to follow the RBI instructions.

Fiscal Policy

The fiscal policy is concerned with the raising of government revenue and incurring of government expenditure. To generate revenue and to incur expenditure, the government frames a policy called budgetary policy or fiscal policy. So, the fiscal policy is concerned with government expenditure and government revenue.

The word fisc means 'state treasury' and fiscal policy refers to policy concerning the use of 'state treasury' or the govt. finances to achieve the macroeconomic goals. "Any decision to change the level, composition or timing of govt. expenditure or to vary the burden ,the structure or frequency of the tax payment is fiscal policy." - G.K. Shaw

Main Objectives of Fiscal Policy In India

The fiscal policy is designed to achieve certain objectives as follows :-

1. Development by effective Mobilisation of Resources

The principal objective of fiscal policy is to ensure rapid economic growth and development. This objective of economic growth and development can be achieved by Mobilisation of Financial Resources.

The central and the state governments in India have used fiscal policy to mobilise resources.

The financial resources can be mobilised by :-

1. **Taxation** : Through effective fiscal policies, the government aims to mobilise resources by way of direct taxes as well as indirect taxes because most important source of resource mobilisation in India is taxation.
2. **Public Savings** : The resources can be mobilised through public savings by reducing government expenditure and increasing surpluses of public sector enterprises.
3. **Private Savings** : Through effective fiscal measures such as tax benefits, the government can raise resources from private sector and households. Resources can be mobilised through government borrowings by ways of treasury bills, issue of government bonds, etc., loans from domestic and foreign parties and by deficit financing.

2. Efficient allocation of Financial Resources

The central and state governments have tried to make efficient allocation of financial resources. These resources are allocated for Development Activities which includes expenditure on railways, infrastructure, etc. While Non-development Activities includes expenditure on defence, interest payments, subsidies, etc.

But generally the fiscal policy should ensure that the resources are allocated for generation of goods and services which are socially desirable. Therefore, India's fiscal policy is designed in such a manner so as to encourage production of desirable goods and discourage those goods which are socially undesirable.

3. Reduction in inequalities of Income and Wealth

Fiscal policy aims at achieving equity or social justice by reducing income inequalities among different sections of the society. The direct taxes such as income tax are charged more on the rich people as compared to lower income groups. Indirect taxes are also more in the case of semi-luxury and luxury items, which are mostly consumed by the upper middle class and the upper class. The government invests a significant proportion of its tax revenue in the implementation of Poverty Alleviation Programmes to improve the conditions of poor people in society.

4. Price Stability and Control of Inflation

One of the main objective of fiscal policy is to control inflation and stabilize price. Therefore, the government always aims to control the inflation by Reducing fiscal deficits, introducing tax savings schemes, Productive use of financial resources, etc.

5. Employment Generation

The government is making every possible effort to increase employment in the country through effective fiscal measure. Investment in infrastructure has resulted in direct and indirect employment. Lower taxes and duties on small-scale industrial (SSI) units encourage more investment and consequently generates more employment. Various rural employment programmes have been undertaken by the Government of India to solve problems in rural areas. Similarly, self employment scheme is taken to provide employment to technically qualified persons in the urban areas.

6. Balanced Regional Development

Another main objective of the fiscal policy is to bring about a balanced regional development. There are various incentives from the government for setting up projects in backward areas such as Cash subsidy, Concession in taxes and duties in the form of tax holidays, Finance at concessional interest rates, etc.

7. Reducing the Deficit in the Balance of Payment

Fiscal policy attempts to encourage more exports by way of fiscal measures like Exemption of income tax on export earnings, Exemption of central excise duties and customs, Exemption of sales tax and octroi, etc.

The foreign exchange is also conserved by Providing fiscal benefits to import substitute industries, Imposing customs duties on imports, etc.

The foreign exchange earned by way of exports and saved by way of import substitutes helps to solve balance of payments problem. In this way adverse balance of payment can be corrected either by imposing duties on imports or by giving subsidies to export.

8. Capital Formation

The objective of fiscal policy in India is also to increase the rate of capital formation so as to accelerate the rate of economic growth. An underdeveloped country is trapped in vicious (danger) circle of poverty mainly on account of capital deficiency. In order to increase the rate of capital formation, the fiscal policy must be efficiently designed to encourage savings and discourage and reduce spending.

9. Increasing National Income

The fiscal policy aims to increase the national income of a country. This is because fiscal policy facilitates the capital formation. This results in economic growth, which in turn increases the GDP, per capita income and national income of the country.

10. Development of Infrastructure

Government has placed emphasis on the infrastructure development for the purpose of achieving economic growth. The fiscal policy measure such as taxation generates revenue to the government. A part of the government's revenue is invested in the infrastructure development. Due to this, all sectors of the economy get a boost.

11. Foreign Exchange Earnings

Fiscal policy attempts to encourage more exports by way of Fiscal Measures like, exemption of income tax on export earnings, exemption of sales tax and octroi, etc. Foreign exchange provides fiscal benefits to import substitute industries. The foreign exchange earned by way of exports and saved by way of import substitutes helps to solve balance of payments problem.

Types of Fiscal Policy

There are two main types of fiscal policy:

expansionary and **contractionary**. **Expansionary fiscal policy**, designed to stimulate the **economy**, is most often used during a recession, times of high **unemployment** or other low periods of the business cycle. It entails the **government spending** more money, lowering taxes, or both. Fiscal policy is prepared to ensure economic growth of a country. The government of a country takes responsibility for the well-being of the countrymen. That's why every spending of the government should be in the right order. And to do so, the government needs to collect the taxes from businesses and individuals of the country. Though the actual purpose of the fiscal policies are argued among the ministers of the country, in essence, the objective of a fiscal policy is to take care of the local needs of the country so that the national interest can be kept as an overall goal.

1 – EXPANSIONARY FISCAL POLICY:

This policy is quite popular among the people of the country because through this, consumers get more money in their hands and as a result their purchasing power increases drastically. The government uses this by two ways. Either they spend more money on public works, provide benefits to the unemployed, spend more on projects that are halted in between or they cut taxes so that the individuals or businesses don't need to pay much to the government. On the other hand, individuals who prefer cutting taxes talk about it because they believe that by cutting taxes the government would be able to generate more cash into consumers' hands. Expansionary policy isn't easy to apply for state government because state government is always on a pressure to keep a budget that is balanced. As it becomes impossible at local levels, expansionary fiscal policy should be mandated from the central government.

2 – CONTRACTIONARY FISCAL POLICY:

As you can expect, a contractionary fiscal policy is just the opposite of the expansionary fiscal policy. That means the objective of the contractionary policy is to slow down the economic growth. But why a government of a country would like to do that? The only reason for which contractionary fiscal policy can be used is to flush out the inflation. However, it is a rarest thing and that's why government doesn't use contractionary policy at all. The nature of this sort of policy is just the opposite. In this case, the government spending is cut as much as possible and the rate of taxes is increased so that the purchasing power of the consumer gets reduced.

Instruments of Fiscal Policy

The tools of **fiscal policy** are taxes, expenditure, public debt and a nation's budget. They consist of changes in government revenues or rates of the tax structure so as to encourage or restrict private expenditures on consumption and investment. Some of the major instruments of fiscal policy are as follows: A. Budget B. Taxation C. Public Expenditure D. Public Works E. Public Debt.

A. Budget:

The budget of a nation is a useful instrument to assess the fluctuations in an economy.

Different budgetary principles have been formulated by the economists, prominently known as:

(1) Annual budget,

(2) cyclical balanced budget and

(3) fully managed compensatory budget.

1. Annual Balanced Budget:

The classical economists propounded the principle of annually balanced budget. They defended it with force till the deep rooted crisis of 1930's.

The reasons for their reacceptance of this principle are as under:

(i) There should be balance in income and expenditure of the government;

(ii) The automatic system is capable to correct the evils;

(iii) Balanced budget will not lead to depression or boom in the economy;

(iv) It is politically desirable as it checks extravagant spending of the state;

(v) This type of budget assures full employment without inflation;

(vi) The principle is based on the notion that government should increase the taxes to get more money and reduce expenditure to make the budget balanced. However, this principle is subject to certain objections.

2. Cyclically Balanced Budget:

The cyclical balanced budget is termed as the 'Swedish budget'. Such a budget implies budgetary surpluses in prosperous period and employing the surplus revenue receipts for the retirement of public debt. During the period of recession, deficit budgets are prepared in such a manner that the budget surpluses during the earlier period of inflation are balanced with deficits.

The excess of public expenditure over revenues are financed through public borrowings. The cyclically balanced budget can stabilize the level of business activity. During inflation and prosperity, excessive spending activities are curbed with budgetary surpluses while budgetary deficits during recession with raising extra purchasing power.

This policy is favored on the following account:

(i) The government can easily adjust its finances according to the needs;

(ii)This policy works smoothly in all times like depression, inflation, boom and recession;

(iii) Cyclically balanced budget simply ensures stability but gives no guarantee that the system will get stabilized at the level of full employment.

3. Fully Managed Compensatory Budget:

This policy implies a deliberate adjustment in taxes, expenditures, revenues and public borrowings with the motto of achieving full employment without inflation. It assigns only a secondary role to the budgetary balance. It lays down the emphasis on maintenance of full employment and stability in the price level. With this principle, the growth of public debt and the problem of interest payment can be easily avoided. Thus, the principle is also called 'functional finance.'

B. Taxation:

Taxation is a powerful instrument of fiscal policy in the hands of public authorities which greatly effect the changes in disposable income, consumption and investment. An anti- depression tax policy increases disposable income of the individual, promotes consumption and investment. Obviously, there will be more funds with the people for consumption and investment purposes at the time of tax reduction. This will ultimately result in the increase in spending activities i.e. it will tend to increase effective demand and reduce the deflationary gap. In this regard, sometimes, it is suggested to reduce the rates of commodity taxes like excise duties, sales tax and import duty. As a result of these tax concessions, consumption is promoted. Economists like Hansen and Musgrave, with their eye on raising private investment, have emphasized upon the reduction in corporate and personal income taxation to overcome contractionary tendencies in the economy.

Now, a vital question arises about the extent to which unemployment is reduced or mitigated if a tax reduction stimulates consumption and investment expenditure. In such a case, reduction of unemployment is very small. If such a policy of tax reduction is repeated, then consumers and investors both are likely to postpone their spending in anticipation of a further fall in taxes. Furthermore, it will create other complications in the government budget.

Anti-Inflationary Tax Policy:

An anti-inflationary tax policy, on the contrary, must be directed to plug the inflationary gap. During inflation, fiscal authorities should not retain the existing tax structure but also evolve such measures (new taxes) to wipe off the excessive purchasing power and consumer demand. To this end, expenditure tax and excise duty can be raised. The burden of taxation may be raised to the

extent which may not retard new investment. A steeply progressive personal income tax and tax on windfall gains is highly effective to curb the abnormal inflationary pressures. Export should be restricted and imports of essential commodities should be liberated.

C. Public Expenditure:

The active participation of the government in economic activity has brought public spending to the front line among the fiscal tools. The appropriate variation in public expenditure can have more direct effect upon the level of economic activity than even taxes. The increased public spending will have a multiple effect upon income, output and employment exactly in the same way as increased investment has its effect on them. Similarly, a reduction in public spending, can reduce the level of economic activity through the reverse operation of the government expenditure multiplier.

(i) Public Expenditure in Inflation:

During the period of inflation, the basic reason of inflationary pressures is the excessive aggregate spending. Both private consumption and investment spending are abnormally high. In these circumstances, public spending policy must aim at reducing the government spending. In other words, some schemes should be abandoned and others be postponed. It should be carefully noted that government spending which is of productive nature, should not be shelved, since that may aggravate the inflationary dangers further.

However, reduction in unproductive channels may prove helpful to curb inflationary pressures in the economy. But such a decision is really difficult from economic and political point of view. It is true, yet the fiscal authority can vary its expenditure to overcome inflationary pressures to some extent.

(ii) Public Expenditure in Depression:

In depression, public spending emerges with greater significance. It is helpful to lift the economy out of the morass of stagnation. In this period, deficiency of demand is the result of sluggish private consumption and investment expenditure. Therefore, it can be met through the additional doses of public expenditure equivalent to the deflationary gap. The multiplier and acceleration effect of public spending will neutralize the depressing effect of lower private spending's and stimulate the path of recovery.

D. Public Works:

Keynes General Theory highlighted public works programme as the most significant anti-depression device. There are two forms of expenditure i.e., Public Works and 'Transfer Payments. Public Works according to Prof. J.M. Clark, are durable goods, primarily fixed structure, produced by the government. They include expenditures on public works as roads, rail tracks, schools, parks, buildings, airports, post offices, hospitals, irrigation canals etc. Transfer payments are the payments such like interest on public debt, subsidy, pension, relief payment, unemployment, insurance and social security benefits etc. The expenditure on capital assets (public works) is called capital expenditure. Keynes had strong faith in such a programme that he went to the extent of saying that even completely unproductive projects like the digging up of holes and filling them up are fully admissible.

Public works are supported as an anti-depression device on the following grounds:

(i) They absorb hitherto unemployed workers.

(ii) They increase the purchasing power of the community and thereby stimulate the demand for consumption goods.

(iii)They help to create economically and socially useful capital assets as roads, canals, power plants, buildings, irrigation, training centres and public parks etc.

(iv) They provide a strong incentive for the growth of industries which are generally hit by the state of depression.

(v) They help to maintain the moral and self respect of the work force and make use of the skill of unemployed people.

(vi) The public works do not have an offsetting effect upon private investment because these are started at a time when private investment is not forthcoming.

E. Public Debt:

Public debt is a sound fiscal weapon to fight against inflation and deflation. It brings about economic stability and full employment in an economy.

The government borrowing may assume any of the following forms mentioned as under:

(a) Borrowing from Non-Bank Public:

When the government borrows from non-bank public through sale of bonds, money may flow either out of consumption or saving or private investment or hoarding. As a result, the effect of

debt operations on national income will vary from situation to situation. If the bond selling schemes of the government are attractive, the people induce to curtail their consumption, the borrowings are likely to be non inflationary.

When the money for the purchase of bonds flows from already existing savings, the borrowing may again be non-inflationary. Has the government not been borrowing, these funds would have been used for private investment, with the result that the debt operations by the government will simply bring about a diversion of funds from one channel of spending to another with the similar quantitative effects on national income.

(b) Borrowing from Banking System:

The government may also borrow from the banking institutions. During the period of depression, such borrowings are highly effective. In this period, banks have excessive cash reserves and the private business community is not willing to borrow from banks since they consider it unprofitable. When unused cash lying with banks is lent out to government, it causes a net addition to the circular flow and tend to raise national income and employment. Therefore, borrowing from banking institution have desirable and favourable effect specially in the period of depression when the borrowed money is spend on public works programmes.

(c) Drawing from Treasury:

The government may draw upon the cash balances held in the treasury for financing budgetary deficit. It demonstrates dishoarding resulting in a net addition in the supply of money. It is likely to be inflationary in nature. But, generally, there are small balances over and above what is required for normal day to day requirements. Thus, such borrowings from treasury do not have any significant result.

(d) Printing of Money:

Printing of money i.e. deficit financing is another method of public expenditure for mobilizing additional resources in the hands of government. As new money is printed, it results in a net addition to the circular flow. Thus, this form of public borrowing is said to be highly inflationary. Deficit financing has a desirable effect during depression as it helps to raise the level of income and employment but objection is often raised against its use at the time of inflation or boom. Here, it must be added that through this device, the government not only gets additional resources at

minimum cost but can also create appropriate monetary effects like low interest rates and easy money supply and consequently economic system is likely to register a quick revival.

Budget Preparation

A full understanding of the budget planning and preparation system is essential, not just to derive expenditure projections but to be able to advise policymakers on the feasibility and desirability of specific budget proposals, from a macroeconomic or microeconomic perspective. It is much easier to control government expenditures at the "upstream" point of budget preparation than later during the execution of the budget.

Thus, fiscal economists and general budget advisors need to know:

- What is the framework in which budget decisions are made;
- Who is responsible for planning and preparing the budget;
- What are the basic steps;
- What are the typical weaknesses in procedures and how can these be overcome; and
- How can changes in budget plans be programmed and targeted?

1. Budget planning and preparation are (or should be) at the heart of good public expenditure management. To be fully effective, public expenditure management systems require four forms of fiscal and financial discipline:
2. Control of aggregate expenditure to ensure affordability; that is, consistency with the macroeconomic constraints;
3. Effective means for achieving a resource allocation that reflects expenditure policy priorities;
4. Efficient delivery of public services (productive efficiency); and
5. Minimization of the financial costs of budgetary management (i.e., efficient budget execution and cash and debt management practices).

Budget preparation is the principal mechanism for achieving items (1) and (2); item (3) typically features as an element of budget preparation only in industrial countries, while item (4) is essentially an issue in budget execution and cash management Moreover, no system of budget execution or cash planning (the subjects of Sections 4 and 5) can do more than mitigate the problems caused by poor quality or unrealistic budget preparation.

Framework for budget decisions

Budget preparation is a process with designated organizations and individuals having defined responsibilities that must be carried out within a given timetable. This process is normally established and controlled by a legal and regulatory framework. While generally sharing broadly common procedures, budget preparation (and execution) systems do exhibit differences depending on their historic origin. Given the common heritage of many countries, it is possible to identify four main patterns--francophone, Latin American, (British) Commonwealth, and transition economies.

To understand the budget preparation process in a given country, it is important to:

- assess the basic soundness by judging the budget preparation system against certain internationally accepted standards or "budget principles";
- know where to find the rules governing the budget preparation process; and
- from those rules, identify who has the responsibility for what elements of the budget preparation process.

Assessing the Soundness of the Budget

- The soundness of budget systems can be judged by the following:

Comprehensiveness

- Is the coverage of government operations complete?
- Are estimates gross or does netting take place?

Transparency

- How useful is the budget classification? Are there separate economic and functional classifications that meet international standards?
- Is it easy to connect policies and expenditures through a program structure?

Realism

- Is the budget based on a realistic macroeconomic framework?
- Are estimates based on reasonable revenue projections? How are these made, and by whom?
- Are the financing provisions realistic?
- Is there a realistic costing of policies and programs and hence expenditures (e.g., assumptions about inflation, exchange rates, etc.)

- How are future cost implications taken into account?
- Is there a clear separation between present and new policies?
- How far are spending priorities determined and agreed under the budget process?

Basic steps in budget preparation systems

In principle, the basic steps in a standard budget preparation system comprise the following:

1. The first step in budget preparation should be the determination of a macroeconomic framework for the budget year (and ideally at least the next two years). The macroeconomic projections, prepared by a macroeconomic unit in the ministry of finance or elsewhere, should be agreed with the minister of finance. This allows the budget department within the ministry of finance to determine the global level of expenditure that can be afforded without adverse macroeconomic implications, given expected revenues and the level of deficit that can be safely financed. In a few countries, there are fiscal rules in place that may limit total spending or recurrent spending (e.g., the "golden rule")

2. The second step should be the allocation of this global total among line ministries, leaving room for reserves (a separate planning and a contingency reserve as explained below) to be managed by the ministry of finance.

3. The next step should be for the budget department to prepare a budget circular to give instructions to line ministries, with the indicative aggregate spending ceiling for each ministry, on how to prepare their estimates in a way that will be consistent with macro objectives. This circular will include information on the economic assumptions to be adopted on wage levels, the exchange rate and price levels (and preferably differentiated price levels for different economic categories of goods and services).

4. Step four is the submission of bids by line ministries to the budget department. Once received there needs to be an effective "challenge" capacity within the budget department to test the costing of existing and any new policy proposals.

5. The next step comprises the negotiations, usually at official and then bilateral or collective ministerial level, leading finally to agreement.

6. Finally, step six is Cabinet endorsement of the proposals for inclusion in the budget that will go to parliament

Common problem areas in budget preparation

1. The central government budget is not really unified. It is a dual-budget system with separate recurrent and capital or "development" budgets that may be based on inconsistent macroeconomic assumptions, budget classifications, or accounting rules. Each budget may be compiled by a different ministry--for example, the ministry of finance for recurrent expenditures and a planning ministry for capital or "development" expenditures.

2. The macroeconomic constraint is not explicitly taken into account in the budget process, or the economic assumptions underlying the estimated costs of expenditure programs are weak or erroneous.

3. Projections for the outturn of the previous and current years' budgets are not prepared, or the experience to date is not analyzed, so that budget preparation becomes a simple incremental exercise based on the previous year's (often erroneous) budget estimates.

4. Satisfactory procedures do not exist for review of expenditure policies and program prioritization.

5. There is no multiyear planning.

6. Extra budgetary funds are used to divert spending to one or more "off-budget" accounts.

7. Quasi-fiscal expenditures, contingent liabilities, etc., are not taken into account.

8. Appropriations-in-aid are used inappropriately.

Deficit Budget

Definition: The **Budget Deficit** is the financial situation wherein the **expenditures exceed the revenues**. The Budget Deficit generally relates to the government's expenditure and not the business or individual's spending.

The government's collective deficits are termed as **"National Debt".** In the case of a budget deficit, be it the Government or any business, it has to resort to the external borrowings in order to escape the bankruptcy. The Investors or analyst study the budget deficit of the country or business to judge its financial health.

There can be different types of budget deficits that can be classified on the basis of types of receipts and expenditures taken into the consideration. These are:

- **Revenue Deficit**
- **Fiscal Deficit**
- **Primary Deficit**
- **Monetised Deficit**

The Budget surplus is opposite of budget deficit where the revenues exceed the expenditures, and when the spending is equal to the revenues, the budget is said to be balanced.

The major implications of a Government budget deficit are:

- Slower economic growth
- Increased tax revenue
- High unemployment rates
- High Government spending
- Investors expect high inflation rates due to which the real value of debt reduces and thus, the investors expect higher interest rates for their future loans to the government. Ideally, for any investor the budget deficits are a threat, but he must understand the reasons behind such a deficit. The reason for such a deficit could be the investments made in the infrastructure development or any other profitable investments that will yield profits in the future, could be seen as healthier than the situation, where a country or a business entity is facing a deficit due to unsustainable expenses.

How to Reduce a Budget Deficit

Governments can only increase revenue by raising taxes or increasing economic growth. Tax increases are tricky. If they are too excessive, they will slow growth. Politically, they often end a politician's career. Increasing growth can only be done moderately. If growth is faster than the ideal range of 2-3 percent, it will create a boom, which leads to a bust.

Cutting spending also has pitfalls. Government spending is a component of GDP. If the government cuts spending too much, economic growth will slow. That leads to lower revenues and potentially a larger deficit. The best solution is to cut spending on areas that do not create many jobs.

Financing Deficits

Most governments prefer to finance their deficits instead of balancing the budget. Government bonds finance the deficit. Most creditors think that the government is highly likely to repay its creditors. That makes government bonds more attractive than riskier corporate bonds. As a result, government interest rates remain relatively low. That allows governments to keep running deficits for years.

The United States finances its deficit with Treasury bills, notes, and bonds. That's the government's way of printing money. It is creating more credit denominated in that country's currency. Over time, it lowers the value of that country's currency. As bonds flood the market, the supply outweighs the demand.

Many countries, including the United States, are able to print their own currency. As bills come due, they simply create more credit and pay it off. That lowers the value of the currency as the money supply increases. If the deficit is moderate, it doesn't hurt the economy. Instead, it boosts economic growth.

Causes for deficit budget

Cyclical reasons

For many countries **a rising budget deficit** is the inevitable result of experiencing a recession or a sustained period of slow growth.

In a downturn, revenue flows fall from direct and indirect taxes whilst at the same time, the government is required to pay more out in welfare benefits such as the means-tested income support, unemployment benefits and other welfare handouts.

So part of a fiscal deficit may be the consequence of the **automatic stabilisers** at work. These are the tax and government spending changes that happen automatically at different stages of the

business cycle. The governments of most developed countries are prepared to allow the automatic stabilisers to work through because, when their economy recovers, the cyclical component of a fiscal deficit will diminish, indeed in an economic boom, the government may run a budget surplus.

Keynesian Fiscal Deficits

A large (and rising) fiscal deficit might also be the deliberate effect of a government choosing to use expansionary fiscal policy to boost aggregate demand, output and employment at a time when private sector demand (C+I+X) is stagnant or falling. Keynesian economists have long favoured the use of targeted and timely fiscal stimuli such as labour-intensive public works and other infrastructure investment projects, designed at kick-starting an economy suffering from a chronic lack of demand and income.

There is an intense debate about the effectiveness of fiscal stimulus policies - at the heart of the controversy is the likely size of the fiscal multiplier effect arising (for example) from a rise in government spending, or a series of tax cuts.

Structural reasons

For some countries, fiscal deficits seem an almost permanent feature, rarely is the government able to find enough tax revenue to cover the annual spending budgets. What structural problems / issues might lead to persistent fiscal deficits?

High levels of tax avoidance and tax evasion - the former is legal (e.g. people and businesses taking advantage of tax loop-holes, tax relief, choosing to pay declared taxes in low-tax countries etc) but the subject of fierce media and popular criticism. The deliberate evasion of tax is illegal - in some countries governments are less effective than they might be in countering shadow markets where no tax is paid or in tracking down agents who are not paying the tax that is due.

High levels of income and wealth inequality - some economists argue that highly unequal societies also end up with a worsening fiscal position for the government. The upper-rich are liable for higher taxes in a progressive system (and top rate taxpayers in the UK clearly pay a high % of total revenues) but they also have an incentive to use all of the legal tax avoidance schemes open to them. At the bottom end of the labour market, if millions of people are in low-paid, insecure work, many will not earn enough to pay much in tax and even more may remain dependent on top-up welfare benefits, adding to the pressure on government spending.

Demographic pressures - these can affect the fiscal position too, for example an ageing population will cause an increase in government spending on the state pension; a fast-growing population (perhaps boosted by net inward migration) will also put more pressure on the government to fund essential public and merit goods.

Government inefficiency - if the state sector is relatively less efficient in supplying public services, then value for money will be lower and more will have to be spent in total to provide the cover that people need. Free market economists favour a smaller government sector with many activities out-sourced or privatised to the private sector to supply.

High levels of government subsidy / financial support - over time, total government spending can rise because of the many competing demand placed upon politicians and the effects of lobbying by (often influential / powerful) pressure groups. In some countries, public spending is bloated by very generous systems of farm / food / energy subsidies that are politically hugely difficult to remove. The state might also get locked into providing financial support for loss-making businesses and industries such as airlines.

These reasons help to explain why many countries run a **structural budget deficit**. This means that the budget deficit will not disappear when the economy is on the upswing of their economic cycle.

Effects of a Budget Deficit

Increased borrowing

The government will have to borrow from the private sector, it does this by asking the Bank of England to sell bonds and gilts to the private sector.

Higher debt interest payments

Selling bonds will increase the national debt, this has a high opportunity cost because it requires future generations to pay higher taxes.

Higher Taxes and lower spending

In the future the government may have to increase taxes or cut spending in order to reduce the deficit. This may cause reduced incentives to work

Increased Interest rates

If the government sells more bonds this is likely to cause interest rates to increase. This is because they will need to increase interest rates in order to attract investors to buy the extra debt. If government interest rates increase this will push up other interest rates as well.

Crowding Out

Increased government borrowing may cause a decrease in the size of the private sector (see fiscal policy)

Inflation:

In extreme circumstances the government may increase the money supply to pay the debt, however this is unlikely to occur in the UK

If the government sells short term gilts to the banking sector then there will be an increase in the money supply, this is because banks see gilts as near money therefore they can maintain their lending to customers.

However they will also be increasing the money supply by lending to the government

Ways of reducing fiscal deficit

1. Reducing public spending: This is the most common solution. This would lead to reduced margin between expenditure and revenue collection. But if the cut in spending is done in public investments, it might lead to reduced economic growth and eventually result in less tax collection. On the other hand, reduced spending in social & welfare schemes might result in social unrest & inequality. A balance has to be maintained in between these two depending upon the condition of the economy.

2. Inducing economic growth through structural changes: Easing of legal hurdles for businesses, labour laws, etc. would give the investors and entrepreneurs the necessary impetus to produce more goods and services. This way, tax revenues can be increased. This step is useful during recession where any further public spending cut can worsen the situation.

3. Increasing tax rates: Again, timing is important for this step. High tax rates may lead to downfall in production. People will consume less, demand will fall and so will the effective tax collection.

All the steps can be considered simultaneously sector-wise depending on the condition of the economy. *Reducing fiscal deficit in an economy already suffering from recession is a tricky game - any wrong assessment and subsequent step taken to reduce deficit might result in the economy falling into a quagmire*.

Balance of Trade:

Meaning

It is the difference between the money value of exports and imports of material goods [called visible items or merchandise) during a year.

The difference between values of exports and imports is called Balance of trade or Trade balance. Remember export means sending goods abroad to earn foreign exchange whereas imports means buying goods from abroad and pay in foreign exchange. Exports are considered as income and imports as expenditure. It includes only visible items and does not consider exchange of services.

Examples of visible items are clothes, shoes, machines, etc. Clearly, the two transactions which determine BOT are exports and imports of goods. Exports and imports of services (invisible items like shipping, insurance, banking, payment of dividend and interest, expenditure by tourists, etc.) are not included.

Surplus or Deficit BOT:

Balance of trade may be in surplus or in deficit or in equilibrium. If value of exports of visible items is more than the value of imports of visible items, balance of trade is said to the positive or favourable. Thus, BOT shows a surplus. In case the value of exports is less than the value of imports, the balance of trade is said to be negative or adverse or unfavourable.

Then BOT is called in deficit. In case value of exports equals its imports, BOT is said to be balanced or in equilibrium..This country exported goods worth Rs 550 crore and imported goods worth Rs 800 crore. It had a deficit in its balance of trade of Rs 250 crore.

Balance of Trade = 550-800 = Rs -250

Even though the country had a deficit in its balance of trade, this might be offset by items on other accounts especially by capital account. Balance of trade (merchandise) provides substantial account of payments emerging from international transactions but it does not reflect a complete picture of all the payments due to the country and the payments due from the country. For that it require Balance of Payment Account. Mind, balance of visible items in BOP account is called BOT.

The balance of trade compares the value of a country's exports of goods and services against its imports. When exports are greater than imports, a trade surplus, Most nations view that as a

favorable trade balance. The opposite, when the value of imports outweighs the value of exports, is a trade deficit. Countries usually regard that as an unfavorable trade balance.

To determine whether a country truly has a favorable trade balance, it must answer three questions. First, where is the country is in its business cycle? Second, how long has the deficit or surplus been ongoing? Third, what are the reasons behind it?

The balance of trade is the most significant component of the current account. It measures a country's net income earned on international assets

It also includes all payments across borders. The trade balance is the easiest to measure. That's because all goods and many services must pass through the customs office.

The current account is itself part of a country's balance of payments, which measures all international transactions.

Favorable Trade Balance

Countries try to create trade policies that encourage a trade surplus. They consider a surplus is a favorable trade balance because it's like making a profit as a country. Nations prefer to sell more and receive more capital for their residents. It translates into a higher standard of living. Their companies also gain a competitive advantage in expertise by producing all the exports. They hire more workers, reducing unemployment and generating more income.

To maintain this favorable trade balance, leaders often resort to trade protectionism. They protect domestic industries by levying tariffs, quotas or subsidies on imports. That doesn't work for long. Soon other countries retaliate with their protectionist measures.

Sometimes a trade deficit is the more favorable balance of trade. It depends on where the country is in its business cycle.

Unfavorable Trade Balance

As a rule, countries with trade deficits export raw materials. They import a lot of consumer products. Their domestic businesses don't gain the experience needed to make value-added products. Their economies become dependent on global commodity prices. Such a strategy also depletes their natural resources in the long run.

Once in a while, a trade surplus is an unfavorable trade balance. China and Japan have both become dependent on exports to drive economic growth. They must purchase significant amounts of U.S. Treasurys to keep the dollar's value high and the value of their currencies low. That's how they

keep their exports competitively priced and maintain their trade surplus. But this export-driven strategy means they rely on U.S. customers and U.S. foreign policy. In addition, their domestic market is weak. Chinese and Japanese citizens must save to provide for their old age, since the governments don't have strong social services.

Balance of Payment:

It is the difference between a nation's total payments to foreign countries and its total receipts from them. In other words, it is a systematic record of a country's receipts and payments in international economic transactions in a specific period of time.

Since BOP takes into account exchange of both visible and invisible items, therefore, it represents a wider and better picture of a country's international transactions than balance of trade. Each transaction is entered on the credit and debit side of the balance sheet.

Main items (or components) on credit side:

They are:

(i) Exports of Goods (visible exports) (ii) Exports of Services [invisible exports) (iii) Unrequited Receipts [unilateral transfers) and (iv) Capital Receipts.

Similar items are shown on debit side. They are:

(i) Imports of Goods, (ii) Imports of Services, (iii) Unrequited Payments and (iv) Capital Payments. All these items have been discussed in detail in the preceding Section 10.2. Clearly, the balance of payment is an application of double entry book-keeping with the result that debits and credits will always balance. In other words, balance of payment will always be in equilibrium.

(c) Comparison:

Balance of payment is a wider concept as compared to balance of trade which is just one of the four components of the former. The other three components of balance of payment are export/import of services, unilateral receipts/payments and capital receipts/payments.

BOT does not include any of these three components. Therefore, BOP represents a better picture of a country's economic transactions with the rest of the world than the Balance of Trade. Both are compared below.

What is the balance of payments?

The balance of payments (BOP) records all financial transactions made between consumers, businesses and the government in one country with others

- Inflows of foreign currency are counted as a positive entry (e.g. exports sold overseas)
- Outflows of foreign currency are counted as a negative entry (e.g. imported goods and services)

A balance of payments **deficit** means the country imports more goods, services and capital than it exports It must borrow from other countries to pay for its imports. In the short-term, that fuels the country's economic growth. It's like taking out a school loan to pay for education. In the long-term, the country becomes a net consumer, not a producer, of the world's economic output. It will have to go into debt to pay for consumption instead of investing in future growth. If the deficit continues long enough, the country may have to sell off its assets to pay its creditors. These assets include natural resources land and commodities.

A balance of payments **surplus** means the country exports more than it imports. Its government and residents are savers. They provide enough capital to pay for all domestic production. They might even lend outside the country.

A surplus boosts economic growth in the short term. That's because it's lending money to countries that buy its products. That boosts its factories, allowing them to hire more people.

In the long run, the country becomes too dependent on export-driven growth. It must encourage its residents to spend more. A larger domestic market will protect the country from exchange rate fluctuations. It also allows its companies to develop goods and services by using its own people as a test market.

Basic structure of the balance of payments accounts/BOP Components

The balance of payments has three components. They are the financial account, the capital account and the current account. The financial account describes the change in international ownership of assets. The capital account includes any financial transactions that don't affect economic output. The current account measures international trade, the net income on investments and direct payments. Here are the balance of payments components and how they work together.

Current Account

- Balance of trade in goods
- Balance of trade in services

- Net primary income (this includes incomes from interest, profits, dividends generated from foreign investment and also migrant remittances i.e. payments from people living and working overseas)
- Net secondary income (this includes (for the UK) our annual contributions to EU, spending military aid, overseas development aid etc.)

The current account measures a country's trade balance plus the effects of net income and direct payments. When the activities of a country's people provide enough income and savings to fund all their purchases, business activity and government infrastructure spending, then the current account is in balance.

Capital account

- Sale/transfer of patents, copyrights, franchises, leases and other transferable contracts, and goodwill
- Transfers of ownership of fixed assets

The capital account measures financial transactions that don't affect a country's income, production or savings. For example, it records international transfers of drilling rights, trademarks and copyrights. Many capital account transactions happen infrequently, such as cross-border insurance payments. The capital account is the smallest component of the balance of payments.

Financial Account

This includes transactions that result in a change of ownership of financial assets and liabilities between residents and non-residents

1. Net balance of foreign direct investment flows (FDI)
2. Net balance of portfolio flows (e.g. inflows and outflows of debt and equity)
3. Balance of banking flows (e.g. hot money flowing in/out of banking system)

The financial account measures 1) changes in domestic ownership of foreign assets and 2) foreign ownership of domestic assets. If foreign ownership increases more than domestic ownership does, it creates a deficit in the financial account. This means the country is selling off its assets, like gold, commodities and corporate stocks, faster than it is acquiring foreign assets.

Balancing item (estimated errors & omissions)

- Changes to the value of reserves of gold and foreign currency
- Overall balance of payments = zero

Current account deficit

A current account deficit is when a country's residents spend more on imports than they save. To fund the deficit, other countries lend to, or invest in, the deficit country's businesses. The lender country is usually willing to pay for the deficit because its businesses profit from exports to the deficit country. In the short run, the current account deficit is a win/win for both nations.

But if the current account deficit continues for a long time, it will slow economic growth. Why? The foreign lenders will begin to wonder whether they will get an adequate return on their investment. If demand falls off, the value of the borrower country's currency may also decline. This leads to inflation as import prices rise. It also creates higher interest rates as the government must pay higher yields on its bonds.

Current account: Trade balance

The trade balance measures a country's imports and exports. This is the largest component of the current account, which is itself the largest component of the balance of payments. Most countries try to avoid a trade deficit, but it's a good thing for emerging market countries. It's helps them grow faster than they could if they maintained a surplus.

Current account: Trade deficit

Definition: A trade deficit is when a country imports more than it exports. It is also called a negative balance of trade. It is one way of measuring international trade. To calculate the trade deficit, subtract the total value of exports from the total value of imports.

What Causes a Trade Deficit?

A trade deficit occurs when a country does not produce all it needs. Most nations must borrow from foreign states to pay for the imports.

A trade deficit results when a country's imports more than it exports. Imports are any goods and services produced in a foreign country, even if produced overseas by a domestic company.

Therefore, a trade deficit can occur even if all the imports are being sold by, and sending profit to, a domestic firm. With the rise of multinational corporations, and job outsourcing, trade deficits are on the rise.

Causes and Measures of Disequilibrium

Overall account of BOP is always in equilibrium. This balance or equilibrium is only in accounting sense because deficit or surplus is restored with the help of capital account.

In fact, when we talk of disequilibrium, it refers to current account of balance of payment. If autonomous receipts are less than autonomous payments, the balance of payment is in deficit reflecting disequilibrium in balance of payment.

There are several factors which cause disequilibrium in the BOP indicating either surplus or deficit. Such causes for disequilibrium in BOP are listed below:

Economic Factors:

(a) Imbalance between exports and imports. (It is the main cause of disequilibrium in BOR), (b) Large scale development expenditure which causes large imports, (c) High domestic prices which lead to imports, (d) Cyclical fluctuations (like recession or depression) in general business activity, (e) New sources of supply and new substitutes.

Population Growth

Most countries experience an increase in the population and in some like India and China the population is not only large but increases at a faster rate. To meet their needs, imports become essential and the quantity of imports may increase as population increases.

Development Programmes

Developing countries which have embarked upon planned development programmes require to import capital goods, some raw materials which are not available at home and highly skilled and specialized manpower. Since development is a continuous process, imports of these items continue for the long time landing these countries in a balance of payment deficit.

Demonstration Effect

When the people in the less developed countries imitate the consumption pattern of the people in the developed countries, their import will increase. Their export may remain constant or decline causing disequilibrium in the balance of payments.

Natural Factors

Natural calamities such as the failure of rains or the coming floods may easily cause disequilibrium in the balance of payments by adversely affecting agriculture and industrial production in the

country. The exports may decline while the imports may go up causing a discrepancy in the country's balance of payments.

Cyclical Fluctuations

Business fluctuations introduced by the operations of the trade cycles may also cause disequilibrium in the country's balance of payments. For example, if there occurs a business recession in foreign countries, it may easily cause a fall in the exports and exchange earning of the country concerned, resulting in a disequilibrium in the balance of payments.

Inflation

An increase in income and price level owing to rapid economic development in developing countries, will increase imports and reduce exports causing a deficit in balance of payments.

Poor Marketing Strategies

The superior marketing of the developed countries have increased their surplus. The poor marketing facilities of the developing countries have pushed them into huge deficits.

Flight of Capital

Due to speculative reasons, countries may lose foreign exchange or gold stocks People in developing countries may also shift their capital to developed countries to safeguard against political uncertainties. These capital movements adversely affect the balance of payments position.

Globalisation

Due to globalisation there has been more liberal and open atmosphere for international movement of goods, services and capital. Competition has beer increased due to the globalisation of international economic relations. The emerging new global economic order has brought in certain problems for some countries which have resulted in the balance of payments disequilibrium.

Political Factors:

Experience shows that political instability and disturbances cause large capital outflows and hinder Inflows of foreign capital.

Social Factors:

(a) Changes in fashions, tastes and preferences of the people bring disequilibrium in BOP by influencing imports and exports; (b) High population growth in poor countries adversely affects their BOP because it increases the needs of the countries for imports and decreases their capacity to export.

Measures to correct disequilibrium in BOP:

Sustained or prolonged deficit has to be settled by short term loans or depletion of capital reserve of foreign exchange and gold

Following remedial measures are recommended:

(i) Export promotion:

Exports should be encouraged by granting various bounties to manufacturers and exporters. At the same ti me, imports should be discouraged by undertaking import substitution and imposing reasonable tariffs.

(ii) Import substitution

Restrictions and Import Substitution are other measures of correcting disequilibrium.

(iii) Reducing inflation:

Inflation (continuous rise in prices) discourages exports and encourages imports. Therefore, government should check inflation and lower the prices in the country.

(iv) Exchange control:

Government should control foreign exchange by ordering all exporters to surrender their foreign exchange to the central bank and then ration out among licensed importers.

(v) Devaluation of domestic currency:

It means fall in the external (exchange) value of domestic currency in terms of a unit of foreign exchange which makes domestic goods cheaper for the foreigners. Devaluation is done by a government order when a country has adopted a fixed exchange rate system. Care should be taken that devaluation should not cause rise in internal price level.

(vi) Depreciation:

Like devaluation, depreciation leads to fall in external purchasing power of home currency. Depreciation occurs in a free market system wherein demand for foreign exchange far exceeds the supply of foreign exchange in foreign exchange market of a country (Mind, devaluation is done in fixed exchange rate system.

Monetary Measures for Correcting the BOP

The monetary methods for correcting disequilibrium in the balance of payment are as follows :-

1. Deflation

Deflation means falling prices. Deflation has been used as a measure to correct deficit disequilibrium. A country faces deficit when its imports exceeds exports.

Deflation is brought through monetary measures like bank rate policy, open market operations, etc or through fiscal measures like higher taxation, reduction in public expenditure, etc. Deflation would make our items cheaper in foreign market resulting a rise in our exports. At the same time the demands for imports fall due to higher taxation and reduced income. This would build a favourable atmosphere in the balance of payment position. However Deflation can be successful when the exchange rate remains fixed.

2. Exchange Depreciation

Exchange depreciation means decline in the rate of exchange of domestic currency in terms of foreign currency. This device implies that a country has adopted a flexible exchange rate policy.

Suppose the rate of exchange between Indian rupee and US dollar is $1 = Rs. 40. If India experiences an adverse balance of payments with regard to U.S.A, the Indian demand for US dollar will rise. The price of dollar in terms of rupee will rise. Hence, dollar will appreciate in external value and rupee will depreciate in external value. The new rate of exchange may be say $1 = Rs. 50. This means 25% exchange depreciation of the Indian currency.

Exchange depreciation will stimulate exports and reduce imports because exports will become cheaper and imports costlier. Hence, a favourable balance of payments would emerge to pay off the deficit.

3. Devaluation

Devaluation refers to deliberate attempt made by monetary authorities to bring down the value of home currency against foreign currency. While depreciation is a spontaneous fall due to interactions of market forces, devaluation is official act enforced by the monetary authority. Generally the international monetary fund advocates the policy of devaluation as a corrective measure of disequilibrium for the countries facing adverse balance of payment position. When India's balance of payment worsened in 1991, IMF suggested devaluation.

Accordingly, the value of Indian currency has been reduced by 18 to 20% in terms of various currencies. The 1991 devaluation brought the desired effect. The very next year the import declined while exports picked up.

When devaluation is effected, the value of home currency goes down against foreign currency, Let us suppose the exchange rate remains $1 = Rs. 10 before devaluation. Let us suppose, devaluation takes place which reduces the value of home currency and now the exchange rate becomes $1 = Rs. 20. After such a change our goods becomes cheap in foreign market. This is because, after devaluation, dollar is exchanged for more Indian currencies which push up the demand for exports. At the same time, imports become costlier as Indians have to pay more currencies to obtain one dollar. Thus demand for imports is reduced.

Generally devaluation is resorted to where there is serious adverse balance of payment problem.

4. Exchange Control

It is an extreme step taken by the monetary authority to enjoy complete control over the exchange dealings. Under such a measure, the central bank directs all exporters to surrender their foreign exchange to the central authority. Thus it leads to concentration of exchange reserves in the hands of central authority. At the same time, the supply of foreign exchange is restricted only for essential goods. It can only help controlling situation from turning worse. In short it is only a temporary measure and not permanent remedy.

Non-Monetary Measures for Correcting the BOP

A deficit country along with Monetary measures may adopt the following non-monetary measures too which will either restrict imports or promote exports.

1. Tariffs

Tariffs are duties (taxes) imposed on imports. When tariffs are imposed, the prices of imports would increase to the extent of tariff. The increased prices will reduced the demand for imported goods and at the same time induce domestic producers to produce more of import substitutes. Non-essential imports can be drastically reduced by imposing a very high rate of tariff.

2. Quotas

Under the quota system, the government may fix and permit the maximum quantity or value of a commodity to be imported during a given period. By restricting imports through the quota system, the deficit is reduced and the balance of payments position is improved.

Types of Quotas :-

- The tariff or custom quota,
- The unilateral quota,
- The bilateral quota,
- The mixing quota, and
- Import licensing.

3. Export Promotion

The government can adopt export promotion measures to correct disequilibrium in the balance of payments. This includes substitutes, tax concessions to exporters, marketing facilities, credit and incentives to exporters, etc.

The government may also help to promote export through exhibition, trade fairs; conducting marketing research & by providing the required administrative and diplomatic help to tap the potential markets.

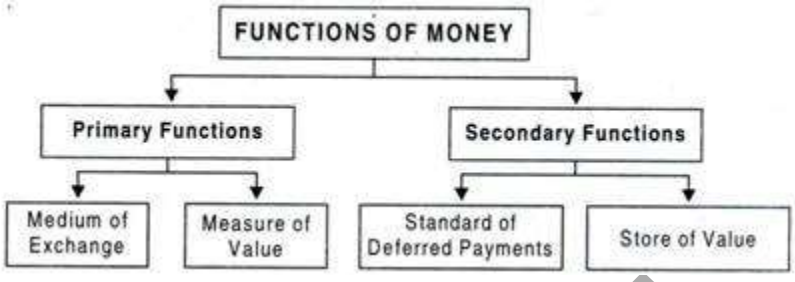
4. Import Substitution

A country may resort to import substitution to reduce the volume of imports and make it self-reliant. Fiscal and monetary measures may be adopted to encourage industries producing import substitutes. Industries which produce import substitutes require special attention in the form of various concessions, which include tax concession, technical assistance, subsidies, providing scarce inputs, etc.

Non-monetary methods are more effective than monetary methods and are normally applicable in correcting an adverse balance of payments.

Primary and Secondary Functions of Money

1. Primary Functions (Main or Basic Functions)
2. Secondary Functions (Subsidiary or Derivative Functions)



1. **Medium of exchange:** money allows goods and services to be traded without the need for a barter system. Barter systems rely on there being a double coincidence of wants between the two people involved in an exchange
2. **Store of value:** this can refer to any asset whose "value" can be used now or used in the future i.e. its value can be retrieved at a later date. This means that people can save now to fund spending at a later date.
3. **Unit of account**: this refers to anything that allows the value of something to be expressed in an understandable way, and in a way that allows the value of items to be compared.
4. **Standard of deferred payment:** this refers to the expressing of the value of a debt i.e. if people borrow today, then they can pay back their loan in the future in a way that is acceptable to the person who made the loan.

DEMAND AND SUPPLY OF MONEY

The demand for money is the relationship between the quantity of money people want to hold and the factors that determine that quantity. To simplify our analysis, we will assume there are only two ways to hold wealth: as money in a checking account, or as funds in a bond market mutual fund that purchases long-term bonds on behalf of its subscribers. A bond fund is not money. Some money deposits earn interest, but the return on these accounts is generally lower than what could be obtained in a bond fund. The advantage of checking accounts is that they are highly liquid and can thus be spent easily. We will think of the demand for money as a curve that represents the outcomes of choices between the greater liquidity of money deposits and the higher interest rates that can be earned by holding a bond fund. The difference between the interest rates paid on money deposits and the interest return available from bonds is the cost of holding money.

Motives for Holding Money

One reason people hold their assets as money is so that they can purchase goods and services. The money held for the purchase of goods and services may be for everyday transactions such as buying groceries or paying the rent, or it may be kept on hand for contingencies such as having the funds available to pay to have the car fixed or to pay for a trip to the doctor.

The transactions demand for money is money people hold to pay for goods and services they anticipate buying. When you carry money in your purse or wallet to buy a movie ticket or maintain a checking account balance so you can purchase groceries later in the month, you are holding the money as part of your transactions demand for money.

The money people hold for contingencies represents their precautionary demand for money. Money held for precautionary purposes may include checking account balances kept for possible home repairs or health-care needs. People do not know precisely when the need for such expenditures will occur, but they can prepare for them by holding money so that they'll have it available when the need arises.

People also hold money for speculative purposes. Bond prices fluctuate constantly. As a result, holders of bonds not only earn interest but experience gains or losses in the value of their assets. Bondholders enjoy gains when bond prices rise and suffer losses when bond prices fall. Because of this, expectations play an important role as a determinant of the demand for bonds. Holding bonds is one alternative to holding money, so these same expectations can affect the demand for money.

John Maynard Keynes, who was an enormously successful speculator in bond markets himself, suggested that bondholders who anticipate a drop in bond prices will try to sell their bonds ahead of the price drop in order to avoid this loss in asset value. Selling a bond means converting it to money. Keynes referred to the speculative demand for money as the money held in response to concern that bond prices and the prices of other financial assets might change.

Of course, money is money. One cannot sort through someone's checking account and locate which funds are held for transactions and which funds are there because the owner of the account is worried about a drop in bond prices or is taking a precaution. We distinguish money held for different motives in order to understand how the quantity of money demanded will be affected by a key determinant of the demand for money: the interest rate.

Interest Rates and the Demand for Money

The quantity of money people hold to pay for transactions and to satisfy precautionary and speculative demand is likely to vary with the interest rates they can earn from alternative assets such as bonds. When interest rates rise relative to the rates that can be earned on money deposits, people hold less money. When interest rates fall, people hold more money. The logic of these conclusions about the money people hold and interest rates depends on the people's motives for holding money.

The quantity of money households want to hold varies according to their income and the interest rate; different average quantities of money held can satisfy their transactions and precautionary demands for money. To see why, suppose a household earns and spends $3,000 per month. It spends an equal amount of money each day. For a month with 30 days, that is $100 per day. One way the household could manage this spending would be to leave the money in a checking account, which we will assume pays zero interest. The household would thus have $3,000 in the checking account when the month begins, $2,900 at the end of the first day, $1,500 halfway through the month, and zero at the end of the last day of the month. Averaging the daily balances, we find that the quantity of money the household demands equals $1,500. This approach to money management, which we will call the "cash approach," has the virtue of simplicity, but the household will earn no interest on its funds.

Consider an alternative money management approach that permits the same pattern of spending. At the beginning of the month, the household deposits $1,000 in its checking account and the other $2,000 in a bond fund. Assume the bond fund pays 1% interest per month, or an annual interest rate of 12.7%. After 10 days, the money in the checking account is exhausted, and the household withdraws another $1,000 from the bond fund for the next 10 days. On the 20th day, the final $1,000 from the bond fund goes into the checking account. With this strategy, the household has an average daily balance of $500, which is the quantity of money it demands. Let us call this money management strategy the "bond fund approach."

Remember that both approaches allow the household to spend $3,000 per month, $100 per day. The cash approach requires a quantity of money demanded of $1,500, while the bond fund approach lowers this quantity to $500.

The bond fund approach generates some interest income. The household has $1,000 in the fund for 10 days (1/3 of a month) and $1,000 for 20 days (2/3 of a month). With an interest rate of 1% per

month, the household earns $10 in interest each month ([$1,000 × 0.01 × 1/3] + [$1,000 × 0.01 × 2/3]). The disadvantage of the bond fund, of course, is that it requires more attention—$1,000 must be transferred from the fund twice each month. There may also be fees associated with the transfers.

Of course, the bond fund strategy we have examined here is just one of many. The household could begin each month with $1,500 in the checking account and $1,500 in the bond fund, transferring $1,500 to the checking account midway through the month. This strategy requires one less transfer, but it also generates less interest—$7.50 (= $1,500 × 0.01 × 1/2). With this strategy, the household demands a quantity of money of $750. The household could also maintain a much smaller average quantity of money in its checking account and keep more in its bond fund. For simplicity, we can think of any strategy that involves transferring money in and out of a bond fund or another interest-earning asset as a bond fund strategy.

Which approach should the household use? That is a choice each household must make—it is a question of weighing the interest a bond fund strategy creates against the hassle and possible fees associated with the transfers it requires. Our example does not yield a clear-cut choice for any one household, but we can make some generalizations about its implications.

First, a household is more likely to adopt a bond fund strategy when the interest rate is higher. At low interest rates, a household does not sacrifice much income by pursuing the simpler cash strategy. As the interest rate rises, a bond fund strategy becomes more attractive. That means that the higher the interest rate, the lower the quantity of money demanded.

Second, people are more likely to use a bond fund strategy when the cost of transferring funds is lower. The creation of savings plans, which began in the 1970s and 1980s, that allowed easy transfer of funds between interest-earning assets and checkable deposits tended to reduce the demand for money.

Some money deposits, such as savings accounts and money market deposit accounts, pay interest. In evaluating the choice between holding assets as some form of money or in other forms such as bonds, households will look at the differential between what those funds pay and what they could earn in the bond market. A higher interest rate in the bond market is likely to increase this differential; a lower interest rate will reduce it. An increase in the spread between rates on money deposits and the interest rate in the bond market reduces the quantity of money demanded; a reduction in the spread increases the quantity of money demanded.

Firms, too, must determine how to manage their earnings and expenditures. However, instead of worrying about $3,000 per month, even a relatively small firm may be concerned about $3,000,000 per month. Rather than facing the difference of $10 versus $7.50 in interest earnings used in our household example, this small firm would face a difference of $2,500 per month ($10,000 versus $7,500). For very large firms such as Toyota or AT&T, interest rate differentials among various forms of holding their financial assets translate into millions of dollars per day.

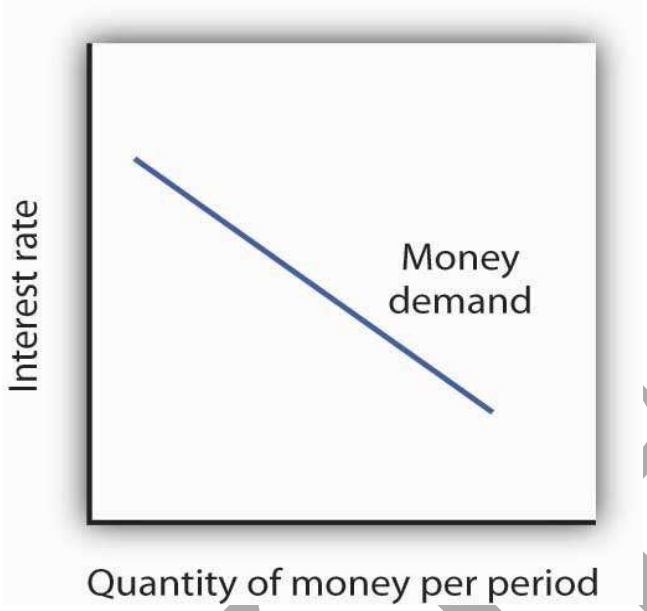
How is the speculative demand for money related to interest rates? When financial investors believe that the prices of bonds and other assets will fall, their speculative demand for money goes up. The speculative demand for money thus depends on expectations about future changes in asset prices. Will this demand also be affected by present interest rates?

If interest rates are low, bond prices are high. It seems likely that if bond prices are high, financial investors will become concerned that bond prices might fall. That suggests that high bond prices—low interest rates—would increase the quantity of money held for speculative purposes. Conversely, if bond prices are already relatively low, it is likely that fewer financial investors will expect them to fall still further. They will hold smaller speculative balances. Economists thus expect that the quantity of money demanded for speculative reasons will vary negatively with the interest rate.

The Demand Curve for Money

We have seen that the transactions, precautionary, and speculative demands for money vary negatively with the interest rate. Putting those three sources of demand together, we can draw a demand curve for money to show how the interest rate affects the total quantity of money people hold. The demand curve for money shows the quantity of money demanded at each interest rate, all other things unchanged. Such a curve is shown in Figure “The Demand Curve for Money” . An increase in the interest rate reduces the quantity of money demanded. A reduction in the interest rate increases the quantity of money demanded.

The Demand Curve for Money



The demand curve for money shows the quantity of money demanded at each interest rate. Its downward slope expresses the negative relationship between the quantity of money demanded and the interest rate.

The relationship between interest rates and the quantity of money demanded is an application of the law of demand. If we think of the alternative to holding money as holding bonds, then the interest rate—or the differential between the interest rate in the bond market and the interest paid on money deposits—represents the price of holding money. As is the case with all goods and services, an increase in price reduces the quantity demanded.

Other Determinants of the Demand for Money

We draw the demand curve for money to show the quantity of money people will hold at each interest rate, all other determinants of money demand unchanged. A change in those "other determinants" will shift the demand for money. Among the most important variables that can shift the demand for money are the level of income and real GDP, the price level, expectations, transfer costs, and preferences.

Real GDP

A household with an income of $10,000 per month is likely to demand a larger quantity of money than a household with an income of $1,000 per month. That relationship suggests that money is a normal good: as income increases, people demand more money at each interest rate, and as income falls, they demand less.

An increase in real GDP increases incomes throughout the economy. The demand for money in the economy is therefore likely to be greater when real GDP is greater.

The Price Level

The higher the price level, the more money is required to purchase a given quantity of goods and services. All other things unchanged, the higher the price level, the greater the demand for money.

Expectations

The speculative demand for money is based on expectations about bond prices. All other things unchanged, if people expect bond prices to fall, they will increase their demand for money. If they expect bond prices to rise, they will reduce their demand for money.

The expectation that bond prices are about to change actually causes bond prices to change. If people expect bond prices to fall, for example, they will sell their bonds, exchanging them for money. That will shift the supply curve for bonds to the right, thus lowering their price. The importance of expectations in moving markets can lead to a self-fulfilling prophecy.

Expectations about future price levels also affect the demand for money. The expectation of a higher price level means that people expect the money they are holding to fall in value. Given that expectation, they are likely to hold less of it in anticipation of a jump in prices.

Expectations about future price levels play a particularly important role during periods of hyperinflation. If prices rise very rapidly and people expect them to continue rising, people are likely to try to reduce the amount of money they hold, knowing that it will fall in value as it sits in their wallets or their bank accounts. Toward the end of the great German hyperinflation of the early 1920s, prices were doubling as often as three times a day. Under those circumstances, people tried not to hold money even for a few minutes—within the space of eight hours money would lose half its value.

Transfer Costs

For a given level of expenditures, reducing the quantity of money demanded requires more frequent transfers between non money and money deposits. As the cost of such transfers rises, some consumers will choose to make fewer of them. They will therefore increase the quantity of money they demand. In general, the demand for money will increase as it becomes more expensive to transfer between money and non money accounts. The demand for money will fall if transfer costs decline. In recent years, transfer costs have fallen, leading to a decrease in money demand.

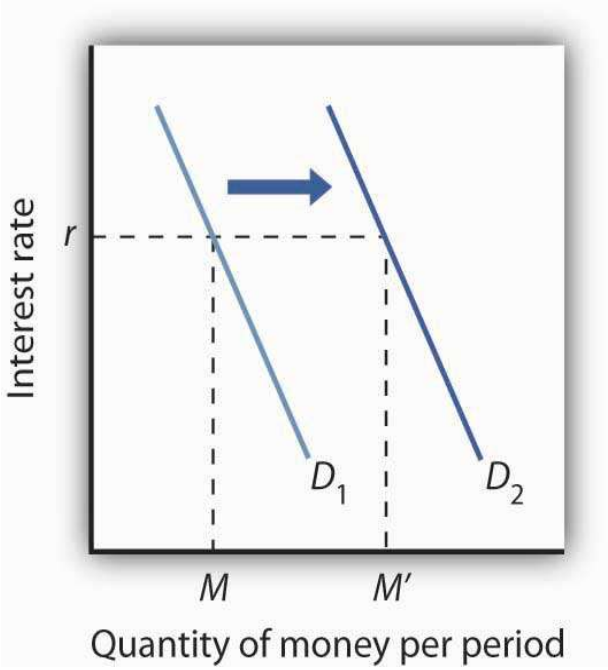
Preferences

Preferences also play a role in determining the demand for money. Some people place a high value on having a considerable amount of money on hand. For others, this may not be important.

Household attitudes toward risk are another aspect of preferences that affect money demand. As we have seen, bonds pay higher interest rates than money deposits, but holding bonds entails a risk that bond prices might fall. There is also a chance that the issuer of a bond will default, that is, will not pay the amount specified on the bond to bondholders; indeed, bond issuers may end up paying nothing at all. A money deposit, such as a savings deposit, might earn a lower yield, but it is a safe yield. People's attitudes about the trade-off between risk and yields affect the degree to which they hold their wealth as money. Heightened concerns about risk in the last half of 2008 led many households to increase their demand for money.

Figure "An Increase in Money Demand" shows an increase in the demand for money. Such an increase could result from a higher real GDP, a higher price level, a change in expectations, an increase in transfer costs, or a change in preferences.

An Increase in Money Demand

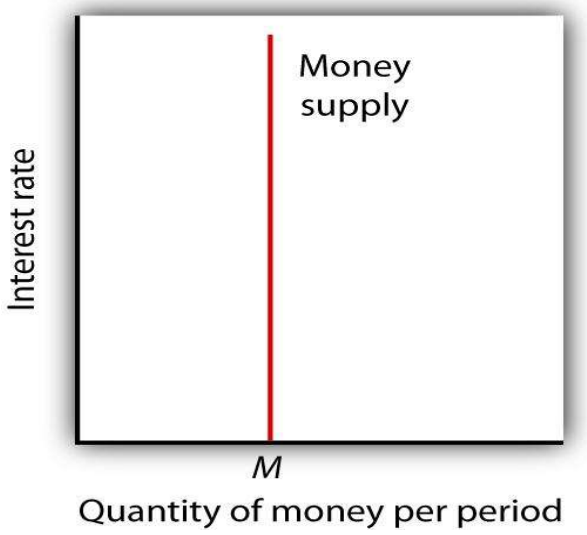


An increase in real GDP, the price level, or transfer costs, for example, will increase the quantity of money demanded at any interest rate r, increasing the demand for money from D_1 to D_2. The quantity of money demanded at interest rate r rises from M to M'. The reverse of any such events would reduce the quantity of money demanded at every interest rate, shifting the demand curve to the left.

The Supply of Money

The supply curve of money shows the relationship between the quantity of money supplied and the market interest rate, all other determinants of supply unchanged. We have learned that the Fed, through its open-market operations, determines the total quantity of reserves in the banking system. We shall assume that banks increase the money supply in fixed proportion to their reserves. Because the quantity of reserves is determined by Federal Reserve policy, we draw the supply curve of money in Figure "The Supply Curve of Money" as a vertical line, determined by the Fed's monetary policies. In drawing the supply curve of money as a vertical line, we are assuming the money supply does not depend on the interest rate. Changing the quantity of reserves and hence the money supply is an example of monetary policy.

The Supply Curve of Money

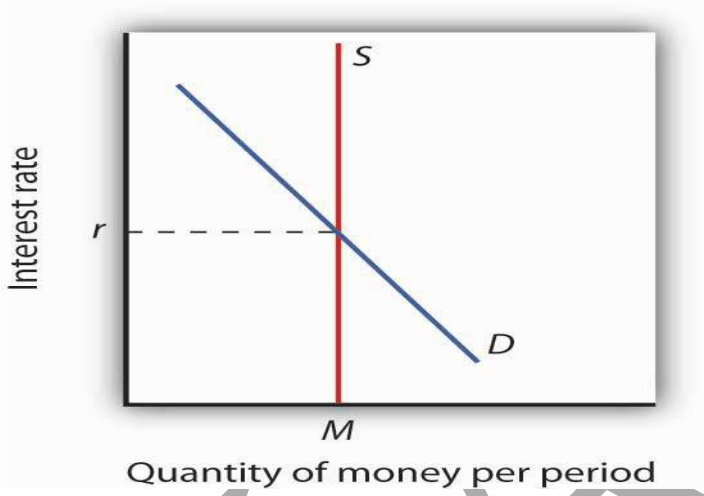


We assume that the quantity of money supplied in the economy is determined as a fixed multiple of the quantity of bank reserves, which is determined by the Fed. The supply curve of money is a vertical line at that quantity.

Equilibrium in the Market for Money

The money market is the interaction among institutions through which money is supplied to individuals, firms, and other institutions that demand money. Money market equilibrium occurs at the interest rate at which the quantity of money demanded is equal to the quantity of money supplied. Figure "Money Market Equilibrium" combines demand and supply curves for money to illustrate equilibrium in the market for money. With a stock of money (M), the equilibrium interest rate is r.

Money Market Equilibrium



The market for money is in equilibrium if the quantity of money demanded is equal to the quantity of money supplied. Here, equilibrium occurs at interest rate r.

Effects of Changes in the Money Market

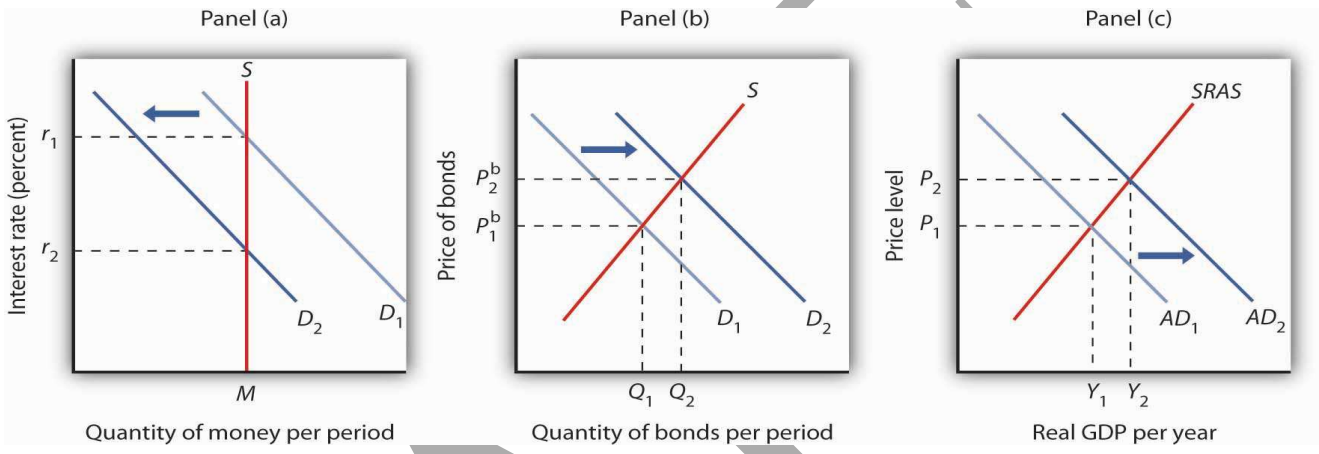
A shift in money demand or supply will lead to a change in the equilibrium interest rate. Let's look at the effects of such changes on the economy.

Changes in Money Demand

Suppose that the money market is initially in equilibrium at r_1 with supply curve S and a demand curve D_1 as shown in Panel (a) of Figure "A Decrease in the Demand for Money". Now suppose that there is a decrease in money demand, all other things unchanged. A decrease in money demand could result from a decrease in the cost of transferring between money and no money deposits, from a change in expectations, or from a change in preferences. In this chapter we are looking only at changes that originate in financial markets to see their impact on aggregate demand and aggregate supply. Changes in the price level and in real GDP also shift the money demand curve, but these

changes are the result of changes in aggregate demand or aggregate supply and are considered in more advanced courses in macroeconomics. Panel (a) shows that the money demand curve shifts to the left to D_2. We can see that the interest rate will fall to r_2. To see why the interest rate falls, we recall that if people want to hold less money, then they will want to hold more bonds. Thus, Panel (b) shows that the demand for bonds increases. The higher price of bonds means lower interest rates; lower interest rates restore equilibrium in the money market.

A Decrease in the Demand for Money



A decrease in the demand for money due to a change in transactions costs, preferences, or expectations, as shown in Panel (a), will be accompanied by an increase in the demand for bonds as shown in Panel (b), and a fall in the interest rate. The fall in the interest rate will cause a rightward shift in the aggregate demand curve from AD_1 to AD_2, as shown in Panel (c). As a result, real GDP and the price level rise.

Lower interest rates in turn increase the quantity of investment. They also stimulate net exports, as lower interest rates lead to a lower exchange rate. The aggregate demand curve shifts to the right as shown in Panel (c) from AD_1 to AD_2. Given the short-run aggregate supply curve *SRAS*, the economy moves to a higher real GDP and a higher price level.

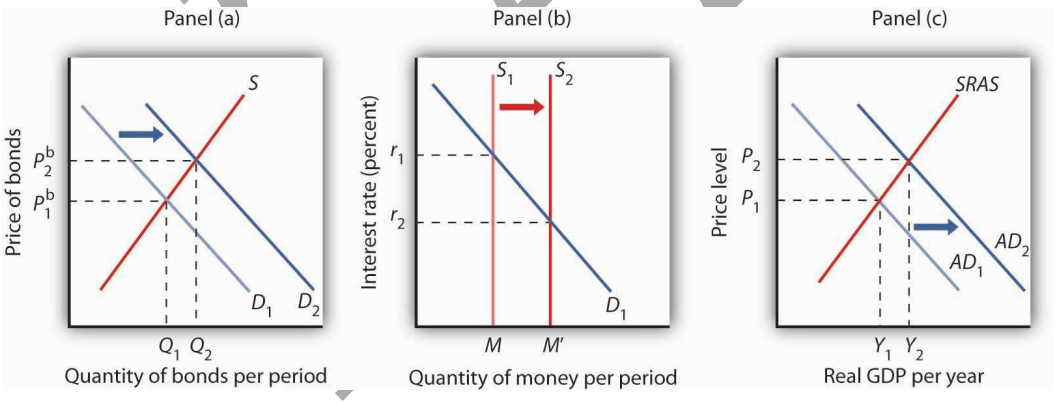
An increase in money demand due to a change in expectations, preferences, or transactions costs that make people want to hold more money at each interest rate will have the opposite effect. The money demand curve will shift to the right and the demand for bonds will shift to the left. The resulting higher interest rate will lead to a lower quantity of investment. Also, higher interest rates will lead to a higher exchange rate and depress net exports. Thus, the aggregate demand curve will shift to the left. All other things unchanged, real GDP and the price level will fall.

Changes in the Money Supply

Now suppose the market for money is in equilibrium and the Fed changes the money supply. All other things unchanged, how will this change in the money supply affect the equilibrium interest rate and aggregate demand, real GDP, and the price level?

Suppose the Fed conducts open-market operations in which it buys bonds. This is an example of expansionary monetary policy. The impact of Fed bond purchases is illustrated in Panel (a) of Figure "An Increase in the Money Supply". The Fed's purchase of bonds shifts the demand curve for bonds to the right, raising bond prices to P^b_2. As we learned, when the Fed buys bonds, the supply of money increases. Panel (b) of Figure "An Increase in the Money Supply" shows an economy with a money supply of M, which is in equilibrium at an interest rate of r_1. Now suppose the bond purchases by the Fed as shown in Panel (a) result in an increase in the money supply to M'; that policy change shifts the supply curve for money to the right to S_2. At the original interest rate r_1, people do not wish to hold the newly supplied money; they would prefer to hold non money assets. To reestablish equilibrium in the money market, the interest rate must fall to increase the quantity of money demanded. In the economy shown, the interest rate must fall to r_2 to increase the quantity of money demanded to M'.

An Increase in the Money Supply



The Fed increases the money supply by buying bonds, increasing the demand for bonds in Panel (a) from D_1 to D_2 and the price of bonds to P^b_2. This corresponds to an increase in the money supply to M' in Panel (b). The interest rate must fall to r_2 to achieve equilibrium. The lower interest rate leads to an increase in investment and net exports, which shifts the aggregate demand curve from AD_1 to AD_2 in Panel (c). Real GDP and the price level rise.

The reduction in interest rates required to restore equilibrium to the market for money after an increase in the money supply is achieved in the bond market. The increase in bond prices lowers interest rates, which will increase the quantity of money people demand. Lower interest rates will stimulate investment and net exports, via changes in the foreign exchange market, and cause the aggregate demand curve to shift to the right, as shown in Panel (c), from AD_1 to AD_2. Given the short-run aggregate supply curve *SRAS*, the economy moves to a higher real GDP and a higher price level.

Concept of Money Supply and Its Measurement:

By money supply we mean the total stock of monetary media of exchange available to a society for use in connection with the economic activity of the country.

According to the standard concept of money supply, it is composed of the following two elements:

1. Currency with the public,
2. Demand deposits with the public.

Before explaining these two components of money supply two things must be noted with regard to the money supply in the economy. First, the money supply refers to the total sum of money available to the public in the economy at a point of time. That is, money supply is a stock concept in sharp contrast to the national income which is a flow representing the value of goods and services produced per unit of time, usually taken as a year.

Secondly, money supply always refers to the amount of money held by the public. In the term public are included households, firms and institutions other than banks and the government. The rationale behind considering money supply as held by the public is to separate the producers of money from those who use money to fulfill their various types of demand for money.

Since the Government and the banks produce or create money for the use by the public, the money (cash reserves) held by them are not used for transaction and speculative purposes and are excluded from the standard measures of money supply. This separation of producers of money from the users of money is important from the viewpoint of both monetary theory and policy.

Let us explain the two components of money supply at some length:

Currency with the Public:

In order to arrive at the total currency with the public in India we add the following items:

1. Currency notes in circulation issued by the Reserve Bank of India.
2. The number of rupee notes and coins in circulation.
3. Small coins in circulation.

It is worth noting that cash reserves with the banks has to be deducted from the value of the above three items of currency in order to arrive at the total currency with the public. This is because cash reserves with the banks must remain with them and cannot therefore be used for making payments for goods or by any commercial bank's transactions.

It may further be noted that these days paper currency issued by Reserve Bank of India (RBI) are not fully backed by the reserves of gold and silver, nor it is considered necessary to do so. Full backing of paper currency by reserves of gold prevailed in the past when gold standard or silver standard type of monetary system existed.

According to the modern economic thinking the magnitude of currency issued should be determined by the monetary needs of the economy and not by the available reserves of gold and silver. In other developed countries, since 1957 Reserve Bank of India follows Minimum Reserve System of issuing currency.

Under this system, minimum reserves of Rs. 200 crores of gold and other approved securities (such as dollars, pound sterling, etc.) have to be kept and against this any amount of currency can be issued depending on the monetary requirements of the economy.

RBI is not bound to convert notes into equal value of gold or silver. In the present times currency is inconvertible. The word written on the note, say 100 rupee notes and signed by the governor of RBI that 'I promise to pay the bearer a sum of 100 rupees' is only a legacy of the past and does not imply its convertibility into gold or silver.

Another important thing to note is that paper currency or coins are fiat money, which means that currency notes and metallic coins serve as money on the bases of the fiat (i.e. order) of the Government. In other words, on the authority of the Government no one can refuse to accept them in payment for the transaction made. That is why they are called legal tender.

Demand Deposits with the Public:

The other important component of money supply are demand deposits of the public with the banks. These demand deposits held by the public are also called bank money or deposit money. Deposits with the banks are broadly divided into two types: demand deposits and time deposits. Demand deposits in the banks are those deposits which can be withdrawn by drawing cheques on them.

Through cheques these deposits can be transferred to others for making payments from whom goods and services have been purchased. Thus, cheques make these demand deposits as a medium of exchange and therefore make them to serve as money. It may be noted that demand deposits are fiduciary money proper.

Fiduciary money is one which functions as money on the basis of trust of the persons who make payment rather than on the basis of the authority of Government. Thus, despite the fact that demand deposits and cheques through which they are operated are not legal tender, they function as money on the basis of the trust commanded by those who draw cheques on them. They are money as they are generally acceptable as medium of payment.

Bank deposits are created when people deposit currency with them. But far more important is that banks themselves create deposits when they give advances to businessmen and others. On the basis of small cash reserves of currency, they are able to create a much larger amount of demand deposits through a system called fractional reserve system which will be explained later in detail.

In the developed countries such as USA and Great Britain deposit money accounted for over 80 per cent of the total money supply, currency being a relatively small part of it. This is because banking system has greatly developed there and also people have developed banking habits.

On the other hand, in the developing countries banking has not developed sufficiently and also people have not acquired banking habits and they prefer to make transactions in currency. However in India after 50 years of independence and economic development the proportion of bank deposits in the money supply has risen to about 50 per cent.

Four Measures of Money Supply:

Several definitions of money supply have been given and therefore various measures of money supply based on them have been estimated. First, different components of money supply have been distinguished on the basis of the different functions that money performs. For example, demand

deposits, credit card and currency are used by the people primarily as a medium of exchange for buying goods and services and making other transactions.

Obviously, they are money because they are used as a medium of exchange and are generally referred to as M_1. Another measure of money supply is M_3 which includes both M_1 and time deposits held by the public in the banks. Time deposits are money that people hold as store of value.

The main reason why money supply is classified into various measures on the basis of its functions is that effective predictions can be made about the likely effects on the economy of changes in the different components of money supply. For example, if M_1 is increasing firstly it can be reasonably expected that people are planning to make a large number of transactions.

On the other hand, if time-deposits component of money supply measure M_3 which serves as a store of value is increasing rapidly, it can be validly concluded that people are planning to save more and accordingly consume less.

Therefore, it is believed that for monetary analysis and policy formulation, a single measure of money supply is not only inadequate but may be misleading too. Hence various measures of money supply are prepared to meet the needs of monetary analysis and policy formulation.

Recently in India as well as in some developed countries, four concepts of money supply have been distinguished. The definition of money supply given above represents a narrow measure of money supply and is generally described as M_1.

From April 1977, the Reserve Bank of India has adopted four concepts of money supply in its analysis of the quantum of and variations in money supply. These four concepts of measures of money supply are explained below.

Money Supply M1 or Narrow Money:

This is the narrow measure of money supply and is composed of the following items:

Ml = C + DD + OD

Where, C = Currency with the public

DD = Demand deposits with the public in the commercial and cooperative banks.

OD = Other deposits held by the public with Reserve Bank of India.

The money supply is the most liquid measure of money supply as the money included in it can be easily used as a medium of exchange, that is, as a means of making payments for transactions.

Currency with the public (C) in the above measure of money supply consists of the following:

(i) Notes in circulation.

(ii) Circulation of rupee coins as well as small coins

(iii) Cash reserves on hand with all banks.

Note that in measuring demand deposits with the public in the banks (i.e., DD), inter-bank deposits, that is, deposits held by a bank in other banks, are excluded from this measure.

In the other deposits with Reserve Bank of India (i.e., OD) deposits held by the Central and State Governments and a few others such as RBI Employees Pension and Provident Funds are excluded.

However, these other deposits of Reserve Bank of India include the following items:

(i) Deposits of Institutions such as UTI, IDBI, IFCI, NABARD etc.

(ii) Demand deposits of foreign Central Banks and Foreign Governments.

(iii) Demand deposits of IMF and World Bank.

It may be noted that other deposits of Reserve Bank of India constitute a very small proportion (less than one per cent).

Money Supply M2:

M2 is a broader concept of money supply in India than M1. In addition to the three items of M1, the concept of money supply M_2 includes savings deposits with the post office savings banks. Thus,

M2 = M1 + Savings deposits with the post office savings banks.

The reason why money supply M2 has been distinguished from M1 is that saving deposits with post office savings banks are not as liquid as demand deposits with commercial and cooperative banks as they are not chequable accounts. However, saving deposits with post offices are more liquid than time deposits with the banks.

Money Supply M3 or Broad Money:

M3 is a broad concept of money supply. In addition to the items of money supply included in measure M1, in money supply M3 time deposits with the banks are also included. Thus

M3= M1+ Time Deposits with the banks.

It is generally thought that time deposits serve as store of value and represent savings of the people and are not liquid as they cannot be withdrawn through drawing cheque on them. However, since loans from the banks can be easily obtained against these time deposits, they can be used if found

necessary for transaction purposes in this way. Further, they can be withdrawn at any time by forgoing some interest earned on them.

It may be noted that recently M3 has become a popular measure of money supply. The working group on monetary reforms under the chairmanship of late Prof. Sukhamoy Chakravarty recommended its use for monetary planning of the economy and setting target of the growth of money supply in terms of M3.

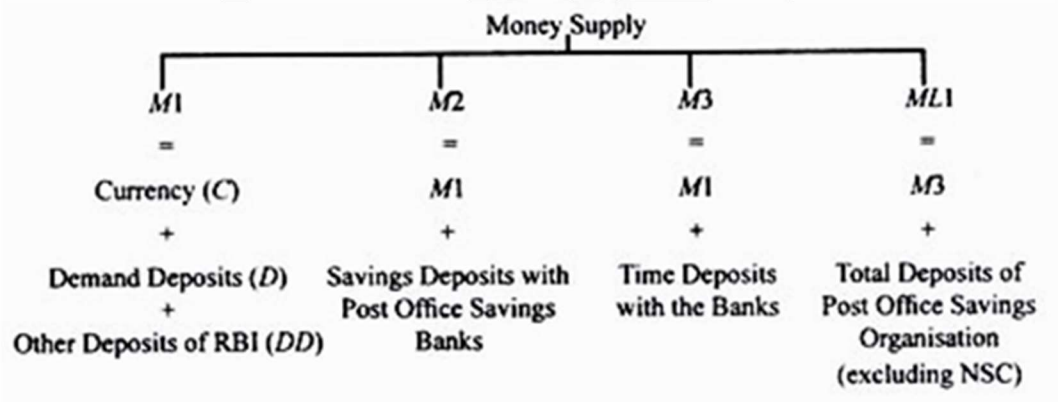
Therefore, recently RBI in its analysis of growth of money supply and its effects on the economy has shifted to the use of M3 measure of money supply. In the terminology of money supply employed by the Reserve Bank of India till April 1977, this M3 was called Aggregate Monetary Resources (AMR).

Money Supply M4:

The measure M4 of money supply includes not only all the items of M3 described above but also the total deposits with the post office savings organisation. However, this excludes contributions made by the public to the national saving certificates. Thus,

M4 = M3 + Total Deposits with Post Office Savings Organisation.

Let us summaries the four concepts of money supply as used by Reserve Bank of India in the following tabular form:



Process of Credit creation and money supply

The supply of money is a stock at a particular point of time, though it conveys the idea of a flow over time. The term 'the supply of money' is synonymous with such terms as 'money stock', 'stock of money', 'money supply' and 'quantity of money'.

The supply of money at any moment is the total amount of money in the economy. There are three alternative views regarding the definition or measures of money supply. The most common view is associated with the traditional and Keynesian thinking which stresses the medium of exchange function of money.

According to this view, money supply is defined as currency with the public and demand deposits with commercial banks. Demand deposits are sayings and current accounts of depositors in a commercial bank. They are the liquid form of money because depositors can draw cheques for any amount lying in their accounts and the bank has to make immediate payment on demand. Demand deposits with commercial banks plus currency with the public are together denoted as M1, the money supply. This is regarded as a narrower definition of the money supply.

The second definition is broader and is associated with the modern quantity theorists headed by Friedman. Professor Friedman defines the money supply at any moment of time as "literally the number of dollars people are carrying around in their pockets, the number of dollars they have to their credit at banks or dollars they have to their credit at banks in the form of demand deposits, and also commercial bank time deposits."

Time deposits are fixed deposits of customers in a commercial bank. Such deposits earn a fixed rate of interest varying with the time period for which the amount is deposited. Money can be withdrawn before the expiry of that period by paying a penal rate of interest to the bank. So time deposits possess liquidity and are included in the money supply by Friedman. Thus this definition includes M1 plus time deposits of commercial banks in the supply of money. This wider definition is characterised as M2 in America and M3 in Britain and India. It stresses the store of value function of money or what Friedman says, 'a temporary abode of purchasing power'.

The third definition is the broadest and is associated with Gurley and Shaw. They include in the supply of money, M2 plus deposits of savings banks, building societies, loan associations, and deposits of other credit and financial institutions.

Determinants of Money Supply:

There are two theories of the determination of the money supply. According to the first view, the money supply is determined exogenously by the central bank. The second view holds that the money supply is determined endogenously by changes in the economic activity which affects people's desire to hold currency relative to deposits, the rate of interest, etc.

Thus the determinants of money supply are both exogenous and endogenous which can be described broadly as: the minimum cash reserve ratio, the level of bank reserves, and the desire of the people to hold currency relative to deposits. The last two determinants together are called the monetary base or the high powered money.

1. The Required Reserve Ratio:

The required reserve ratio (or the minimum cash reserve ratio or the reserve deposit ratio) is an important determinant of the money supply. An increase in the required reserve ratio reduces the supply of money with commercial banks and a decrease in required reserve ratio increases the money supply.

The RR1 is the ratio of cash to current and time deposit liabilities which is determined by law. Every commercial bank is required to keep a certain percentage of these liabilities in the form of deposits with the central bank of the country. But notes or cash held by commercial banks in their tills are not included in the minimum required reserve ratio.

But the short-term assets along with the cash are regarded as the liquid assets of a commercial bank. In India the statutory liquidity ratio (SLR) has been fixed by law as an additional measure to determine the money supply. The SLR is called secondary reserve ratio in other countries while the required reserve ratio is referred to as the primary ratio. The raising of the SLR has the effect of reducing the money supply with commercial banks for lending purposes, and the lowering of the SLR tends in increase the money supply with banks for advances.

2. The Level of Bank Reserves:

The level of bank reserves is another determinant of the money supply. Commercial bank reserves consist of reserves on deposits with the central bank and currency in their tills or vaults. It is the central bank of the country that influences the reserves of commercial banks in order to determine the supply of money. The central bank requires all commercial banks to hold reserves equal to a fixed percentage of both time and demand deposits. These are legal minimum or required reserves.

Required reserves (RR) are determined by the required reserve ratio (RRr) and the level of deposits (D) of a commercial bank: RR-RRr' D. If deposits amount of Rs 80 lakhs and required reserve ratio is 20 percent, then the required reserves will be 20% x 80=Rs 16 lakhs. If the reserve ratio is reduced to 10 per cent, the required reserves will also be reduced to Rs 8 lakhs.

Thus the higher the reserve ratio, the higher the required reserves to be kept by a bank, and vice versa. But it is the excess reserves (ER) which are important for the determination of the money supply. Excess reserves are the difference between total reserves (TR) and required reserves (RR): ER=TR-RR. If total reserves are Rs 80 lakhs and required reserves are Rs 16 lakhs, then the excess reserves are Rs 64 lakhs (Rs 80-16 lakhs).

When required reserves are reduced to Rs 8 lakhs, the excess reserves increase to Rs 72 lakhs. It is the excess reserves of a commercial bank which influence the size of its deposit liabilities. A commercial bank advances loans equal to its excess reserves which are an important component of the money supply. To determine the supply of money with a commercial bank, the central bank influences its reserves by adopting open market operations and discount rate policy.

Open market operations refer to the purchase and sale of government securities and other types of assets like bills, securities, bonds, etc., both government and private in the open market. When the central bank buys or sells securities in the open market, the level of bank reserves expands or contracts.

The purchase of securities by the central bank is paid for with cheques to the holders of securities who, in turn, deposit them in commercial banks thereby increasing the level of bank reserves. The opposite is the case when the central bank sells securities to the public and banks who make payments to the central bank through cash and cheques thereby reducing the level of bank reserves.

The discount rate policy affects the money supply by influencing the cost and supply of bank credit to commercial banks. The discount rate, known as the bank rate in India, is the interest rate at which commercial banks borrow from the central bank. A high discount rate means that commercial banks get less amount by selling securities to the central bank. The commercial banks, in turn, raise their lending rates to the public thereby making advances dearer for them. Thus there will be contraction of credit and the level of commercial bank reserves. Opposite is the case when the bank rate is lowered. It tends to expand credit and the consequent bank reserves.

It should be noted that commercial bank reserves are affected significantly only when open market operations and discount rate policy supplement each other. Otherwise, their effectiveness as determinants of bank reserves and consequently of money supply is limited.

3. Public's Desire to Hold Currency and Deposits:

People's desire to hold currency (or cash) relative to deposits in commercial banks also determines the money supply. If people are in the habit of keeping less in cash and more in deposits with the commercial banks, the money supply will be large. This is because banks can create more money with larger deposits. On the contrary, if people do not have banking habits and prefers to keep their money holdings in cash, credit creation by banks will be less and the money supply will be at a low level.

High Powered Money and the Money Multiplier:

The current practice is to explain the determinants of the money supply in terms of the monetary base or high-powered money. High-powered money is the sum of commercial bank reserves and currency (notes and coins) held by the public. High-powered money is the base for the expansion of bank deposits and creation of the money supply. The supply of money varies directly with changes in the monetary base, and inversely with the currency and reserve ratios.

4. Other Factors:

The money supply is a function not only of the high-powered money determined by the monetary authorities, but of interest rates, income and other factors. The latter factors change the proportion of money balances that the public holds as cash. Changes in business activity can change the behaviour of banks and the public and thus affect the money supply. Hence the money supply is not only an exogenous controllable item but also an endogenously determined item.

Conclusion:

We have discussed above the factors which determine money supply through the creation of bank credit. But money supply and bank credit are indirectly related to each other. When the money supply increases, a part of it is saved in banks depending upon the depositors' propensity to save. These savings become deposits of commercial banks who, in turn, lend after meeting the statutory reserve requirements. Thus with every increase in the money supply, the bank credit goes up. But it may not happen in exactly the same proportion due to the following factors:

(a) The marginal propensity to save does not remain constant. It varies from time to time depending on changes in income levels, prices, and subjective factors.

(b) Banks may also create more or less credit due to the operation of leakages in the credit creation process.

(c) The velocity of circulation of money also affects the money supply. If the velocity of money circulation increases, the bank credit may nor fall even after a decrease in the money supply. The central bank has little control over the velocity of money which may adversely affect bank credit.

High-Powered Money and the Money Multiplier:

The current practice is to explain the determinants of the money supply in terms of the monetary base or high-powered money. High -powered money is the sum of commercial bank reserves and currency (notes and coins) held by the public. High-powered money is the base for the expansion of bank deposits and creation of the money supply. The supply of money varies directly with changes in the monetary base, and inversely with the currency and reserve ratios.

The use of high-powered money consists of the demand of commercial banks for the legal limit or required reserves with the central bank and excess reserves and the demand of the public for currency. Thus high-powered money H=C+RR+ER where C represents currency, RR the required reserves and ER the excess reserves.

A commercial bank's required reserves depend upon its deposits. But a bank usually holds reserves in excess of its required reserves. In fact, banks do not advance loans up to the legal limits but precisely less than that. This is to meet unanticipated cash withdrawals or adverse clearing balances. Hence the need arises for maintaining excess reserves by them. The money supply is thus determined by the required reserve ratio and the excess reserve ratio of commercial banks. The required reserve ration (RRr) is the ratio of required reserves to deposits (RR/D), and the excess reserve ration (ERr) is the ratio or excess reserves to deposits (ER/D).

Currency held by the public is another component of high-powered money. The demand for currency by the public is expressed as a proportion of bank deposits. Thus the currency ratio C/-C/D, where C is the currency and D deposits. The currency ratio is influenced by such factors as changes in income levels of the people, the use of credit instruments by the public, and uncertainties in economic activity.

The formal relation between the money supply and high-powered money can be stated in the form of equations as under:

The money supply (M) consists of deposits of commercial banks (D) and currency (C) held by the public. Thus the supply of money:

$$M=D+C \quad ...(1)$$

High-powered money (H) (or monetary base) consists of currency held by the public (C) plus required reserves (RR) and excess reserves of commercial banks. Thus high-powered money

$$H=C+RR+ER \quad ...(2)$$

The relation between M and H can be expressed as the ratio of M to H. So divide equation (1) by (2):

$$\frac{M}{H}=\frac{D+C}{C+RR+ER} \quad ...(3)$$

Divide the numerator and denominator of the right hand side of the equation (3) by D:

$$\frac{M}{H}=\frac{\frac{D}{D}+\frac{C}{D}}{\frac{C}{D}+\frac{RR}{D}+\frac{ER}{D}}$$

or

$$\frac{M}{H}=\frac{1+\frac{C}{D}}{\frac{C}{D}+\frac{RR}{D}+\frac{ER}{D}} \quad ...(4)$$

By substituting Cr for C/D, RRr for RR/D and ERr for ER/D, equation (4) becomes

$$\frac{M}{H}=\frac{1+Cr}{Cr+RRr+ERr} \quad ...(5)$$

Thus high-powered money

$$H=\frac{Cr+RRr+ERr}{1+Cr}\times M \quad ...(6)$$

And money suply

$$M=\frac{1+Cr}{Cr+RRr+ERr}\times H \quad ...(7)$$

Equation (7) defines money supply in terms of high-powered money. It expresses the money supply in terms of four determinants, H, Cr, RRr, and ERr. The equation states that the higher the supply of high powered money, the higher the money supply. Further, the lower the currency ratio (Cr), the reserve ration (RRr), and the excess reserve ratio (ERr) the higher the money supply, and vice versa.

The relation between the money supply and high-powered money is illustrated in Figure 1. The horizontal curve Hs shows the given supply of high-powered money. The curve Hd shows the demand for high-powered money associated with each level of money supply and represents

equation (6). The slope of the Hd curve is equal to the term (Cr + RRr + ERr)/(1+Cr). Given Cr, RRr, Err and the high-powered money Hi, the equilibrium money supply is OM. If the money supply is larger than this, say OMy there will be excess demand for high-powered money. On the contrary, a less than OM money supply will mean less demand for high-powered money.

If there is an increase in any one of the ratios Cr or RRr or ERr, there would be an increase in the demand for high-powered money. This is shown by the Hd' curve in Figure 69.1 where the increase in the demand for high-powered money leads to decline in the money supply to OM.

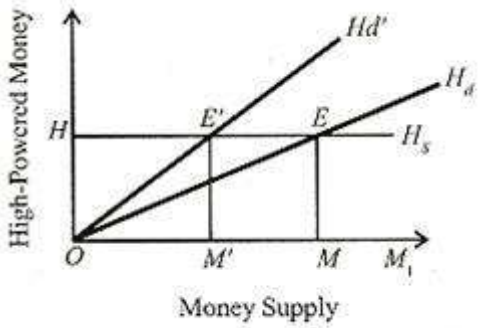


Fig. 69.1

The quotient of equation (7) is the money multiplier m. Thus

m = 1 + Cr/ CR+RRr+ERr… (8)

Now the relation between the money supply and high -powered money of equation (7) becomes

M = mH …..(9)

Equation (9) expresses the money supply as a function of m and H. In other words, the money supply is determined by high powered money (H) and the money multiplier (m). The size of the money multiplier is determined by the currency ratio (Cr) of the public, the required reserve ratio (RRr) at the central bank, and the excess reserve ratio (ERr) of commercial banks. The lower these ratios are, the larger the money multiplier is. If m is fairly stable, the central bank can manipulate the money supply (M) by manipulating H. The central bank can do so by open market operations. But the stability of m depends upon the stability of the currency ratio and the reserve ratios RRr and ERr. Or, it depends upon off-setting changes in RRr and ERr ratios. Since these ratios and currency with the public are liable to change, the money multiplier is quite Money Supply volatile in the short run.

Given the division of high-powered money between currency held by the public, the required reserves at the central bank, and the excess reserves of commercial banks, the money supply varies

inversely with Cr, RRr and ERr. But the supply of money varies directly with changes in the high-powered money. This is shown in Figure 69.2. An increase in the supply of high- powered money by DH shifts the Hs curve upward to Hs'. At E, the demand and supply of high-powered money is in equilibrium and money supply is OM. With the increase in the supply of high-powered money to Hs', the supply of money also increases to OM1 at the new equilibrium point E1. Further, Figure 2 reveals the operation of the money multiplier. With the increase in the high-powered money DH, the money supply increases by DM. An increase in high-powered money by Re 1 increases by a multiple of Re

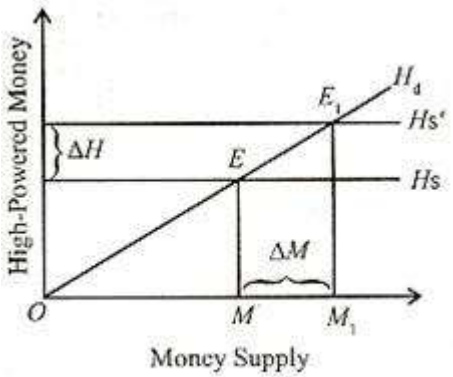


Fig. 69.2

Some economists do not take into consideration excess reserves in determining high-powered money and consequently the money supply. But the monetarists give more importance to excess reserves. According to them, due to uncertainties prevailing in banking operations as in business, banks always keep excess reserves. The amount of excess reserves depends upon the interaction of two types of costs: the cost of holding excess reserves, and the cost generated by deficiency in excess reserves. The first cost is in terms of the market rate of interest at which excess reserves are maintained. The second cost in interms of the bank rate which is a sort of penalty to be paid to the central bank for failure to maintain the legal required reserve ratio by the commercial bank.

The excess reserve ratio varies inversely with the market rate of interest and directly with the bank rate. Since the money supply is inversely related to the excess reserve ratio, decline in the excess reserve ratio of banks tends to increase the money supply and vice versa. Thus the money supply is determined by high-powered money, the currency ratio, the required reserve ratio and the market rate of interest and the bank rate.

The monetary base or high-powered money is directly controllable by the central bank. It is the ultimate base of the nation's money supply. Of course, the money multiplier times the high-powered money always equals the money supply, i.e. M=mH. This formulation tells us how much new money will be created by the banking system for a given increase in the high-powered money.

The monetary policy of the central bank affects excess reserves and the high-powered money identically. Suppose the central bank makes open market purchases. This raises the high-powered money in the form of excess reserves of banks.

An increase in money supply that results from it comes from the banking system which creates new money on the basis of its newly acquired excess reserves. Thus this concept tells us that the monetary authorities can control the money supply through changing the high-powered money or the money multiplier.

Functions of Central Bank

A Central Bank is an integral part of the financial and economic system. They are usually owned by the government and given certain functions to fulfil. These include printing money, operating monetary policy, lender of last resort and ensuring the stability of financial system.

1. Issue money. The Central Bank will have responsibility for issuing notes and coins and ensure people have faith in notes which are printed, e.g. protect against forgery. Printing money is also an important responsibility because printing too much can cause inflation.

2. Lender of Last Resort to Commercial banks. If banks get into liquidity shortages then the Central Bank is able to lend the commercial bank sufficient funds to avoid the bank running short. This is a very important function as it helps maintain confidence in the banking system. If a bank ran out of money, people would lose confidence and want to withdraw their money from the bank. Having a lender of last resort means that we don't expect a liquidity crisis with our banks, therefore people have high confidence in keeping our savings in banks.

3. Lender of Last Resort to Government. Government borrowing is financed by selling bonds on the open market. There may be some months where the government fails to sell sufficient bonds and so has a shortfall. This would cause panic amongst bond investors and they would be more likely to sell their government bonds and demand higher interest rates. However, if the Bank of England intervene and buy some government bonds then they can avoid these 'liquidity shortages'. This gives bond investors more confidence and helps the government to borrow at lower interest rates. A

problem in the Eurozone in 2011, is that the ECB was not willing to act as lender of last resort – causing higher bond yields.

4. Target low inflation. Many governments give the Central Bank a target for inflation. Low inflation helps to create greater economic stability and preserves the value of money and savings.

5. Target growth and unemployment. As well as low inflation a Central Bank will consider other macroeconomic objectives such as economic growth and unemployment. For example, in a period of temporary cost – push inflation the Central Bank may accept a higher rate of inflation because it doesn't want to push the economy into a recession.

6. Operate monetary policy/interest rates. The Central Bank set interest rates to target low inflation and maintain economic growth. Every month the MPC will meet and evaluate whether inflationary pressures in the economy justify a rate increase. To make a judgement on inflationary pressures they will examine every aspect of the economic situation and look at a variety of economic statistics to get a picture of the whole economy.

7. Unconventional monetary policy. The Central Bank may also need to use other monetary instruments to achieve macroeconomic targets. For example, in a liquidity trap, lower interest rates may be insufficient to boost spending and economic growth. In this situation, the Central Bank may resort to more unconventional monetary policies such as quantitative easing. This involves creating money and using this money to buy bonds; the aim of quantitative easing is to reduce interest rates and boost bank lending

8. Ensure stability of financial system. For example, regulate bank lending and financial derivatives.

Meaning of Commercial Banks:

A commercial bank is a financial institution which performs the functions of accepting deposits from the general public and giving loans for investment with the aim of earning profit.

A) Primary Functions:

1. It accepts deposits:

A commercial bank accepts deposits in the form of current, savings and fixed deposits. It collects the surplus balances of the Individuals, firms and finances the temporary needs of commercial transactions. The first task is, therefore, the collection of the savings of the public. The bank does this by accepting deposits from its customers. Deposits are the lifeline of banks.

Deposits are of three types as under:

i) Current account deposits:

ii) Fixed deposits (Time deposits)

iii) Savings account deposits:

2. It gives loans and advances:

The second major function of a commercial bank is to give loans and advances particularly to businessmen and entrepreneurs and thereby earn interest. This is, in fact, the main source of income of the bank. A bank keeps a certain portion of the deposits with itself as reserve and gives (lends) the balance to the borrowers as loans and advances in the form of cash credit, demand loans, short-run loans, overdraft as explained under.

(i) Cash Credit:

An eligible borrower is first sanctioned a credit limit and within that limit he is allowed to withdraw a certain amount on a given security. The withdrawing power depends upon the borrower's current assets, the stock statement of which is submitted by him to the bank as the basis of security. Interest is charged by the bank on the drawn or utilised portion of credit (loan).

(ii) Demand Loans:

A loan which can be recalled on demand is called demand loan. There is no stated maturity. The entire loan amount is paid in lump sum by crediting it to the loan account of the borrower. Those like security brokers whose credit needs fluctuate generally, take such loans on personal security and financial assets.

(iii) Short-term Loans:

Short-term loans are given against some security as personal loans to finance working capital or as priority sector advances. The entire amount is repaid either in one instalment or in a number of instalments over the period of loan.

Investment:

Commercial banks invest their surplus fund in 3 types of securities:

(i) Government securities, (ii) Other approved securities and (iii) Other securities. Banks earn interest on these securities.

(B) Secondary Functions:

Apart from the above-mentioned two primary (major) functions, commercial banks perform the following secondary functions also.

3. Discounting bills of exchange or bundles:

A bill of exchange represents a promise to pay a fixed amount of money at a specific point of time in future. It can also be encashed earlier through discounting process of a commercial bank. Alternatively, a bill of exchange is a document acknowledging an amount of money owed in consideration of goods received. It is a paper asset signed by the debtor and the creditor for a fixed amount payable on a fixed date. It works like this.

Suppose, A buys goods from B, he may not pay B immediately but instead give B a bill of exchange stating the amount of money owed and the time when A will settle the debt. Suppose, B wants the money immediately, he will present the bill of exchange (Hundi) to the bank for discounting. The bank will deduct the commission and pay to B the present value of the bill. When the bill matures after specified period, the bank will get payment from A.

4. Overdraft facility:

An overdraft is an advance given by allowing a customer keeping current account to overdraw his current account up to an agreed limit. It is a facility to a depositor for overdrawing the amount than the balance amount in his account.

In other words, depositors of current account make arrangement with the banks that in case a cheque has been drawn by them which are not covered by the deposit, then the bank should grant overdraft and honour the cheque. The security for overdraft is generally financial assets like shares, debentures, life insurance policies of the account holder, etc.

5. Agency functions of the bank:

The bank acts as an agent of its customers and gets commission for performing agency functions as under:

(i) Transfer of funds:

It provides facility for cheap and easy remittance of funds from place-to-place through demand drafts, mail transfers, telegraphic transfers, etc.

(ii) Collection of funds:

It collects funds through cheques, bills, bundles and demand drafts on behalf of its customers.

(iii) Payments of various items:

It makes payment of taxes. Insurance premium, bills, etc. as per the directions of its customers.

(iv) Purchase and sale of shares and securities:

It buys sells and keeps in safe custody securities and shares on behalf of its customers.

(v) Collection of dividends, interest on shares and debentures is made on behalf of its customers.

(iv) Acts as Trustee and Executor of property of its customers on advice of its customers.

(vii) Letters of References:

It gives information about economic position of its customers to traders and provides similar information about other traders to its customers.

6. Performing general utility services:

The banks provide many general utility services, some of which are as under:

(i) Traveller's cheques .The banks issue traveler's cheques and gift cheques.

(ii) Locker facility. The customers can keep their ornaments and important documents in lockers for safe custody.

(iii) Underwriting securities issued by government, public or private bodies.

(iv) Purchase and sale of foreign exchange (currency).

Process of credit creation

There are mainly two ways of creating credit money by a commercial bank:

(a) By giving a loan, and

(b) By purchase of securities.

(a) By giving a loan:

Let us assume an isolated community having no foreign trade relations and only one bank where everybody keeps an account; further no cash circulates and transactions are settled by cheques. Bankers know that all the currency that depositors withdraw soon returns to the bank. They also know that all depositors will not withdraw all deposits at the same time. From experience they have learnt that if they just keep about 20% of their total demand deposits in cash reserves, they will have enough to meet all demands for cash.

Suppose an ordinary borrower goes to the bank for a loan of Rs. 1,000. After being convinced of the solvency of the borrower and the safety of the loan in his hands, the bank will advance a loan of Rs.

1,000 not by handing over cash or gold to the borrower, but by opening an account in his name. If the borrower, already has an account, he will be allowed an overdraft to the extent of Rs. 1,000.

Thus, the most usual method of making a loan is merely to credit the account of the borrower with Rs. 1,000. The borrower will then draw cheques on the bank while making purchases. Those who receive the cheques deposit them with the banks in their own accounts. Therefore, a bank loan of Rs. 1,000 has resulted in deposits of Rs. 1,000. The point to be noted and understand is that loans are made by creating a deposit.

When a person deposits Rs. 1,000 with a bank, the bank does not keep the entire cash but only a certain percentage (say 20%) of it to meet the day-to-day cash obligations. Thus, the bank keeps Rs. 200 and lends to another person B, Rs. 800 by opening a credit account in his name. Again, keeping 20% to meet B's obligations, the bank advances the rest Rs. 640 to C ; further keeping 20% to meet C's obligations the bank advances Rs. 512 to D and so on, till Rs. 1,000 are completely exhausted.

Thus, an original deposit of Rs. 1,000 leads to additional deposits of Rs. 800 plus Rs. 640 plus Rs. 512 plus Rs. 409, plus Rs. 328 and so on. By adding up all the deposits we get total Rs. 5,000. It is clear, therefore, that the total amount of credit creation will be the reverse of the cash reserve ratio. Here cash reserve ratio has been assumed to be 20% or 1/2, therefore, the credit is Rs. 5,000 i.e., live times the original deposit of Rs. 1,000. Although, we have assumed one bank, yet the credit creation will take place when there are many banks.

It is clear that the main limitation on credit creation is the reserve ratio of cash to credit. Therefore, the amount of credit that a system of banking can create depends upon the reserve ratio. The banks can multiply a given amount of cash to many times of credit. If the public would demand no cash, credit would go on expanding indefinitely. But the reserve ratio is a sort of leakage from the Stream of credit creation.

We can, thus, think of a credit creation multiplier. The higher the reserve ratio, the smaller is the credit creation multiplier. In our example above, with an original deposit of Rs. 1,000 the bank was

in a position to create credit of Rs. 5,000. The credit creation multiplier is obviously 5(Rs 5,000/Rs,1,000).

In general, the credit creation multiplier is related to the reserve ratio in the following way:

1/1-(1-reserve ratio) = 1/reserve ratio

If the reserve ratio is 1/3, credit creation multiplier is 3 a reserve ratio of 1/5 will give us a higher value 5.

(b) By purchase of securities:

Making loan is not the only way in which deposits can be created. Sometimes, banks buy securities at the Stock Exchange and also buy real assets. When the bank does so, it does not pay the sellers in cash, rather it credits the amount of the price of the security or assets to the accounts of the sellers. The bank, therefore, creates a deposit with it.

It does not matter whether the seller of securities or property is a customer of the purchasing bank or not, as the seller is bound to deposit the cheques he receives in one of the banks. The purchase of security by any banker is bound to increase the deposits either of his own bank or of some other bank, in any case, the deposits of the banking system as a whole.

Theories of Interest

The theories are: 1. Productivity Theory of Interest 2. Abstinence or Waiting Theory of Interest 3. The Austrian or Agio Theory of Interest or Bohm-Bawerk's "The Time- Preference Theory" 4. Prof. Fisher's Time Preference Theory 5. Classical Theory of Interest or Demand and Supply of Capital Theory of Interest and others.

Theory of Interest 1. Productivity Theory of Interest:

This theory of Interest was expounded by J. B. Clark and F. H. Knight. Further Marshall, J. B. Say, Von-Thunen supported this theory

According to this theory interest arises on account of the productivity of capital.

The amount that labour produces with the help of capital goods is generally larger than the amount it can produce when working by itself. Machinery and tools invariably add to the income of those that use them. That is why they are demanded by individual employers.

Further some classical economists hold that Interest is the reward paid to capital because it is productive. In fact, Interest is paid out of the productivity of capital. When more amount of capital is employed along with labour and other resources, the over-all productivity improves.

By employing capital the borrower (entrepreneur) obtains higher production, he ought to pay a part of this additional production to the owner of capital in the form of Interest. The theory implies that capital is demanded because it is productive. And, because is productive its price, i.e., Interest must be paid.

Its Criticisms:

The important criticisms of this theory are as follows:

i. This theory is one sided:

ii. Considers only the higher productivity of capital:

iii. Productivity of Capital Varies:

iv. Difficult to measure the exact productivity:

v. How much interest for consumption loans?

Theory of Interest 2. Abstinence or Waiting Theory of Interest:

This theory was expounded in 18th century by an eminent economist N. W. Senior. According to him, **"Capital is the result of Saving".** He was the first economist to point-out that saving, which was later on embodied in capital goods, involved a sacrifice, an 'abstinence' as he called it.

People may spend the whole of their income in consuming present goods. But when they save they 'abstain' from present consumption. Such abstinence is disagreeable. Hence, in order to induce people to save, we must offer them some inducement as compensation for their sacrifice. Interest is therefore the compensation for abstinence.

Marshall substituted the word 'waiting' for abstinence. Saving connotes waiting, when an individual saves a part of his income, he does not thereby eternally refrain from consumption. He only defers his consumption for a certain period, i.e., till the fruits of his savings come in an increasing flow afterwards.

Meanwhile he must wait, and as a rule people do not like to wait. Not only saving, but all kinds of productive activity involve waiting. A farmer who sows his crops must wait till crops are harvested. The gardener who plants a seed must wait till it grows into a tree and begins yielding fruit.

Waiting is, therefore, a necessary condition for production. It is thus a separate factor of production and can be substituted for other factors. Since waiting is a factor of production, its price will be determined by the marginal analysis. That is, the rate of interest tends to equal the reward necessary to call forth marginal increment of saving.

Its Criticisms:

This theory has been criticised on the following grounds:

i. This theory takes no consideration of the productivity of capital:

ii. In this sacrifice cannot be measured:

iii. In this rich hardly experience any inconvenience as they have enough money:

iv. The intensity of feeling of sacrifice is also different for different individuals:

v. This theory has been called one-sided:

Theory of Interest 3. The Austrian or Agio Theory of Interest or Bohm-Bawerk's "The Time-Preference Theory":

John Rae expounded this theory in the year 1834. Further, Bohm Bawerk developed this theory in an elaborate way. Bohm-Bawerk, an Austrian economist, is the main exponent of this theory which seeks to explain Interest on the basis of time-preference.

According to this theory, Interest is the price of time of reward for agio, i.e., time preference. It has been argued that man generally prefers present income to a future income and consumption. There is an 'agio' or premium on present consumption as compared to a future one.

People prefer enjoyment of present goods to future goods because future satisfaction, when viewed from the present, undergoes a discount. Interest is this discount, which must be paid in order to induce people to lend money and thereby to postpone present satisfaction to a future date. Thus, Interest is the reward made for inducing people to change their time-preference from the present to the future.

According to Bohm-Bawerk, the positive time-preference of people may be attributed to the following reasons:

a. As compared to the future or remote wants, present wants are more intensely felt by the people.

b. Future wants are often under-estimated by people on account of various factors like lack of will power to resist temptation, deficiency of imagination, uncertainty about future as to whether they will be able to enjoy etc.

c. Present goods seem to have a technical superiority over future goods in a capitalist method of production because the present goods can be invested and re-invested immediately. Because of the higher productivity of capital, thus, more goods can be accrued in the immediate future while the future goods can be invested and re-invested in the remote future only.

Theory of Interest *4. Prof. Fisher's Time Preference Theory:*

Prof. Fisher's Time Preference Theory is the modified theory of Bohm-Bawerk. This theory is based on Bohm-Bawerk's theory of Interest. While explaining this theory **Prof. Fisher has said that— Time preference theory stresses the idea that the supply of loans depends on the fact that most people prefer to have a certain sum of money now than at some future time.**

People normally put a lower valuation on future goods than on present goods. Because of their time preference (i.e., preference for the present than the future) people are eager to spend their income on present consumption. Therefore, when somebody lends to someone, he has to forgo his present consumption.

He can be made prepared to leave his present consumption only when he is offered some sort of reward. This reward is Interest. Higher, the eagerness to spend on present consumption, higher will be the Interest rate. Thus, Interest rate depends on time-preference or an eagerness to spend income on present consumption.

In fact Fisher has defined Interest as "an index of the community's preference for a dollar of present over a dollar of future income." As he has said that the intensity of the people's preference for present income depends on a host of subjective and objective factors.

These have been grouped under:

(i) Willingness, and

(ii) Opportunity.

Thus, Fisher based his theory of Interest on two principles, viz.:

1. The impatience or the willingness principles, and

2. The investment opportunity principle.

He laid down that Interest is determined by the preference of the people for the present income against future income, which in turn is determined by the willingness principle and the investment opportunity principle.

(a) Impatience or the willingness principles:

This depends on several factors, such as:

(i) Size of income,

(ii) Composition of income,

(iii) Distribution of income,

(iv) Uncertainty element in the future earnings,

(v) Personal attributes like foresight, precaution etc.

Some of these factors encourage people's patience, some make them impatience. Say, for example, when income is enough, people will be satisfied more of current wants and discounting the future at a lower rate. If uncertainty of future is highly estimated, the rate of impatience will tend to be high.

When the rate of willingness is lower than the market rate of Interest a person will be willing to his income and wish to gain in future. But, if the market rate of Interest is lower than the rate of willingness, the person would like to borrow money and spend it on current consumption.

(b) The investment opportunity principle:

This principle is another determinant of the rate of Interest. This principle refers to the rate of return over cost, viewed in a specific sense. To explain this phenomenon, let us assume that an individual is confronted with alternative investment proposals which imply two income streams that are substitutes. Hence, when he withdraws one income stream to substitute it for another, the loss experienced in the with-drawl is the 'cost', while the gain accruing from the adopted new income stream is the 'return'.

The rate of return over cost is, therefore, the rate of discount, which equalizes the present net values of the investment opportunities. The rankings of different investment proposals are decided in relation to the rate of Interest.

If the discount rate is higher than the market rate of Interest, one of the two alternative proposals will be given up. The investment opportunity which carries a higher rate of return over cost will be accepted and the one which has a lower return will be rejected.

In short, it can be said that the rate of willingness and the rate of marginal return over cost, together determine the people's preference for present income rather than future income, which in turn, determines the Interest rate, because Interest is the price paid for this preference. Fisher's Theory, in this way considers time-preference as the sole significant determinant of the supply of capital and the rate of Interest.

Its criticisms:

This Time Preference Theory of Fisher has been severely criticised by many eminent economists.

The important criticisms are as follows:

i. This theory is one sided:

ii. This theory fails to recognise the input of bank credit:

iii. Here time-preference has little practical significance:

iv. This theory has been called as "Incorrect Visualization":

Theory of Interest 5. Classical Theory of Interest or Demand and Supply of Capital Theory of Interest:

This theory was expounded by eminent economists like Prof. Pigou, Prof. Marshall, Walras, Knight etc. **According to this theory, Interest is the reward for the productive use of the capital which is equal to the marginal productivity of physical capital.**

Therefore, those economists who hold classical view have said that "the rate of Interest is determined by the supply and demand of capital. The supply of capital is governed by the time preference and the demand for capital by the expected productivity of capital. Both time preference and productivity of capital depend upon waiting or saving. The theory is, therefore, also known as the supply and demand theory of waiting or saving."

Demand for Capital:

Demand for capital implies the demand for savings. Investors agree to pay interest on these savings because the capital projects which will be undertaken with the use of these funds, will be so productive that the returns on investment realised will be in excess of the cost of borrowing, i.e., Interest.

In short, capital is demanded because it is productive, i.e., it has the power to yield an income even after covering its cost, i.e., Interest. The marginal productivity curve of capital thus determines the

demand curve for capital. This curve after a point is a downward sloping curve. While deciding about an investment, the entrepreneur, however, compares the marginal productivity of capital with the prevailing market rate of Interest.

Marginal Productivity of Capital = the marginal physical product of capital x the price of the product.

When, the rate of Interest falls, the entrepreneur will be induced to invest more till marginal productivity of capital is equal to the rate of Interest. Thus, the investment demand expands when the Interest rate falls and it contracts when the Interest rate rises. As such, investment demand is regarded as the inverse function of the rate of Interest.

Supply of Capital:

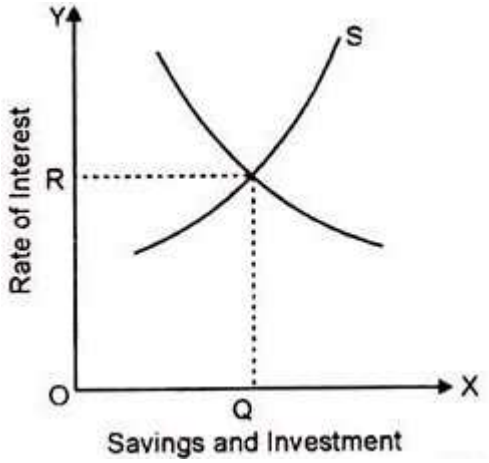
Supply of capital depends basically on the availability of savings in the economy. Savings emerge out of the people's desire and capacity to save. To some classical economists like Senior, abstinence from consumption is essential for the act of saving while economists like Fisher. Stress that time preference is the basic consideration of the people who save.

In both the views the rate of Interest plays an important role in the determination of savings. The chemical economists commonly hold that the rate of saving is the direct function of the rate of Interest. That is, savings expand with the rise in the rate of Interest and when the rate of Interest falls, savings contract. It must be noted that the saving-function or the supply of savings curve is an upward-sloping curve.

Equilibrium Rate of Interest:

The equilibrium rate of Interest is determined at that point at which both demand for and supply of capital are equal. In other words, at the point at which investment equals savings, the equilibrium rate of Interest is determined.

This has been shown by the diagram given below:



In the figure given here OR is the equilibrium rate of Interest which is determined at the point at which the supply of savings curve intersects the investment demand curve, so that OQ amount of savings is supplied as well as invested. This implies that the demand for capital OQ is equal to the supply of capital OQ at the equilibrium rate of Interest OR.

Indeed, the demand for capital is influenced by the productivity of capital and the supply of capital. In turn savings are conditioned by the thrift habits of the community. Thus, the classical theory of Interest implies that the real factor, thrift and productivity in the economy are the fundamental determinants of the rate of Interest.

Its Criticisms:

The theory of Interest of the classical economists has been severely criticised by Keynes and others.

The important criticisms are as under:

i. Interest is purely a monetary phenomenon:

ii. The theory of interest is confusing and indeterminate:

iii. This theory is unrealistic and inapplicable in a dynamic economy:

iv. Classicists have described the rate of interest as an equilibrating factor between savings and investment:

v. This theory is narrow in scope:

vi. Keynes differs with the classical economists even over the very definition and determination of the rate of interest:

Theory of Interest 6. The Loan-Able Fund Theory of Interest:

The Neo-classical or the Loan-able Fund Theory was expounded by the famous Swedish economist Knot Wick-sell. Further, this theory was elaborated by Ohlin, Roberson, Pigou and other new-classical economists. This theory is an attempt to improve upon the classical theory of Interest. **According to this theory, the rate of Interest is the price of credit which is determined by the demand and supply for loan-able funds.**

In the words of Prof. Lerner:

"It is the price which equates the supply of 'Credit' or Saving Plus the Net increase in the amount of money in a period, to the demand for 'credit' or investment Plus net 'hoarding' in the period."

Demand for Loan-able Funds:

The demand for loan-able funds has primarily three sources:

(i) Government,

(ii) Businessmen, and

(iii) Consumers who need them for purposes of investment, hoarding and consumption.

The Government borrows funds for constructing public works or for war preparations or for public consumption (to maintain law and order, administration, justice, education, health, entertainment etc.). To compensate deficit budget during depression or to invest in and for other development purposes. Generally government demand for loan-able funds is not affected by the Interest rate.

The businessmen borrow for the purchase of capital goods and for starting investment projects. The businessmen or firms require different types of capital goods in order to run or expand their production. If the businessmen do not possess sufficient money to purchase these capital goods, they take loans.

Businessmen investment demand for loan-able funds depends on the quantity of their production. Generally, the interest and firm's investment demand for loan-able funds has also inverse relationship. It means there will be less demand on higher Interest and more demand on lower Interest.

The consumers take loans for consumption purposes. They prefer present consumption, they wish to purchase more consumption, goods than their present income allows and for that they take loans. They take loans to purchase mainly two types of consumption goods.

First, durable consumption goods and secondly to purchase consumption goods of daily use and they generally open their accounts with the seller and go on purchasing goods on credit basis. Besides these they take loans for investment or speculative purposes also. Behind this they have profit motive.

Supply to Loan-able Funds:

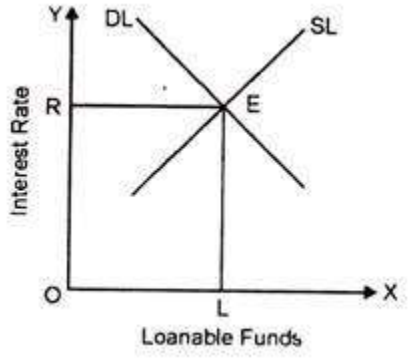
The supply of loan-able funds comes from savings, dis-hoardings and bank credit. Private savings, individual and corporate are the main source of savings. Though personal savings depend upon the income level, yet taking the level of income as given, they are regarded as Interest elastic. The higher the rate of Interest, the greater will be the inducement to save and vice-versa.

There is a positive relationship between Interest-rate and the supply of loan-able funds. It means there will be more supply of loan-able funds at higher interest and less supply on lower interest. Hence the supply curve of loan-able funds will be an upward sloping curve from left to right.

Determination of Interest Rate:

The equilibrium between the demand for and supply of loan-able funds (or the intersection between demand and supply curves of loan-able funds) indicates the determination of the market rate of interest. It has been shown in the diagram given here.

In the diagram demand curve for loan-able funds (DL) and supply curve of loan-able funds (SL) meet at point E. Therefore, E will be the equilibrium point and OR will be the equilibrium rate of interest. At this rate of interest demand for and supply of loan-able funds both are equal to OL.



Given the supply of loan-able funds, if the demand for loan-able funds rises, the Interest rate will also rise and if the demand for loan-able funds falls, the Interest rate will also fall. Similarly, given the demand for loan-able funds, Interest rate will rise with the fall in the supply of loan-able funds

and will fall with the rise in the supply of loan-able funds. The equilibrium rate of interest is thus determined where SL = DL.

Its Criticisms:

The important criticisms of this theory are as follows:

i. It has been called as indeterminate theory:

ii. In this theory the equilibrium between demand for and supply of loan-able funds cannot be brought by the changes in interest rate:

iii. This theory exaggerates the effect of the rate of interest on savings:

iv. Availability of Cash balance which is not elastic:

v. Government influence on the demand

Superiority of Loanable Funds Theory over Classical theory

In-spite of the weaknesses, the loan-able funds theory is better and more realistic than the classical theory on the following grounds:

a. The loan able-funds theory is more realistic than the classical theory:

The Loan-able funds theory is stated in real as well as in money terms, whereas the classical theory is stated only in real terms. The rate of interest is a monetary phenomenon. Therefore, a theory stated in money terms seems more realistic.

b. The loan able funds theory recognises the active role of money in a modern economy:

To the classical school money is merely a 'veil', a passive factor influencing the rate of interest. The loan-able funds theory is superior because it regards money as an active factor in the determination of the Interest rate.

c. Role of bank credit as a constituent of money supply:

Classical school of thought neglects the role of bank credit as a constituent of money supply influencing the rate of Interest which is an important factor in the loan-able funds theory

d. Role of hoarding:

The classicists are also of this opinion and they also do not consider the role of hoarding. By including the desire to hoard money in the demand for loan able funds, the loan able funds theory becomes more realistic and brings us nearer to Keynes's liquidity preference theory.

Theory of Interest 7. Keynes's Liquidity Preference Theory of Interest or Interest is Purely a Monetary Phenomenon:

According to Keynes, Interest is purely a monetary phenomenon. It is the reward of not hoarding but the reward for parting with liquidity for the specified period. It is not the 'Price' which brings into equilibrium the demand for resources to invest with the readiness to abstain from consumption. It is the 'Price' which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash.

Liquidity Preference Theory is determined by the supply of and demand for money. Supply of money comes from banks and the government. On the other hand, demand for money is the preference for liquidity. According to Keynes people like to hoard money because it possesses liquidity.

Hence, when somebody lends money he has to sacrifice this liquidity. A reward which is offered to make him prepared for parting with liquidity is called Interest. Therefore, in the eyes of Keynes—"Interest is the reward for parting with liquidity for a specific period."

Liquidity Preference or Demand for Money:

Liquidity preference means demand for cash or money. People prefer to keep their resources **"Liquid".** It is because of this reason that among various forms of assets money is the most liquid form. Money can easily and quickly be changed in any form as and when we like. Suppose, you have a ten rupee note now you can change it into either wheat, rice, sugar, milk, book or in any other form you like. It is because of this feature of liquidity of money, people generally prefer to have cash money.

The desire for liquidity arises because of three motives:

(i) The transaction motive;

(ii) The precautionary motive; and

(iii) The speculative motive.

(i) Transactions Motive:

The transactions motive relates **to "the need of cash for the current transactions of personal and business exchanges".** It is further divided into the income and business motives. The income motive is meant "to bridge the interval between the receipt of income and its disbursement", and similarly, the business motive as "the interval between the time of incurring business costs and that of the

receipt of the sale proceeds." If the time between the incurring of expenditure and receipt of income is small, less cash will be held by the people for current transactions and vice-versa.

(ii) Precautionary Motive:

The precautionary motive relates to **"the desire to provide for contingencies requiring sudden expenditures and for unforeseen opportunities of advantageous purchases."** Both individual and businessmen keep cash in reserve to meet unexpected needs. Individual hold some cash to provide for illness, accidents, unemployment and other unforeseen contingencies. Similarly, businessmen keep cash in reserve to tide over unfavorable conditions or to gain from unexpected deals.

(iii) Speculative Motive:

Money held under the speculative motive is **for "securing profit from knowing better than market what the future will bring forth."** Individuals and businessmen have funds, after keeping enough for transactions and precautionary purposes, like to gain by investing in bonds.

Money held for speculative purposes is a liquid store of value which can be invested at an opportune moment in Interest bearing bonds on securities. There is an inverse relationship between interest rate and the demand for money i.e., more demands for money at lower Interest rate and less demand at higher interest rate. Hence, the liquidity preferences curve becomes a downward sloping curve.

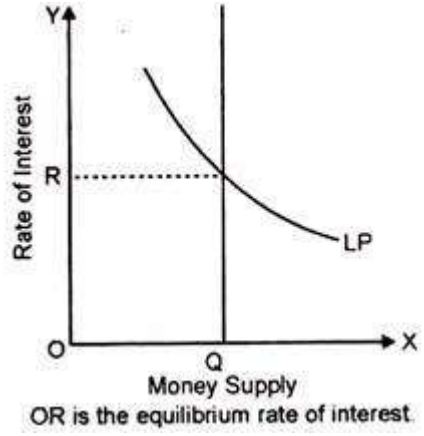
Supply of Money:

The supply of money refers to the total quantity of money in the country for all purposes at any time. Though the supply of money is a function of the rate of Interest to a degree, yet it is considered to be fixed by the monetary authorities, that is, the supply curve of money is taken as perfectly inelastic.

The supply of money in an economy is determined by the policies of the government and the Central Bank of the country. It consists of coins, currency notes and bank deposits. The supply of money is not affected by the Interest rate, hence, the supply of money remains constant in the short period.

Determination of Interest Rate:

According to the Liquidity-Preference Theory the equilibrium rate of interest is determined by the interaction between the liquidity preference function (the demand for money) and the supply of money, as presented in figure below:



OR is the equilibrium rate of interest.

OR is the equilibrium rate of interest. The theory further states that any change in the liquidity preferences function (LP) or change in money supply or changes in both respectively cause changes in the rate of interest. Thus as shown in figure below, it given the money supply the liquidity preference curve (LP) shifts from LP_1 to LP_2 implying thereby an increase in demand for money, the equilibrium rate of interest also rises from to R%.

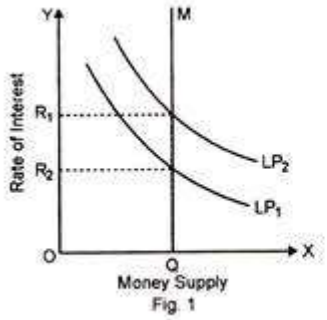


Fig. 1

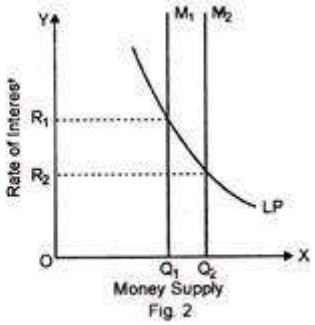


Fig. 2

Similarly, assuming a given liquidity preference function (LP) as in fig. (b) when the money supply increases from M_1 to the rate of interest falls from R_1 to R_2.

Its Criticisms:

The following major criticisms have been levelled against the Keynesian Liquidity Preference theory of interest. By Hansen, Robertson, Knight and Hazlitt etc. This theory has been characterised as "a college bursar's theory", "at best an inadequate and at worst a misleading account".

Important among them are as follows:

1. This theory is indeterminate, inadequate and misleading:

2. Hazlitt's Criticism:

Professor Hazlitt has vehemently criticised the Keynesian theory of interest on the following grounds:

(i) It is one sided theory:

According to Hazlitt, the Keynesian theory of interest appeared to be one sided as it ignored real factors. Keynes considered Interest to be a purely monetary phenomenon and refused to believe that real factors like productivity and time preference, had any influence on the rate of interest. Similarly, the classicists also were wrong in considering Interest purely as a real phenomenon and ignoring the monetary factors.

(ii) Role of saving has been ignored:

(iii) The theory has completely failed to explain depressionary situation:

(iv) This theory is vague and confusing:

This concept is vague and confusing, because when a man holds funds in the form of time deposits, he will be paid Interest on them; therefore he receives both i.e., Interest cum Liquidity.

3. This theory furnishes narrow explanation of the rate of interest:

4. This theory ignores productivity of capital:

5. It focuses attention on short-run ignores the long-period:

6. There is fundamental error in Keynesian analysis:

POSSIBLE QUESTIONS

UNIT – V

1. What is monetary policy?
2. List the objectives of monetary policy.
3. What is bank rate policy?
4. What is an open market operation?
5. What is statutory liquid ratio?
6. What is cash reserve ratio?
7. What is Fixation of Lending Rates of Commercial Banks?
8. What is Credit Squeeze?
9. Write a note on fixation of margin requirements
10. .Write a note on Regulation of Consumer Credit
11. Brief the Control through Directives
12. Write a note on Rationing of Credit.
13. What is Prior Authorization Schemes?
14. What is Moral Suasion?
15. What is Direct Action?
16. What is 'Repo' Transactions?
17. List the instruments of monetary policy.
18. Define fiscal policy.
19. Write down the objectives of fiscal policy.
20. List the Instruments of Fiscal Policy.
21. What is direct tax?
22. What is indirect tax?
23. What is public expenditure?
24. What is Public debt?
25. What is budget?
26. List the steps in budget preparation.
27. What is deficit budget?
28. Define balance of trade.

29. What are visible items?
30. What are invisible items?
31. What is Balance of payments?
32. What is Favorable Trade Balance?
33. What is unfavorable Trade Balance?
34. What is current and capital account?
35. What is BOP disequilibrium?
36. List the reasons for disequilibrium in BOP.
37. List the measures to correct disequilibrium in BOP.
38. What is money?
39. What are primary functions of money?
40. What are the secondary functions of money?
41. What is demand for money?
42. What is supply of money?
43. How is supply of money measured?'
44. What is M1 and M2 money supply?
45. What is M3 money supply?
46. What is commercial bank?
47. What are the functions of commercial bank?
48. What is central bank?
49. What are the functions of central bank?
50. What is credit creation
51. What is high powered money?
52. What is money multiplier?
53. What is interest rate?
54. List the factors in determining the interest rate.

Part – B

1. Explain the objectives of Monetary Policy.
2. Explain the instruments of monetary policy.
3. Examine the quantitative methods of credit control.
4. Examine the qualitative methods of credit control.
5. Discuss the objectives of fiscal policy.
6. Examine the Instruments of Fiscal Policy.
7. Discuss the steps in budget preparation.
8. Explain the deficit budget.
9. Discuss the components of capital and current account.
10. Discuss the causes for disequilibrium in BOP.
11. Examine the monetary measures to correct disequilibrium in BOP.
12. Examine the non- monetary measures to correct disequilibrium in BOP.
13. Examine the functions of money?
14. Explain the determinants of demand of money.
15. Explain the determinants of supply of money.
16. Discuss the motives for holding money?
17. Explain the measures of money supply.
18. Explain the functions of commercial banks in developing economy.
19. Explain the role of central bank in controlling credit in the economy.
20. Explain the concept of high-powered money.
21. Explain money multiplier.
22. Explain the classical theory of interest
23. Explain the modern theory of interest.

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF MANAGEMENT (UG)
I BBA - II SEMESTER
MANAGERIAL ECONOMICS
UNIT V - MULTIPLE CHOICE QUESTIONS

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	Final output comprises goods and services purchased by end _____	customer	consumer	producer	financier	consumer
2	_____ products are used as input in the production of some other product	Substitute	Complementary	Intermediate	Durable	Intermediate
3	GNP is the aggregate final output of citizens and business of an economy in a year	GNP	NNP	NDP	GDP	GNP
4	_____ income estimated at the prevailing prices is national income at current prices.	National	International	Regional	Local	National
5	_____income is income per head of a country for a year	Gross National	Per capita	Net National	Gross	Per capita
6	National income at _____ is national income calculated by income method.	opportunity cost	cost	factor cost	marginal cost	factor cost
7	_____is the decrease in value of an asset due to its usage and wearing out	Amalgamation	Depreciation	Revaluation	Re estimation	Depreciation
8	The process of savings being converted into investment is known as _____	Income	Savings	Formation	Capital formation	Capital formation
9	Economies of _____mean reduction in costs of production by way of producing in bulk	cost	income	production	scale	scale

10	Under price _____ producers charge a very high price in the beginning to skim the market and earn super margins on sales	rationaling	skimming	rating	penetrating	skimming
11	If GDP is Rs. 34,000 crore and net income from abroad is Rs. (-) 4,200, then GNP is equal to _____	34000 - (- 4,200)	34000 x (- 4,200)	34000 +(- 4,200)	34000/ (- 4,200)	34000 +(- 4,200)
12	Which of the product is not a final product ?	Chair	Book	Alumina	Aaairplane	Alumina
13	Transfer payments are included in	GDP	GNP	Per Capita Income	Personal Income	Personal Income
14	Net factor income from abroad is	GDP - NDP	GNP - NNP	GNP - GDP	GNP only	GNP - GDP
15	The nominal GDP is Rs. 36,000 and real GDP is Rs. 34,000. GDP deflator therefore is _____	36,000 / 34,000	34,000 / 364,000	36,000 - 34,000	36,000*34,000	36,000 / 34,000
16	A currency issued by the government is called a _____ issue.	financial	fiduciary	perfect	imperfect	fiduciary
17	_____ is as valuable as is its capacity	Gold	Goods	Money	Service	Money
18	_____ bears an inverse relationship with price	Demand	Income	Supply	Cost	Supply
19	Inflationary gap represents rise in _____ due to a gap between effective demand and supply	Demand	Income	Supply	price	price
20	_____ is total units of goods/services purchased with a given amount of money.	Income	Purchasing power	Real income	Capacity	Real income

21	_____ is defined as the sum of Gross Domestic Product and Net Factor Income from Abroad.	GNP	GDP	NDP	NNP	GNP
22	_____ is the aggregate final output of citizens and businesses of an economy in a year.	Gross Domestic Product	Net National Product	National Domestic Product	Gross National Product	Gross National Product
23	GNP less depreciation on assets is equal to _____	GNP	GDP	NDP	NNP	NNP
24	_____ at market price = GNP at market price - Depreciation	GNP	GDP	NDP	NNP	NNP
25	National income measured on the basis of some fixed price time or by taking a base year, is real _____	income	national income	rational income	national expense	national income
26	NNP at Factor Cost = NNP at Market Prices - Indirece Taxes + _____	direct Tax	Sales tax	Subsidies	service tax	Subsidies
27	National income estimated at the prevailing prices is national income at _____prices	future	postponed	penetrated	current	current
28	Real GDP = Nominal GDP / _____ deflator	NDP	NNP	GDP	GNP	GDP
29	GDP deflator is the ratio of nominal _____ in a year to real GDP of that year.	NDP	NNP	GDP	GNP	GDP
30	_____ income is income per head of a country for a year.	Per capita	national	real	Local	Per capita
31	Per Capita Income = National Income / _____	Total income	Total cost	Total population	Total	Total population

32	_____ income is the income which can be spent onconsumption by individuals and families	Net	Real	Gross	Personal Disposable	Personal Disposable
33	Inflation is the basis of calculating _____ national income	Real	Net	Gross	Disposable	Real
34	National Income calculated by output method is _____ to that calculated by income method.	marginal	nominal	ordinal	equal	equal
35	Personal disposable income is _____ from per capita income.	same	different	due	for	different
36	Intermediate goods are also known as _____ goods because they are used as inputs in the production of other goods.	trader	customer	producer	consumer	producer
37	The process of savings being converted into_____ is known as capital formation	cash	profit	product	investment	investment
38	In the circular flow of income and output, savings is _____	Injection of money	withdrawal of money	Additions to capital stock	investment	withdrawal of money
39	_____ is used to adjust fixed incomes and contractual incomes to maintain the real value of such incomes.	Money	Investment	Inflation rate	Goods	Inflation rate
40	_____ is the automatic linkage between monetary obligations and price levels	Indexation	Money	Investment	Inflation rate	Indexation

41	The argument that money inflation precedes price inflation is known as _____	money	monetarism	income	expense	monetarism
42	Built in inflation is also known as _____ inflation	cost	income	hangover	money	hangover
43	_____ occurs when supply of goods is not fully responsive to increase in supply of money	demand inflation	supply inflation	economy inflaiton	Price inflation	Price inflation
44	_____ is printing of additional currency on demand of governement to meet ists needs of expenditure and/or loans.	deficit financing	surplus financing	deficit	financing	deficit financing
45	Increase in bank rate is known as _____	dear	change	modify	expansion	dear
46	SLR is an indicator of _____ of commercial banks	insolvency	solvency	money	income	solvency
47	_____ convinces commercial banks to prevent excessive expansion of credit.	Governement	companies	industries	moral suasion	moral suasion
48	In quantity theory of money, T is _____ of goods and services.	transaction volume	volume	value	finance	transaction volume
49	_____pull inflation refers to the effects of falling unemployment rates in the curve.	Income	volume	Supply	Demand	Demand
50	A _____ index reduces all the distinct prices for a class of goods to a single number	place	price	product	promotion	price

51	Face value of full bodied_____ is equal to the intrinsic value of the metal.	insolvency	solvency	money	income	money
52	_____ is homogenous throughout a nation	insolvency	solvency	money	income	money
53	Built in inflation might start due to _____	persistent demand pull inflation	Unemployment	Selective credit control	Control	persistent demand pull inflation
54	Narrow money does not include _____	Term deposits	Notes in the hands of public	Coins in the hands of public	Demand deposits in the banks	Term deposits
55	Money must have all of the following features except _____	No loss of value	Physical attribute	Indexation	Divisibility	Physical attribute
56	Selective credit control is a _____	Quantitative method	bank credit	money suppl y	Qualitative method	Qualitative method
57	A fall in bank rate leads to _____	Costlier credit to commercal banks	More attractive deposits	Less attractive loans	More attractive loans	More attractive loans
58	As per Keynsian theory, economic fluctuations are due to changes in _____	Autonomous investment	Rate of investment	Warrantd rate of growth	Disinvestment	Rate of investment
59	Supply bears an inverse relationship with _____	price	income	deficit	Cost	price
60	Final output comprises goods and services_____ by end consumer.	sold	traded	advertised	purchased	purchased

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)
(Established under section 3 of UGC Act 1956)
Coimbatore-641021

DEPARTMENT OF MANAGEMENT(UG)

Name: **Sumathi. G**
Department: **Management**
Subject Code: **19BAU201** Semester: **II** Year: **2019-22 Batch**
Subject: **Managerial Economics**

S.No.	REGISTER NO.	ASSIGNMENT TITLE
1	19BAU001	Nature and scope of managerial economics
2	19BAU002	Objectives and significance of managerial economics
3	19BAU004	Consumer equilibrium
4	19BAU005	Law of marginal utility
5	19BAU006	Consumer surplus
6	19BAU007	Concept of demand types of demand
7	19BAU008	Determinants of demand
8	19BAU009	Law of demand and exceptions
9	19BAU010	Elasticity of demand - types
10	19BAU011	Measurement of price elasticity of demand
11	19BAU012	Concept and determinants of supply
12	19BAU015	law of supply
13	19BAU016	Elasticity of supply
14	19BAU017	Basic concepts in production
15	19BAU018	Production function
16	19BAU019	Law of returns to scale
17	19BAU020	Economies and diseconomies of scale
18	19BAU021	Cost of production
19	19BAU022	Break-even point analysis

20	19BAU023	Different types of market
21	19BAU024	Break even analysis
22	19BAU025	Basis of market classification
23	19BAU026	Perfect competition
24	19BAU027	Price determination
25	19BAU028	Monopoly market
26	19BAU029	Price discrimination
27	19BAU030	Degrees of price discrimination
28	19BAU031	Oligopoly market
29	19BAU032	Price leadership
30	19BAU033	Oligopsony
31	19BAU034	Monopolistic competition
32	19BAU035	Product differentiation
33	19BAU036	Monopsony
34	19BAU037	Duopoly market features
35	19BAU038	Difference between normal and non-residents
36	19BAU039	Gross and net concepts of income
37	19BAU040	Factor payments and transfer payments
38	19BAU041	National income aggregates
39	19BAU043	Private income
40	19BAU044	Personal income
41	19BAU046	Personal disposable income
42	19BAU047	National disposable income
43	19BAU048	Measurement of national income
44	19BAU049	Phases of business cycle
45	19BAU050	Causes of cyclical movements
46	19BAU051	Inflation concept
47	19BAU052	Effects and control of inflation
48	19BAU053	Monetary policy and its types
49	19BAU054	Instruments of monetary policy

50	19BAU055	Objective and types of fiscal policy
51	19BAU056	Instrument of fiscal policy
52	19BAU057	Budget preparation – deficit budget
53	19BAU058	Balance of trade
54	19BAU059	Balance of payments
55	19BAU060	Meaning and functions of money
56	19BAU061	Demand and supply of money
57	19BAU062	Measurement of money supply
58	19BAU063	High powered money
59	19BAU064	Interest rate – theories of interest

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)
(Established under section 3 of UGC Act 1956)
Coimbatore-641021

DEPARTMENT OF MANAGEMENT(UG)

Name: **Sumathi. G**
Department: **Management**
Subject Code: **19BAU201** Semester: **II** Year: **2019-22 Batch**
Subject: **Managerial Economics**

S.No.	REGISTER NO.	SEMINAR TITLE
1	19BAU001	Nature and scope of managerial economics
2	19BAU002	Objectives and significance of managerial economics
3	19BAU004	Consumer equilibrium
4	19BAU005	Law of marginal utility
5	19BAU006	Consumer surplus
6	19BAU007	Concept of demand types of demand
7	19BAU008	Determinants of demand
8	19BAU009	Law of demand and exceptions
9	19BAU010	Elasticity of demand - types
10	19BAU011	Measurement of price elasticity of demand
11	19BAU012	Concept and determinants of supply
12	19BAU015	law of supply
13	19BAU016	Elasticity of supply
14	19BAU017	Basic concepts in production
15	19BAU018	Production function
16	19BAU019	Law of returns to scale
17	19BAU020	Economies and diseconomies of scale
18	19BAU021	Cost of production
19	19BAU022	Break-even point analysis

20	19BAU023	Different types of market
21	19BAU024	Break even analysis
22	19BAU025	Basis of market classification
23	19BAU026	Perfect competition
24	19BAU027	Price determination
25	19BAU028	Monopoly market
26	19BAU029	Price discrimination
27	19BAU030	Degrees of price discrimination
28	19BAU031	Oligopoly market
29	19BAU032	Price leadership
30	19BAU033	Oligopsony
31	19BAU034	Monopolistic competition
32	19BAU035	Product differentiation
33	19BAU036	Monopsony
34	19BAU037	Duopoly market features
35	19BAU038	Difference between normal and non-residents
36	19BAU039	Gross and net concepts of income
37	19BAU040	Factor payments and transfer payments
38	19BAU041	National income aggregates
39	19BAU043	Private income
40	19BAU044	Personal income
41	19BAU046	Personal disposable income
42	19BAU047	National disposable income
43	19BAU048	Measurement of national income
44	19BAU049	Phases of business cycle
45	19BAU050	Causes of cyclical movements
46	19BAU051	Inflation concept
47	19BAU052	Effects and control of inflation
48	19BAU053	Monetary policy and its types
49	19BAU054	Instruments of monetary policy

50	19BAU055	Objective and types of fiscal policy
51	19BAU056	Instrument of fiscal policy
52	19BAU057	Budget preparation – deficit budget
53	19BAU058	Balance of trade
54	19BAU059	Balance of payments
55	19BAU060	Meaning and functions of money
56	19BAU061	Demand and supply of money
57	19BAU062	Measurement of money supply
58	19BAU063	High powered money
59	19BAU064	Interest rate – theories of interest

Register No.: …….

[19BAU201]

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)

(Established Under Section 3 of UGC Act, 1956)

COIMBATORE – 641021

(For the candidates admitted from 2017 onwards)

I INTERNAL EXAMINATION – DECEMBER 2019

SECOND SEMESTER

I BBA

MANAGERIAL ECONOMICS

Date: 19 .12.2019 **Maximum: 50 Marks**

Session : FN **Time: 2 Hours**

PART – A (20 X 1 = 20 Marks)

Answer All the Questions

1. Economics is _____

   a) An art only b) Science c) Art as well as science d) History

2. Scarcity definition is given by _____

   a) Robinson b) Adam Smith c) Alfred Marshall d) A.C. Pigou

3. Macro economics is otherwise called _____Economics

   a) Aggregative b) Regressive c) Individual d) Social

4. Law of demand establishes qualitative or directional relationship between _____

   a) Demand and price b) Demand and supply

   c) Cost and price d) Cost and income

5. If the demand curve is rectangular hyperbola, the elasticity is_____

   a) Relatively elastic b) Perfectively Inelastic

   b) Relatively Inelastic d) Unity

6. In a typical demand schedule, quantity demanded varies _____

   a) Directly with price b) proportion with price

   c) inversely with price d) Dependant with price

7. Utility is measured by _____

   a) Wealth b) Price c) Value or worth d) Income

8. _____ is not the type of elasticity o demand

   a) Price elasticity b) Income elasticity

   c) Cross elasticity d) Supply elasticity

9. Price elasticity of demand for luxury goods will be _____ elastic

   a) Infinitively b) relatively c) perfectively d) .zero

10. Normally, Income bears a _____ relationship with demand.

a) Normative b) Aggressive c) Positive d) Negative

11. Complements are demanded _____

a) Jointly b) Aggressively c) Positively d) Negatively

12. The Cross elasticity of demand may be Substitute or _____

a) Positive b) Negative c) Normative d) Complementary

13. A commodity demanded for its own sake by the final consumer is known as_____ goods.

a) Consumer b) Producer c) Industrial d) Shopping

14. A final _____ is one who derives satisfaction from a good without any further value addition.

a) Customers b) Traders c) Consumer d) Producers

15. Goods which create joint demand are _____ goods.

a) Consumer b) Producer c) Industrial d) Complementary

16. Goods that compete with each other to satisfy any particular want are called _____

a) Substitutes b) Industrial c) Producer d) Complementary

17. _____ bears an inverse relationship with price

a) Demand b) Income c) Supply d) Cost

18. Production is known as the conversion of _____ into outputs.

a) inputs b) finance c) goods d) Income

19. The market demand curve for the industry is a standard _____sloping curve

a) Downward b) upward c. Straight d. Narrow

20. Land, Labour, Capital, Enterprise and _____ are the factors of production

a) Finance b) Organization c) Expenditure d) Income

PART – B (3 X 2 = 6 Marks)

Answer All the Questions

21. Define managerial economics

22. Give the meaning of consumer equilibrium

23. List out the factors affecting production function?

PART – C (3 X 8 = 24 Marks)

Answer All the Questions

24. a) Discuss the scope of managerial economics

(Or)

b) Explain the principles of managerial economics with suitable diagram

25. a) Describe the Law of demand with suitable diagram and discuss its exceptions

(Or)

b) Explain the different kinds of price elasticity of demand

26. a) Define the term Supply and enumerate the factors influencing supply.

(Or)

b) Explain the significance of different types of production function.