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**GOVERNMENT ARTS COLLEGE (AUTONOMOUS), KARUR-05**

**B.B.A., - I SEMESTER – FIRST ALLIED COURSE - I**  
(For the candidates admitted from the year 2016-17 onwards)

**MANAGERIAL ECONOMICS**

**UNIT- I** Utility of Economics in Business Management and Industrial Administration. Important Concepts. Analysis of Demand and Supply – Law of Diminishing Marginal Utility – Concepts of Consumer Surplus – Elasticity of Demand – Indifference Curve Analysis. Return to Scale, Importance of Increasing Returns in Industrial Activity – Concepts of Cost – Concepts of Elasticity of Supply – Forces Governing the Supply of Factors of Production.

**UNIT- II** Theory of Firm –Productivity- Cobb-Douglas – CES Model Problems of Price Fixation – Role of Supply and Demand.

**UNIT-III** Concept of Normal Profit – Sales Maximization Principles – Monopoly  
- Monopolistic Competition –Perfect Competition –  
Imperfect Competition – Oligopoly.

**UNIT-IV** National Income – Circular Flow of Income – Measurement – Difficulties in the Measurement.

**UNIT-V** Functions of Money – Theories of Money Supply – Role of Commercial Banks – RBI – Methods of Credit Control – Monetary and Fiscal.

**Text Book:**

<b>Title</b>	<b>Author</b>
Micro Economics	M.L. Seth

**Reference Book:**

<b>Title</b>	<b>Author</b>
Managerial Economics Analysis	P.L. Mehta
Managerial Economics	R.L. Varshney & K.L. Maheswari
The Indian Economy	Ishwar C. Dhingra
Managerial Economics	Joel Dean

## **Introduction**

The term “economics” has been derived from a Greek Word “Oikonomia” which means „household“. Economics is a social science. It is called „social“ because it studies mankind of society. It deals with aspects of human behavior. It is called science since it studies social problems from a scientific point of view. The development of economics as a growing science can be traced back in the writings of Greek philosophers like Plato and Aristotle. Economics was treated as a branch of politics during early days of its development because ancient Greeks applied this term to management of city- state, which they called „Polis“. Actually economics broadened into a full fledged social science in the later half of the 18<sup>th</sup> century.

## **Definition of Economics**

Classical economists like Adam Smith, Ricardo, Mill Malthus and others; socialist economist like Karl Marx; neo-classical economists like Alfred Marshall, AC Pigou and Lionel Robbins and modern economists like JM Keynes, Samuelson and others have made considerable contribution to the development of Economics. Hence a plethora of definitions are available in connection with the subject matter of economics. These are broadly divided into

- A. Wealth Definition,
- B. Welfare Definition,
- C. Scarcity Definition and
- D. Growth Definition

### **A. Wealth Definition**

Really the science of economics was born in 1776, when Adam Smith published his famous book “An Enquiry into the Nature and Cause of Wealth of Nation”. He defined economics as the study of the nature and cause of national wealth. According to him, economics is the study of wealth- How wealth is produced and distributed. He is called as “father of economics” and his definition is popularly called “Wealth definition”. But this definition was severely criticized by highlighting the points like;

- Too much emphasis on wealth,
- Restricted meaning of wealth,
- No consideration for human feelings,
- No mention for man’s welfare
- Silent about economic problem etc...

### **B. Welfare Definition**

It was Alfred Marshall who rescued the economics from the above criticisms. By his classic work “Principles of Economics”, published in 1890, he shifted the emphasis from wealth to human welfare. According to him wealth is simply a means to an end in all activities, the end being human welfare. He adds, that economics “is on the one side a study of the wealth; and the other and more important side, a part of the study of man”. Marshall gave primary importance to man and secondary importance to wealth.

### **A. Scarcity Definition**

After Alfred Marshall, Lionel Robbins formulated his own conception of economics in his book “The Nature and Significance of Economic Science” in 1932. According to him, “Economics is the science which studies human behavior as a relationship between ends and

scarcity means which have alternative uses". He gave importance to four fundamental characters of human existence such as;

1. Unlimited wants- In his definition "ends" refers to human wants which are boundless or unlimited.
2. Scarcity of means (Limited Resources) – the resources (time and money) at the disposal of a person to satisfy his wants are limited.
3. Alternate uses of Scarcity means- Economic resources not only scarce but have alternate uses also. So one has to make choice of uses.
4. The Economic Problem –when wants are unlimited, means are scarce and have alternate uses, the economic problem arises. Hence we need to arrange wants in the order of urgency.

The merits of scarcity definition are; this definition is analytical, universal in application, a positive study and considering the concept of opportunity cost. But this also criticized on the grounds that; it is too narrow and too wide, it offers only light but not fruit, confined to micro analysis and ignores Growth economics etc..

### **B. Modern Definition**

The credit for revolutionizing the study of economics surely goes to Lord J.M Keynes. He defined economics as the "study of the administration of scarcity resources and the determinants of income and employment".

Prof. Samuelson recently given a definition based on growth aspects which is known as Growth definition. "Economics is the study of how people and society end up choosing, with or without the use of money to employ scarce productive resources that could have alternative uses to produce various commodities and distribute them for consumption, now or in the future, among various persons or groups in society. Economics analyses the costs and the benefits of improving patterns of resources use". Main features of growth definition are; it is applicable even in barter economy, the inclusion of time element makes the scope of economics dynamic and it is an improvement in scarcity definition.

### **Meaning and Definition of Managerial Economics.**

Managerial Economics as a subject gained popularity in U.S.A after the publication of the book "Managerial Economics" by Joel Dean in 1951. Joel Dean observed that managerial Economics shows how economic analysis can be used in formulating policies.

Managerial economics bridges the gap between traditional economic theory and real business practices in two ways. Firstly, it provides number of tools and techniques to enable the manager to become more competent to take decisions in real and practical situation. Secondly, it serves as an integrating course to show the interaction between various areas in which the firm operates.

According to Prof. Evan J Douglas, Managerial economics is concerned with the application of business principles and methodologies to the decision making process within the firm or organization under the conditions of uncertainty. It seeks to establish rules and principles to facilitate the attainment of the desired economic aim of management. These economic aims relate to costs, revenue and profits and are important within both business and non business institutions.

Spencer and Siegleman defined managerial Economics as “the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning of management” managerial economics helps the managers to analyze the problems faced by the business unit and to take vital decisions. They have to choose from among a number of possible alternatives. They have to choose that course of action by which the available resources are most efficiently used. Cristopor I Savage and John R Small opinioned that “managerial economics is some thing that concerned with business efficiency”.

In the words of Michael Baye, ”Managerial Economics is the study of how to direct scares resources in a way that mostly effectively achieves a managerial goal”.

### **Objectives and Uses (importance) of managerial Economics**

**Objectives:** The basic objective of managerial economics is to analyze the economic problems faced by the business. The other objectives are:

1. To integrate economic theory with business practice.
2. To apply economic concepts and principles to solve business problems.
3. To allocate the scares resources in the optimal manner.
4. To make all-round development of a firm.
5. To minimize risk and uncertainty
6. To helps in demand and sales forecasting.
7. To help in profit maximization.
8. To help to achieve the other objectives of the firm like industry leadership, expansion implementation of policies etc...

**Importance:** In order to solve the problems of decision making, data are to be collected and analyzed in the light of business objectives. Managerial economics provides help in this area. The importance of managerial economics maybe relies in the following points:

1. It provides tool and techniques for managerial decision making.
2. It gives answers to the basic problems of business management.
3. It supplies data for analysis and forecasting.
4. It provides tools for demand forecasting and profit planning.
5. It guides the managerial economist.
6. It helps in formulating business policies.
7. It assists the management to know internal and external factors influence the business.

Following are the important areas of decision making;

- a) Selection of product.
- b) Selection of suitable product mix.
- c) Selection of method of production.
- d) Product line decision.

- e) Determination of price and quantity.
- f) Decision on promotional strategy.
- g) Optimum input combination.
- h) Allocation of resources.
- i) Replacement decision.
- j) Make or buy decision.
- k) Shut down decision.
- l) Decision on export and import.
- m) Location decision.
- n) Capital budgeting.

### **Scope of Managerial / Business Economics**

The scope of managerial economics refers to its area of study. Scope of Managerial Economics is wider than the scope of Business Economics in the sense that while managerial economics dealing the decisional problems of both business and non business organizations, business economics deals only the problems of business organizations. Business economics giving solution to the problems of a business unit or profit oriented unit. Managerial economics giving solution to the problems of non profit organizations like schools, hospital etc., also. The scope covers two areas of decision making (A) operational or internal issues and (B) Environmental or external issues.

#### **A) Operational/internal issues**

These issues are those which arise within the business organization and are under the control of the management. They pertain to simple questions of what to produce, when to produce, how much to produce and for which category of consumers. The following aspects may be said to be fall under internal issues.

1. **Demand analysis and Forecasting:** - The demands for the firms product would change in response to change in price, consumer's income, his taste etc. which are the determinants of demand. A study of the determinants of demand is necessary for forecasting future demand of the product.
2. **Cost analysis:** - Estimation of cost is an essential part of managerial problems. The factors causing variation of cost must be found out and allowed for it management to arrive at cost estimates. This will help for more effective planning and sound pricing practices.
3. **Pricing Decisions:** - The firms aim to profit which depends upon the correctness of pricing decisions. The pricing is an important area of managerial economics. Theories regarding price fixation help the firm to solve the price fixation problems.
4. **Profit Analysis:** - Business firms working for profit and it is an important measure of success. But firms working under conditions of uncertainty. Profit planning become necessary under the conditions of uncertainty.
5. **Capital budgeting:** - The business managers have to take very important decisions relating to the firms capital investment. The manager has to calculate correctly the profitability of investment and to properly allocate the capital. Success of the firm

depends upon the proper analysis of capital project and selecting the best one.

6. **Production and supply analysis:** - Production analysis is narrower in scope than cost analysis. Production analysis proceeds in physical terms while cost analysis proceeds in monetary term. Important aspects of supply analysis are; supply schedule, curves and functions, law of supply, elasticity of supply and factors influencing supply...

#### **B) Environmental or external issues**

It refers to the general business environment in which the firm operates. A study of economic environment should include:

1. The types of economic system in the country.
2. The general trend in production, employment, income, prices, savings and investments
3. Trends in the working of financial institutions like banks, financial corporations, insurance companies etc..
4. Magnitude and trends in foreign trade.
5. Trends in labour and capital market.
6. Government economic policies viz., industrial policy, monetary policies, fiscal policy, price policy etc...

#### **Functions and Responsibilities of managerial economist**

A managerial economist can play an important role by assisting the management to solve the difficult problems of decision making and forward planning. Managerial economists have to study external and internal factors influencing the business while taking the decisions. The important questions to be answered by the managerial economists include:

1. Is competition likely to increase or decrease?
2. What are the population shifts and their influence in purchasing power?
3. Will the price of raw materials increase or decrease? Etc...
4. Managerial economist can also help the management in taking decisions regarding internal operation of the firm. Following are the important specific functions of managerial economist;

1. Sales forecasting.
2. Market research.
3. Production scheduling
4. Economic analysis of competing industry.
5. Investment appraisal.
6. Security management analysis.
7. Advise on foreign exchange management.
8. Advice on trade.
9. Environmental forecasting.
10. Economic analysis of agriculture Sales forecasting

The **responsibilities** of managerial economists are the following;

1. To bring reasonable profit to the company.
2. To make accurate forecast.
3. To establish and maintain contact with individual and data sources.
4. To keep the management informed of all the possible economic trends.
5. To prepare speeches for business executives.
6. To participate in public debates
7. To earn full status in the business team.

### **Chief Characteristics of Managerial or Business economics.**

Following are the important feature of managerial economics

- 1) Managerial economics is **Micro economic** in character. Because it studies the problems of a business firm, not the entire economy.
- 2) Managerial economics largely uses the body of economic concepts and principles which is known as “**Theory of the Firm**” or “**Economics of the firm**”.
- 3) Managerial economics is **pragmatic**. It is purely practical oriented. So Managerial economics considers the particular environment of a firm or business for decision making.
- 4) Managerial economics is **Normative** rather than positive economics (descriptive economics). Managerial economics is **prescriptive** to solve particular business problem by giving importance to firms aim and objectives.
- 5) **Macro economics is also useful** to managerial economics since it provides intelligent understanding of the environment in which the business is operating.
- 6) **It is management oriented.**

### **Managerial economics as a tool for decision making and forward planning.**

**Decision making:** Decision making is an integral part of modern management. Perhaps the most important function of the business manager is decision making. Decision making is the process of selecting one action from two or more alternative course of actions. Resources such as land, labour and capital are limited and can be employed in alternative uses, so the question of choice is arises.

Managers of business organizations are constantly faced with wide variety of decisions in the areas of pricing, product selection, cost control, asset management and plant expansion. Manager has to choose best among the alternatives by which available resources are most efficiently used for achieving the desired aims. Decision making process involves the following elements;

1. The identification of the firm’s objectives.
2. The statement of the problem to be solved.
3. The listing of various alternatives.
4. Evaluation and analysis of alternatives.
5. The selection best alternative
6. The implementation and monitoring of the alternative which is chosen.

Following are the important areas of decision making;

- a) Selection of product.
- b) Selection of suitable product mix.
- c) Selection of method of production.
- d) Product line decision.
- e) Determination of price and quantity.
- f) Decision on promotional strategy.
- g) Optimum input combination.
- h) Allocation of resources.
- i) Replacement decision.
- j) Make or buy decision.
- k) Shut down decision.
- l) Decision on export and import.
- m) Location decision.
- n) Capital budgeting.

**Forward Planning:** -Future is uncertain. A firm is operating under the conditions of risk and uncertainty. Risk and uncertainty can be minimized only by making accurate forecast and forward planning. Managerial economics helps manager in forward planning Forward planning means making plans for the future. A manager has to make plan for the future e.g. Expansion of existing plants etc...The study of macro economics provides managers a clear understanding about environment in which the business firm is working. The knowledge of various economic theories viz, demands theory, supply theory etc. also can be helpful for future planning of demand and supply. So managerial economics enables the manager to make plan for the future.

### **Economics Vs Managerial economics.**

<b>Economics</b>	<b>Managerial Economics</b>
1. Dealing both micro and macro aspects	1. Dealing only micro aspects
2. Both positive and normative science.	2. Only a normative science.
3. Deals with theoretical aspects	3. Deals with practical aspects.
4. Study both the firm and individual.	4. Study the problems of firm only.
5. Wide scope	5. Narrow scope.

### **DEMAND ANALYSIS**

The concept of demand is always explained from the point of view of the customer as the other meaning for demand is nothing but want of goods and services by the customer for a specific price from the producer, which is the basis for existence of any producer of business. There is a direct relationship between the price and demand of the goods and services, which means the prices of goods impacts its demand. Customer always wants goods and services for a reasonable and low price from the producer. If the prices of goods and services are low, customers shows



interest to purchase more goods and services, otherwise the customer purchases less goods and services if the prices are high.

Therefore, analysis of demand or law of demand proves that demand of the goods and services and price of the goods and services are inversely related to each other. Demand for the goods and services always fall down if the price of goods and services are high, dissimilar demand for the goods and services always increases if the price of goods and services are low .

The success of any business largely depends on sales, and sales depend on market demand behaviour. Market demand analysis is one of the crucial requirements for the existence of any business enterprise. Analysis of market demand for the product is necessary for the management in order to take decisions regarding production, cost allocation, product pricing, advertising, inventory holdings, etc. How much the firm must endeavour to produce depends mainly upon the demand for its product. If demand falls short of production, the two must be balanced by creating a new demand through more and better advertisements. If there is no demand for the product, its production is unwarranted. If the future demand for the product is likely to be more, the more the inventories that the firm should hold.

### **Law of Demand**

Among the many causal factors affecting demand of Goods and services, its price is most significant factor and the price- quantity relationship called as the Law of Demand is stated as follows:

"The greater the amount to be sold, the smaller must be the price at which it is offered in order that it may find purchasers, or in other words, the amount demanded increases with a fall in price and diminishes with a rise in price" (Alfred Marshall).

In simple words other things being equal, quantity demanded will be more at a lower price than at higher price. The law assumes that income, taste, fashion, prices of related goods, etc. remain the same in a given period. The law indicates the inverse relation between the price of a commodity and its quantity demanded in the market. However, it should be remembered that the law is only an indicative and not a quantitative statement. This means that it is not necessary that such variation in demand be proportionate to the change in price.

### **Definitions**

**Some major definitions of the Law of Demand are as follows:**

"Law of Demand states that people will buy more at lower prices and buy less at higher prices, if other things remaining the same."- **Prof. Samuelson.**

The Law of Demand states that amount demanded increases with a fall in price and diminishes when price increases." - **Prof. Marshall**

"According to the law of demand, the quantity demanded varies inversely with price." – **Ferguson**

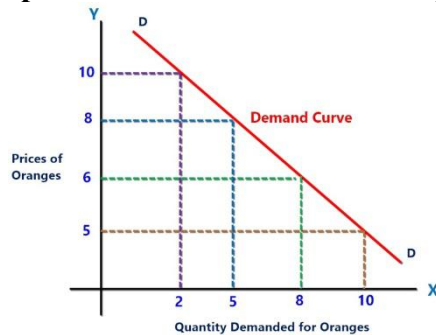
**Marshall:-**"The greater the amount to be sold the smaller must be the price"

**Benham:-**"Usually a larger quantity of commodity will demanded at lower price that a higher price"

### **Characteristics of law of demand**

- There is Inverse relationship between price of commodity and its demand.
- Price is independent variable
- Demand is dependent variable on price of goods.

## DEMAND CURVE (graphical presentation of law of demand)



The demand schedule is presented in the graphical form, wherein the quantity demanded for oranges is shown on X axis and the price of the oranges are shown on Y axis.

The demand for oranges is at 10 when the price of the orange is at 5/-, but the demand for oranges is decreased from 2 to 10 when the price of orange is increased from 5 to 10/- each. As the price of the orange is increased the demand for the oranges decreased and the price is decreased the demand for oranges increased, which is because of Law of Demand effect on goods and services, as there is inverse relation in between price of the goods and services and demand for the goods and services. The demand curve is sloping downwards from left to right.

### Assumptions

Every law will have limitation or exceptions. This law operates when the commodity's price changes and all other prices and conditions do not change. The main assumptions are

- Habits, tastes and fashions remain constant
- Money, income of the consumer does not change.
- Prices of other goods remain constant
- The commodity in question has no substitute
- The commodity is a normal good and has no prestige or status value.
- People do not expect changes in the prices.

### Exceptions to law of demand

Generally, the amount demanded of good increases with a decrease in price of the good and vice versa. In some cases, however, this may not be true. Such situations are explained below.

1. **Giffen goods:** these are those inferior goods on which the consumer spends a large part of his income and the demand for which falls with a fall in their price. The demand curve for these has a positive slope. The consumers of such goods are mostly the poor. a rise in their price drains their resources and the poor have to shift their consumption from the more expensive goods to the giffen goods, while a fall in the price would spare the household some money for more expensive goods. which still remain cheaper. These goods have no closely related substitutes; hence income effect is higher than substitution effect.

2. **Commodities which are used as status symbols:** Some expensive commodities like diamonds, air conditioned cars, etc., are used as status symbols to display one's wealth. The more expensive these commodities become, the higher their value as a status symbol and hence, the greater the demand for them. The amount demanded of these commodities increase with an increase in their price and decrease with a decrease in their price. Also known as a Veblen good.

(In economics, Veblen goods are a group of commodities for which people's preference for buying them increases as their price increases, as greater price confers greater status, instead of decreasing according to the law of demand.)

3. **Expectations regarding future prices:** If the price of a commodity is rising and is expected to rise in future the demand for the commodity will increase.

4. **Emergency:** At times of war, famine etc. consumers have an abnormal behaviour. If they expect shortage in goods they would buy and hoard goods even at higher prices. In depression they will buy less at even low prices.

5. **Quality-price relationship:** some people assume that expensive goods are of a higher quality than the low priced goods. In this case more goods are demanded at higher prices.

## **Classification of Demand**

### **1. Individual demand:-**

A commodity or good demanded by a single person is called individual demand.

### **2. Market Demand**

A demand for a particular product by all customers and added, is called market demand. (Total all individual demand is called as the market demand)

Table is the market demand schedule. This schedule, from the angle of simplification, is based on the assumption that there are two buyers, A and B for X commodity. By adding up their individual demand, the market demand schedule has been estimated:

### **Factors affecting market demand**

Market or aggregate demand is the summation of individual demand curves. In addition to the factors which can affect individual demand.

- Prices of products are goods.
- Distribution of income and wealth in the community.
- Community common habits.
- General standard of living and spending habits of people.
- Age structure and sex ration of population.
- Future expectations.
- Level of taxes imposed on the good. (Imposition of high level of tax leads to increase in price which leads to fall in demand.)
- Inventions and innovations. (When a new product is launched with new feature in the market it general has high demand).
- Fashions of people. (eg:- bikes are latest fashion and more demanded than the scooters which are old fashion.)
- Climatic or weather conditions. (Cool drinks have much demand in summer rather than in winter.)
- Customs of people (during the time of festivals the demand for clothes and sweets will be high).
- Advertisement and sales propaganda. (Good advertisement gives raise to sale of goods).

### **3. Derived demand**

The increase in demand for one particular good causes increase in the demand for other good is called derived demand. Complementary goods are those goods which are jointly used to satisfy a want. In other words, complementary goods are those which are incomplete without each other.

These are things that go together, often used simultaneously. For example, pen and ink, Tennis rackets and tennis balls, cameras and film, etc.

For example, demand for coal leads to derived demand for mining, as coal must be mined for coal to be consumed.

**examples:**

- Increasing demand for use computers in various fields will cause increase in demand for the operating systems like Microsoft windows products.
- Increase in the demand for automobiles like bikes, cars and large & heavy vehicle will cause increase in the demand for the fuel like petrol and diesel.
- Increase in the demand for the cellular phone will cause increase in the demand for the memory cards for the multimedia purpose.
- Increase in the demand for the education will cause increase in the demand for the text books for the various subjects.

**4. Cross Demand:**

When the demand of one commodity is related with the price of other commodity is called cross demand. The commodity may be substitute or complementary. Substitute goods are those goods which can be used in case of each other. For example, tea and coffee, Coca-cola and Pepsi. In such case demand and price are positively related. This means if the price of one increased then the demand for other also increases and vice versa.

**Cross elasticity demand:**

There is a mutual relationship between change in price and quantity demanded of two related goods. Change in the price of one goods can cause change in the demand for the related good. For example, change in the price of tea ordinarily causes change in demand for coffee. Likewise, change in the price of cars causes change in demand for petrol. Mutual relationship between quantity demanded of a good due to change in the price of another goods can be measured by cross elasticity of demand.

Change in the Price of a particular good effect the demand for the other good. For example, 10% increase in the price of fuel, that causes 20% decrease in the demand for new cars which are not giving mileage, This measures the % change in QD for a good after the change in price of another.

$$PED = \frac{\% \text{ change in Demad of good A}}{\% \text{ change in price of good B}}$$
$$PED = \frac{20\%}{10\%} = 2$$

In the words of **Ferguson**, 'The cross elasticity of demand is the proportional change in the quantity demanded of good X divided by the proportional change in the price of the good Y'

According to **Liebhafsky**, 'The cross elasticity of demand is a measure of the responsiveness of purchases of X to change in the price of Y'

**Demand function**

Demand function is what describes a relationship between one variable and its determinants. It describes how much quantity of goods is purchased at alternative prices of good and related goods, alternative income levels, and alternative values of other variables affecting demand.

The principal variables that influence the quantity demanded of a good or service are (1) the price of the good or service,

(2) the incomes of consumers,

(3) the prices of related goods and services,

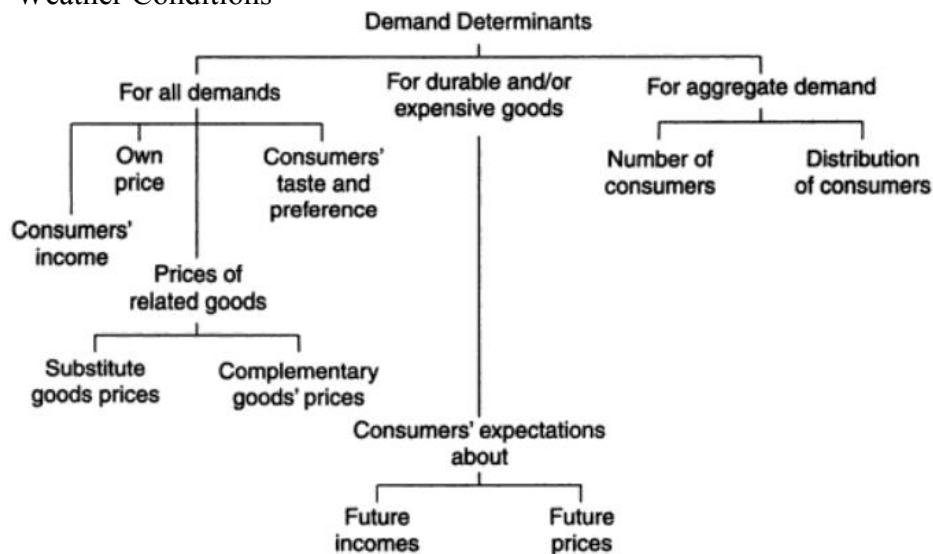
(4) the tastes or preference patterns of consumers,

- (5) the expected price of the product in future periods, and
- (6) the number of consumers in the market.

The relation between quantity demanded and these above factors is referred to as the general demand function and is expressed as follows:

Demand function may be presented as mathematical expression stating relationship between quantity demanded of the commodity and its determinants is known as the demand function. Explained below.

- $Q_x$  = Quantity Demanded of product , per period
- $P_x$  = Price of Product
- $A_x$  = Advertising for Product
- $D_x$  = Design/style/quality-Cost of product
- $O_x$  = Outlets, Distribution
- $I_c$  = Incomes of consumers/customers/clientele
- $Y_c$  = Consumer Expenditures on related goods
- $T_c$  = Tastes
- $E_c$  = Expectations of consumers regarding future prices
- $P_y$  = Prices of related goods
- $A_y$  = Advertising/Promotion of related goods
- $D_y$  = Design/Styles of related goods
- $O_y$  = Outlets of related goods
- $G$  = Government Policy
- $N$  = Number of People in the Economy
- $W$  = Weather Conditions



## REASONS FOR CHANGE (INCREASE OR DECREASE) IN DEMAND

1. Changes in income
2. Changes in tastes, habits and preference.
3. Changes in fashions and customs.
4. Changes in the distribution of wealth.
5. Changes in population.

6. Advertisement and publicity.
7. Change in the value of money (if money value increases that leads to raise in demand for goods).

## **DETERMINANTS OF DEMAND**

The demand for a commodity by a buyer is generally not a fixed quantity. It is affected by many factors. The factors that influence the demand are called the determinants of demands. The determinants of demand are also known as demand shifters. The following factors affect an individual's demand for a commodity:

### **1. Prices of related commodities**

When a change in price of the other commodity leaves the amount demanded of the commodity under consideration unchanged, we say that the two commodities are unrelated, otherwise these are related. The related commodities are of two types' substitutes and complements. When the price of one commodity and the quantity demanded of the other commodity move in the same direction (i.e., both increase together and decrease together).

### **2. Income of the individual**

The amount demanded of a commodity also depends upon the income of an individual. With an increase in income, increased amount of most of the commodities in his consumption bundle, though the extent of the increase may differ between commodities.

### **3. Tastes and preferences**

It is quite well that the change in tastes and preferences of consumers in favor of a commodity results in smaller demand for the commodity. Modern business firms, which sell product with different brand names, rely a great deal on influencing tastes and preferences of households in favor of their products (with the help of advertisements, etc.) in order to bring about increase in demand of their products.

### **4. Tastes of the consumers**

The amount demanded also depends on consumer's taste. Tastes include fashion, habit, customs, etc. A consumer's taste is also affected by advertisement. If the taste for a commodity goes up, its amount demanded is more even at the same price and vice-versa.

### **5. Wealth**

The amount demanded of a commodity is also affected by the amount of wealth as well as its distribution. The wealthier are the people, higher is the demand for normal commodities. If wealth is more equally distributed, the demand for necessities and comforts is more. On the other hand, if some people are rich, while the majority is poor, the demand for luxuries is generally less.

### **6. Expectations regarding the future**

If consumers expect changes in price of a commodity in future, they will change the demand at present even when the present price remains the same. Similarly, if consumers expect their incomes to rise in the near future, they may increase the demand for a commodity just now.

### **7. Climate and weather**

The climate of an area and the weather prevailing there has a decisive effect on consumer's demand. In cold areas, woolen cloth is demanded. During hot summer days, ice is very much in demand. On a rainy day, ice-cream is not so much demanded.

### **8. State of business**

The level of demand for different commodities also depends upon the business conditions in the country. If the country is passing through boom conditions, there will be a marked increase in

demand. On the other hand, the level of demand goes down during depression.

### **Supply Analysis**

#### **(Supply analysis is always from Supplier /Producer point of view)**

In our ordinary language the word supply is used to mean so many things. Sometimes supply is taken to mean stock of a commodity pushed into market; while sometimes it is considered as the flow of production. In Economics, supply means the quantity of product brought for sale at a price during a particular period of time. In this definition of supply we have not taken into account the total production during a particular period but only 'quantity made available for sale. We must bear in mind the distinction between supply as we defined it, and production. Thus, it is possible that out of a total stock of what is produced, a part is brought for sale and a part is held back with an expectations of a future rise in price. Similarly, it is also possible that supply would be greater than current production - if the current price is profitable, earlier stocks may be released.

Unlike a demand curve, a supply curve has a positive slope, reflecting the law of supply. The law of supply states that quantity supplied is positively related to price; i.e., firms offer larger amounts at higher prices and smaller amounts at lower prices. In this case, price is the reward for production so that higher market prices bring forth larger quantities. Higher prices provide firms with extra funds to purchase more resources or inputs to increase production. Higher prices also act as a signal to producers that consumers value their goods highly and desire more of them.

#### **Definition of Supply**

According to **Prof. Benam**, "Supply may mean the amount offered for sale per unit of time."

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

Producer or manufacturer of the goods always thinks to supply more goods at high price for the consumer to get more income .Like demand, supply is not a given quantity—that is called quantity supplied. It is a relationship between price and quantity. As the price of a good rises, producers are generally wants to sell in larger quantity. The reverse is equally true: as price decreases, so the supplier don't like to sell or supply in large quantity. Like demand, supply can also be described in a table or a graph.

#### **Law of supply**

Like law of demand which states a relation between the price and the quantity demanded for a good or service, law of supply states a relation between price and quantity supplied. Supply, like demand, is a flow concept. As Lipsey has put it: "Supply is a desired flow: how much firms are willing to sell per (unit) period of time not how much they actually sell." Law of supply refers to the amount of a goods or services that producers are willing and able to offer for sale at each possible price per unit. The law of supply simply states that, as the price of a good or service rises, the quantity supplied (i.e., offered for sale) also rises.

#### **Definitions**

— In the words of **Dooley**. "The law of supply states that other things being equal the higher the price, the greater the quantity supplied or the lower the price, the smaller the quantity supplied."



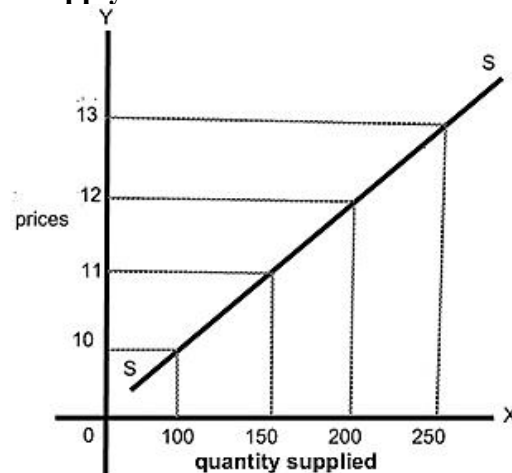
— According to **Lipsey**, "The law of supply states that other things being equal, the quantity of any commodity that firms will produce and offer for sale is positively related to the commodity's own price, rising when price rises and falling when price falls."

As the price of good increases, suppliers will attempt to maximize profits by increasing the quantity of the product sold.

### Table of supply schedule

The relationship between price and quantity supplied is usually a direct and positive relationship. A rise in price is associated with a rise in quantity supplied by the seller in the market.

### Graphical presentation of supply schedule



The Supply schedule is presented in the graphical form, wherein the quantity Supplied is shown on X axis and the price of the oranges are shown on Y axis.

The supply of goods is at 100 when the price of the goods is at 10/-, similarly the supply is increased from 100 to 250 by the producer / seller when the price is increased from 10 to 13/-. As the price of the goods is increased the supply of goods is also increased and the price is decreased the supply for goods is also decreased by the seller, which is because of Law of Supply effect on goods and services, as there is always direct relation in between price of the goods and services and Supply for the goods and services. **The supply curve always moves upwards from left to right.**

### WHY DOES PRICE INCREASES WHEN THERE IS A SHORTAGE OF GOODS?

In below table , there is a shortage of goods ( $150 - 50 = 100$  units) at a price of \$5 and Quantity demanded ( $Q_d$ ) (150 units) is greater than quantity supplied ( $Q_s$ ) (50 units), buyers will not be able to buy all they had hoped to buy at \$5. Some buyers will bid up the price to get sellers to



sell to them instead of selling goods to other buyers. Some sellers, seeing buyers more demand for the goods, sellers will realize that they can raise the price of the goods that they have for sale. Hence the higher prices will also make the sellers to add (production) output. Thus, there is a tendency for price and output to rise until equilibrium is achieved.

### **Determinants of supply**

Innumerable factors and circumstances could affect a seller's willingness or ability to produce and sell a good. Some of the more common factors are:

#### **1. Cost factor of production**

Cost of production depends on the factors like

- Price of raw materials
- Rents and interest on capital
- Cost of machinery
- Payments to human resources (wages and salaries)
- Transportation charges (logistics)

If cost of production of commodities is high, in general supply of commodities in to the markets will be low.

#### **2. Price of the Commodity:**

Since higher money income is necessary to induce producers to produce more, the amount supplied therefore increases when producers get higher price for the product.

#### **3. Price of Other Goods:**

Change in the price of other goods in the market also has influence on the supply of the commodity. For Example: if the price of good Y rises, the producer of good X will start considering switching his production to good Y as it has become relatively more attractive to produce Y now then before.

#### **4. Producer's Objective:**

The producers may have many objectives like profit maximization, sales revenue maximization, goodwill etc. Amount supplied of a commodity is often influenced by the producer's objective. A goodwill maximiser will sell more commodities than the profit maximiser.

#### **5. State of technology**

Use of latest technology decreases the cost of production and increases the production capacity which increases supply of goods.

#### **6. Factors outside the economic sphere**

Supply depends upon the below said factors. These factors should not arise if they arise; they affect the supply directly or indirectly.

- Whether conditions
- Floods
- Wars
- Epidemics (unexpected situations)

#### **4. Tax and subsidy**

If tax subsidy (charge less tax) is given by the government the production cost decreased. If that is not there production cost raises. Finally the production will be low and effects to decrease in supply.

#### **Supply Function**

$$S_x = f(p_x, p_f, o \dots \dots \dots T, t, s)$$

The supply function is the mathematical expression of the relationship between supply and those

factors that affect the willingness and ability of a supplier to offer goods for sale

SX = Supply of goods

PX = Price

PF = Factor input employed (used) for production.

- Raw material
- Human resources
- Machinery

O = Factors outside economic sphere.

T = Technology.

t = Taxes.

S = Subsidies

There is a functional (direct) relationship between price and supply.

### **Law of Diminishing Marginal Utility**

The law of diminishing marginal utility is an important concept to understand. It basically falls in the category of Microeconomics, but it is of equal and significant importance in our day-to-day decisions. In this article, you will find the definition of the law of diminishing marginal utility, its detailed explanation with the help of a schedule and diagram, assumptions we make in the law of diminishing marginal utility and the exceptions where the law of diminishing marginal utility does not apply.

We will first start with the basic definition of 'Utility'.

#### **Utility:**

Utility is the capacity of a commodity through which human wants are satisfied.

#### **Law of Diminishing Marginal Utility:**

The law of diminishing marginal utility is comprehensively explained by Alfred Marshall. According to his definition of the law of diminishing marginal utility, the following happens:

“During the course of consumption, as more and more units of a commodity are used, every successive unit gives utility with a diminishing rate, provided other things remaining the same; although, the total utility increases.”

#### **Utils:**

'Utils' is considered as the measurable 'unit' of utility.

#### **Explanation for the Law of Diminishing Marginal Utility:**

We can briefly explain Marshall's theory with the help of an example. Assume that a consumer consumes 6 apples one after another. The first apple gives him 20 utils (units for measuring utility). When he consumes the second and third apple, the marginal utility of each additional apple will be lesser. This is because with an increase in the consumption of apples, his desire to consume more apples falls.

Therefore, this example proves the point that every successive unit of a commodity used gives the utility with the diminishing rate.

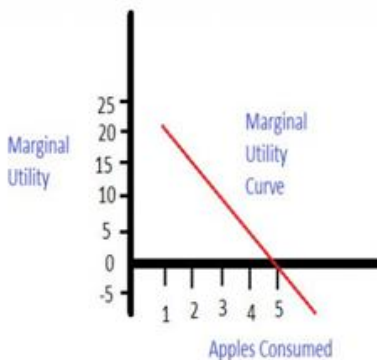
We can explain this more clearly with the help of a schedule and diagram.

#### **Schedule for Law of Diminishing Marginal Utility:**

Unit of Consumption	Marginal Utility	Total Utility
1	20	20
2	15	35
3	10	45
4	05	50
5	00	50
6	-05	45

In the above table, the total utility obtained from the first apple is 20 utils, which keep on increasing until we reach our saturation point at 5th apple. On the other hand, marginal utility keeps on diminishing with every additional apple consumed. When we consumed the 6th apple, we have gone over the limit. Hence, the marginal utility is negative and the total utility falls.

**With the help of the schedule, we have made the following diagram:**



**Saturation Point:** The point where the desire to consume the same product anymore becomes zero.

**Disutility:**

If you still consume the product after the saturation point, the total utility starts to fall. This is known as disutility.

When the first apple is consumed, the marginal utility is 20. When the second apple is consumed, the marginal utility increases by 15 utils, which is less than the marginal utility of the 1st apple – because of the diminishing rate. Therefore, we have shown that the utility of apples consumed diminishes with every increase of apple consumed.

Similarly, when we consumed the 5th apple, we are at our saturation point. If we consume another apple, i.e. 6th apple, we can see that the marginal utility curve has fallen to below X-axis, which is also known as ‘disutility’.

**Assumptions in the Law of Diminishing Marginal Utility:**

For the law of diminishing marginal utility to be true, we need to make certain assumptions. Each assumption is quite logical and understandable. If any of the assumptions are not true in the case, the law of diminishing marginal utility will not be true.

**Following are the assumptions in the law of diminishing marginal utility:**

The quality of successive units of goods should remain the same. If the quality of the goods increase or decrease, the law of diminishing marginal utility may not be proven true. Consumption of goods should be continuous. If there comes a substantial break in the consumption of goods, the actual concept of diminishing marginal utility will be altered.

Consumer’s mental outlook should not change. Unit of good should not be very few or small. In such a case, the utility may not be measured

accurately.

### Exceptions for the Law of Diminishing Marginal Utility:

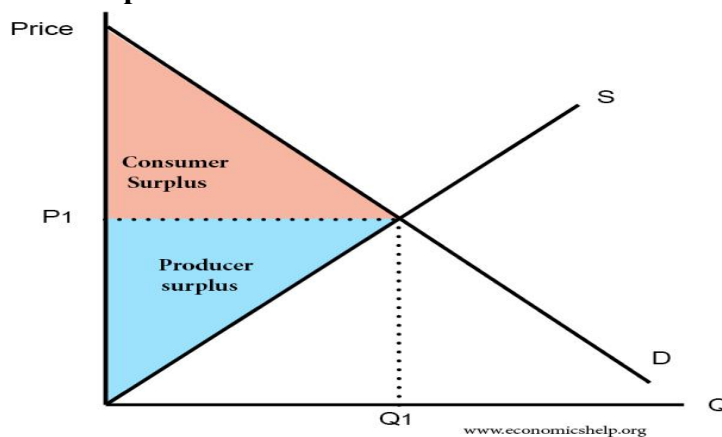
The law of diminishing marginal utility states that with the consumption of every successive unit of commodity yields marginal utility with a diminishing rate. However, there are certain things on which the law of diminishing marginal utility does not apply.

### Concept of Consumer Surplus

Consumer Surplus is the difference between the price that consumers pay and the price that they are willing to pay. On a supply and demand curve, it is the area between the equilibrium price and the demand curve

For example, if you would pay 76p for a cup of tea, but can buy it for 50p – your consumer surplus is 26p

### Diagram of Consumer Surplus

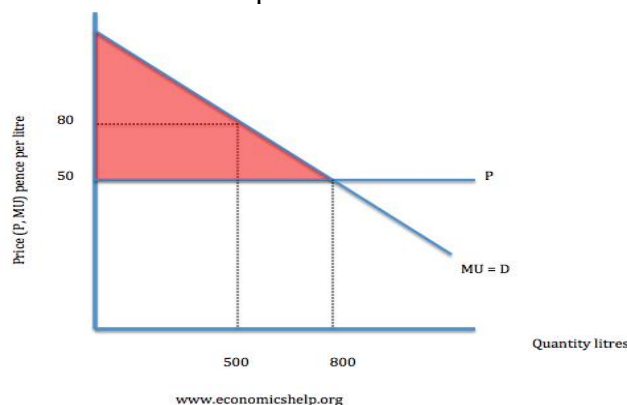


### Producer Surplus

- This is the difference between the price a firm receives and the price it would be willing to sell it at.
- Therefore it is the difference between the supply curve and the market price.

### Consumer Surplus and Marginal Utility

The demand curve is derived from our marginal utility. If the marginal utility of a good is greater than the price, then that is our consumer surplus.



### Can firms reduce consumer surplus?

1. Firms can reduce consumer surplus if they have market power. – This enables them to raise prices above the competitive equilibrium.

2. In a monopoly, a firm will maximise profits by reducing consumer surplus. See monopoly diagram
3. Another way to reduce consumer surplus is to engage in price discrimination. – Charging different prices to different groups of consumers. Those with inelastic demand will see their consumer surplus reduced. More on Price discrimination. To completely eliminate consumer surplus, a firm would need to engage in first-degree price discrimination – this means charging the consumer the highest price they are willing to pay.
4. To gain market power, a firm could advertise to create brand loyalty, this will make demand more inelastic

### **What is the significance of consumer surplus?**

- In competitive markets, firms have to keep prices relatively low, enabling consumers to gain consumer surplus. If markets were not competitive, the consumer surplus would be less and there would be greater inequality.
- A lower consumer surplus leads to higher producer surplus and greater inequality.
- Consumer surplus enables consumers to purchase a wider choice of goods.

### **Elasticity of Demand**

A change in the price of a commodity affects its demand. We can find the elasticity of demand, or the degree of responsiveness of demand by comparing the percentage price changes with the quantities demanded. In this article, we will look at the concept of elasticity of demand and take a quick look at its various types.

### **Elasticity of Demand**

To begin with, let's look at the definition of the elasticity of demand: "Elasticity of demand is the responsiveness of the quantity demanded of a commodity to changes in one of the variables on which demand depends. In other words, it is the percentage change in quantity demanded divided by the percentage in one of the variables on which demand depends."

The variables on which demand can depend on are:

- Price of the commodity
- Prices of related commodities
- Consumer's income, etc.

In both cases above, you can notice that as the price decreases, the demand increases. Hence, the demand for radios and wheat responds to price changes.

### **Types of Elasticity of Demand**

Based on the variable that affects the demand, the elasticity of demand is of the following types. One point to note is that unless otherwise mentioned, whenever the elasticity of demand is mentioned, it implies price elasticity.

### **Price Elasticity**

The price elasticity of demand is the response of the quantity demanded to change in the price of a commodity. It is assumed that the consumer's income, tastes, and prices of all other goods are steady. It is measured as a percentage change in the quantity demanded divided by the percentage change in price. Therefore,

$$\text{Price Elasticity} = E_p = \frac{\text{Percentage change in quantity}}{\text{Percentage change in price}}$$

demanded}} {\text{Percentage change in price}}}}\$

Or,

$E_p = \frac{\text{Change in Quantity}}{\text{Original Quantity}} \times 100 = \frac{\text{Change in Price}}{\text{Original Price}} \times 100$

$E_p = \frac{\text{Change in Quantity}}{\text{Original Quantity}} \times \frac{\text{Original Price}}{\text{Change in Price}} = \frac{\text{Change in Quantity}}{\text{Original Quantity}} \times \frac{\text{Original Price}}{\text{Change in Price}}$

### Income Elasticity

The income elasticity of demand is the degree of responsiveness of the quantity demanded to a change in the consumer's income. Symbolically,

$E_I = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$

### Cross Elasticity

The cross elasticity of demand of a commodity X for another commodity Y, is the change in demand of commodity X due to a change in the price of commodity Y. Symbolically,

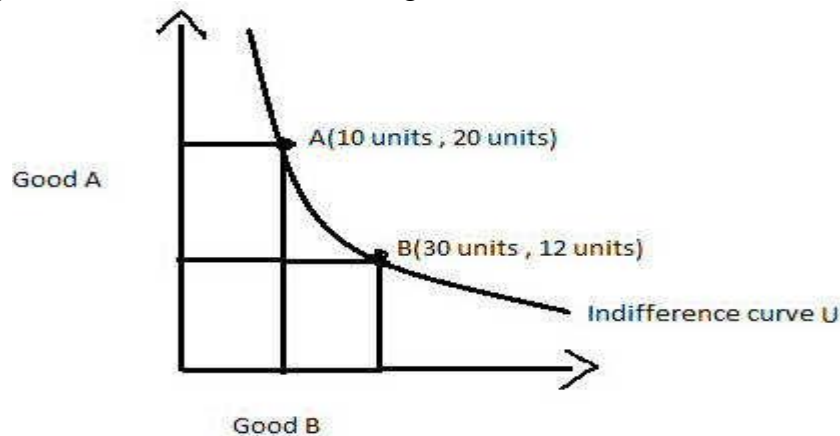
$E_{c} = \frac{\Delta q_x}{\Delta p_y} \times \frac{p_y}{q_x}$

Where,  $E_c$  is the cross elasticity,  $\Delta q_x$  is the change in demand of commodity X,  $\Delta p_y$  is the change in price of commodity Y, and  $p_y$  is the original price of commodity Y.

### Indifference Curve

**Definition:** An indifference curve is a graph showing combination of two goods that give the consumer equal satisfaction and utility. Each point on an indifference curve indicates that a consumer is indifferent between the two and all points give him the same utility.

**Description:** Graphically, the indifference curve is drawn as a downward sloping convex to the origin. The graph shows a combination of two goods that the consumer consumes.



The above diagram shows the U indifference curve showing bundles of goods A and B. To the consumer, bundle A and B are the same as both of them give him the equal satisfaction. In other words, point A gives as much utility as point B to the individual. The consumer will be satisfied at any point along the curve assuming that other things are constant.

### **Law of Increasing Returns to Scale**

This law states that the volume of output keeps on increasing with every increase in the inputs. Where a given increase in inputs leads to a more than proportionate increase in the output, the law of increasing returns to scale is said to operate. We can introduce division of labour and other technological means to increase production. Hence, the total product increases at an increasing rate.

#### **DEFINITION**

— In the words of **Marshall**, "An increase of labour and capital leads generally to improved organisation which increases the efficiency of the work of labour and capital. Therefore, an increase of labour and capital generally gives a return which increases more than in proportion."

— According to **Benham**, "As the proportion of one factor in a combination of factors is increased, upto a point, the marginal productivity of the factor will increase."

— In the words of **Mrs. Joan Robinson**, "Increasing Returns to a factor states that when an increasing amount of a factor of production is employed it generally brings about an improvement in organisation. As a result of it, units of the factor concerned become more efficient and to increase production it will not be necessary to increase the physical quantity of the factor in the same proportion."

If the proportional increase in output (production) is larger than that of the inputs, then we have increasing returns to scale.

### **Concept of Cost:**

Cost, a key concept in economics, is the monetary expense incurred 'by organizations for various purposes, such as acquiring resources, producing goods and services, advertising, and hiring workers. In other words, cost can be defined as monetary expenses that are incurred by an organization for a specified tiling or activity.

According to Institute of Cost and Work Accountants (ICWA), cost implies "measurement in monetary terms of the amount of resources used for the purpose of production of goods or rendering services." In terms of manufacturing, costs refer to sum total -of monetary value of resources used in producing or manufacturing a product. These resources can be raw material, labor, and land.

#### **A cost comprises a number of elements**

##### **i. Material:**

Helps in producing or manufacturing goods. Material implies a substance from which a product is made For example, an organization requires materials, such as bricks and cement for constructing a building.

#### **Material is divided into two categories, which are as follows:**

##### **a. Direct Material:**

Refers to a material that is directly related to a specific product, job, or process. Direct material becomes an integral part of the finished product.

#### **Some of the examples of direct material are as follows:**

1. Timber is raw material for making furniture
2. Sugarcane for making sugar.
3. Textile for garment industry
4. Gold for making jewellery
5. Cans for tinned food and drink

### **b. Indirect Material:**

Refers to a material that is not directly related to a particular product or activity. Such materials cannot be easily identified with the product

### **Concepts of Elasticity of supply**

The Price Elasticity of Supply measures the rate of response of quantity demanded due to a price change. If you've already read Elasticity of Demand and understand it, you may want to just skim this section, as the calculations are similar.

#### **Definitions**

— According to **Lipsey**, "Elasticity of supply is the ratio of percentage change in quantity supplied over the percentage change in price."

— In the words of **Prof. Bilas**, "Elasticity of supply is defined as the percentage change in quantity supplied divided by percentage change in price."

**Price elasticity of supply** measures the relationship between change in quantity supplied and a change in price. The formula for price elasticity of supply is:

$$\text{PES} = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}} \text{ or } \frac{\Delta Q}{\Delta P} \times \frac{P_1}{Q_1}$$

- $\Delta Q$  = change in the demand. (difference in demand)
- $\Delta P$  = change in the price. (difference in the price)
- $P_1$  = initial price. (first price/ old price)
- $Q_1$  = initial demand. (first demand/ old demand)

The value of elasticity of supply is **positive**, because an increase in price is likely to increase the quantity supplied to the market and vice versa.

### **Calculating the Price Elasticity of Supply**

You may be asked "Given the following data, calculate the price elasticity of supply when the price changes from \$9.00 to \$10.00" Using the chart on the bottom of the page, I'll walk you through answering this question.

First we need to find the data we need. We know that the original price is \$9 and the new price is \$10, so we have Price(OLD)=\$9 and Price(NEW)=\$10. From the chart we see that the quantity supplied (make sure to look at the supply data, not the demand data) when the price is \$9 is 150 and when the price is \$10 is 110. Since we're going from \$9 to \$10, we have  $Q_{\text{Supply(OLD)}}=150$  and  $Q_{\text{Supply(NEW)}}=210$ , where "Q Supply" is short for "Quantity Supplied". So we have:

- Price(OLD)=9
- Price(NEW)=10
- $Q_{\text{Supply(OLD)}}=150$
- $Q_{\text{Supply(NEW)}}=210$

To calculate the price elasticity, we need to know what the percentage change in quantity supply is and what the percentage change in price is. It's best to calculate these one at a time.

### **Calculating the Percentage Change in Quantity Supply**



The formula used to calculate the percentage change in quantity supplied is:

$$[\text{QSupply(NEW)} - \text{QSupply(OLD)}] / \text{QSupply(OLD)}$$

By filling in the values we wrote down, we get:

$$[210 - 150] / 150 = (60/150) = 0.4$$

So we note that **% Change in Quantity Supplied = 0.4** (This is in decimal terms. In percentage terms it would be 40%). Now we need to calculate the percentage change in price.

### **Calculating the Percentage Change in Price**

Similar to before, the formula used to calculate the percentage change in price is:

$$[\text{Price(NEW)} - \text{Price(OLD)}] / \text{Price(OLD)}$$

By filling in the values we wrote down, we get:

$$[10 - 9] / 9 = (1/9) = 0.1111$$

We have both the percentage change in quantity supplied and the percentage change in price, so we can calculate the price elasticity of supply.

### **Final Step of Calculating the Price Elasticity of Supply**

We go back to our formula of:

$$\text{PEoS} = (\% \text{ Change in Quantity Supplied}) / (\% \text{ Change in Price})$$

We now fill in the two percentages in this equation using the figures we calculated.

$$\text{PEoS} = (0.4) / (0.1111) = 3.6$$

When we analyze price elasticities we're concerned with the absolute value, but here that is not an issue since we have a positive value. We conclude that the price elasticity of supply when the price increases from \$9 to \$10 is 3.6.

### **Five Types of Elasticities of Supply:**

1. **Unit Elastic Supply:** When change in price of X brings about exactly proportionate change in its quantity supplied then supply is unit elastic i.e. elasticity of supply is equal to one, e.g. if price rises by 10% and supply expands by 10% then, change in the quantity supplied the supply is relatively inelastic or elasticity of supply is less than one.

$E_s = \% \text{ change in Quantity Supplied of X}$

$\% \text{ change in price of X}$

2. **Relatively Elastic Supply:** When change in price brings about more than proportionate change in the quantity supplied, then supply is relatively elastic or elasticity of supply is greater than one.

3. **Perfectly Inelastic Supply:** When a change in price has no effect on the quantity supplied then supply is perfectly inelastic or the elasticity of supply is zero.

4. **Perfectly Elastic Supply:** When a negligible change in price brings about an infinite change in the quantity supplied, then supply is said to be perfectly elastic or elasticity of supply is infinity.

All the five types of Elasticities of supply can be shown by different slopes of the supply curve. Fig. (1) Shows the supply is unit elastic because change in price from OP to OP1 brings about exactly proportionate change in the quantity supplied of commodity X viz., from OM to OM1. In this case  $E_s = 1$ .

Fig (2) shows that supply is relatively inelastic because change in price of from OP to OP1 brings about less than proportionate change in quantity supplied of X. in this case  $E_s < 1$ .

Fig (3) shows that supply is relatively elastic because change in price of X from OP to OP1

brings about more than proportionate change in quantity supplied of X. in this case  $E_s > 1$ .

Fig (4) shows that supply is perfectly inelastic because change in price of X from OP to OP1 has absolutely no effect on quantity supplied of X. in this case  $E_s = 0$ . Thus, if the supply curve is vertical, i.e. parallel to Y-axis it represents perfectly inelastic supply.

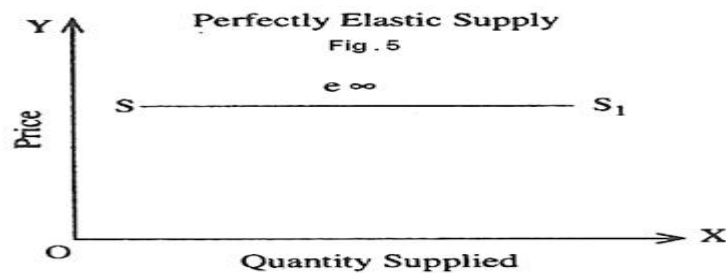


Fig (5) shows that supply is perfectly elastic because a small change in price of X brings about infinite change in supply. Thus, if the supply curve is horizontal or parallel to X- axis it represents perfectly elastic supply.

Hence, the five different types of elasticities of supply can be shown by five different slopes of supply curve.

### **Forces Governing the Supply of Factors of Production.**

**Some of the factors that influence the supply of a product are described as follows:**

#### **i. Price:**

Refers to the main factor that influences the supply of a product to a greater extent. Unlike demand, there is a direct relationship between the price of a product and its supply. If the price of a product increases, then the supply of the product also increases and vice versa. Change in supply with respect to the change in price is termed as the variation in supply of a product.

#### **ii. Cost of Production:**

Implies that the supply of a product would decrease with increase in the cost of production and vice versa. The supply of a product and cost of production are inversely related to each other. For example, a seller would supply less quantity of a product in the market, when the cost of production exceeds the market price of the product.

#### **iii. Natural Conditions:**

Implies that climatic conditions directly affect the supply of certain products. For example, the supply of agricultural products increases when monsoon comes on time. However, the supply of these products decreases at the time of drought. Some of the crops are climate specific and their growth purely depends on climatic conditions. For example Kharif crops are well grown at the time of summer, while Rabi crops are produce well in winter season.

#### **iv. Technology:**

Refers to one of the important determinant of supply. A better and advanced technology increases the production of a product, which results in the increase in the supply of the product. For example, the production of fertilizers and good quality seeds increases the production of crops. This further increase the supply of food grains in the market.

#### **v. Transport Conditions:**

Refer to the fact that better transport facilities increase the supply of products. Transport is always a constraint to the supply of products, as the products are not available on time due to poor transport facilities. Therefore even if the price of a product increases, the supply would not

increase.

**vi. Factor Prices and their Availability:**

Act as one of the major determinant of supply. The inputs, such as raw material man, equipment, and machines, required at the time of production are termed as factors. If the factors are available in sufficient quantity and at lower price, then there would be increase in production.

**vii. Government's Policies:**

Implies that the different policies of government, such as fiscal policy and industrial policy, has a greater impact on the supply of a product. For example, increase in tax on excise duties would decrease the supply of a product. On the other hand, if the tax rate is low, then the supply of a product would increase.

**viii. Prices of Related Goods:**

Refer to fact that the prices of substitutes and complementary goods also affect the supply of a product. For example, if the price of wheat increases, then farmers would tend to grow more wheat than rice. This would decrease the supply of rice in the market.

## UNIT- II Theory of Firm –Productivity- Cobb-Douglas – CES Model Problems of Price Fixation – Role of Supply and Demand.

### Theory of Firm

Theory of the firm is related to comprehending how firms come into being, what are their objectives, how they behave and improve their performance and how they establish their credentials and standing in society or an economy and so on. The theory of the firm aims at answering the following questions:

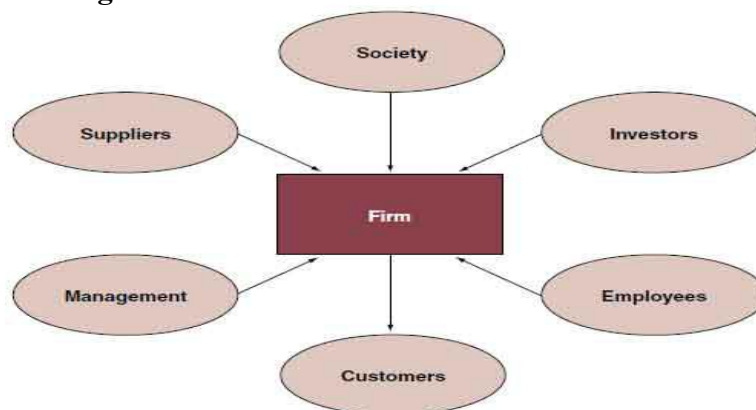
- Existence – why do firms emerge and exist, why are not all transactions in the economy mediated over the market?
- Which of their transactions are performed internally and which are negotiated in the market?
- Organisation – why are firms structured in such a specific way? What is the interplay of formal and informal relationships?
- Heterogeneity of firm actions/performances – what drives different actions and performances of firms?

### *Expected Value Maximization*

The model of business is called the **theory of the firm**. In its simplest version, the firm is thought to have profit maximization as its primary goal. The firm's owner-manager is assumed to be working to maximize the firm's short-run profits. Today, the emphasis on profits has been broadened to encompass uncertainty and the time value of money. In this more complete model, the primary goal of the firm is long-term **expected value maximization**.

The **value of the firm** is the present value of the firm's expected future net cash flows. If cash flows are equated to profits for simplicity, the value of the firm today, or its **present value**, is the value of expected profits or cash flows, discounted back to the present at an appropriate interest rate.

### The Corporation Is a Legal Device



This model can be expressed as follows:

### Value of the Firm = Present Value of Expected Future Profits

$$= \frac{\pi_1}{(1+i)^1} + \frac{\pi_2}{(1+i)^2} + \dots + \frac{\pi_n}{(1+i)^n}$$
$$= \sum_{t=1}^n \frac{\pi_t}{(1+i)^t}$$

Here,  $\pi_1, \pi_2, \dots, \pi_n$  represent expected profits in each year,  $t$ , and  $i$  is the appropriate interest, or discount, rate. The final form for Equation is simply a shorthand expression in which sigma ( $\Sigma$ ) stands for “sum up” or “add together.” The term

$$\sum_{t=1}^n$$

means, “Add together as  $t$  goes from 1 to  $n$  the values of the term on the right.” or Equation, the process is as follows: Let  $t = 1$  and find the value of the term  $\pi_1/(1+i)^1$ , the present value of year 1 profit; then let  $t = 2$  and calculate  $\pi_2/(1+i)^2$ , the present value of year 2 profit; continue until  $t = n$ , the last year included in the analysis; then add up these present-value equivalents of yearly profits to find the current or present value of the firm. Because profits ( $\pi$ ) are equal to total revenues ( $TR$ ) minus total costs ( $TC$ ), Equation can be rewritten as

$$\text{Value} = \sum_{t=1}^n \frac{TR_t - TC_t}{(1+i)^t}$$

This expanded equation can be used to examine how the expected value maximization model relates to a firm’s various functional departments. The marketing department often has primary responsibility for product promotion and sales ( $TR$ ); the production department has primary responsibility for product development costs ( $TC$ ); and the finance department has primary responsibility for acquiring capital and, hence, for the discount factor ( $i$ ) in the denominator. Important overlaps exist among these functional areas. The marketing department can help reduce costs associated with a given level of output by influencing customer order size and timing. The production department can stimulate sales by improving quality. Other departments, for example, accounting, human resources, transportation, and engineering, provide information and services vital to sales growth and cost control. The determination of  $TR$  and  $TC$  is a complex task that requires recognizing important interrelations among the various areas of firm activity. An important concept in managerial economics is that managerial decisions should be analyzed in terms of their effects on value, as expressed in Equations.

### Productivity

In control management productivity is defined as the overall efficiency and output of a given operational system.

### Productivity

Productivity—a ratio of production output to the input required to produce it—is one measure of production efficiency. Productivity is defined as a total output per one unit of a total input. Control management must implement control processes to maintain or improve productivity.

### Inputs

At the plant level, common input statistics are monetary units, weights or volumes of raw or

semi-finished materials, kilowatt hours of power, and worker hours. These are tracked as sets of partial productivity, such as kilowatt-hours per ton or yield (weight of output divided by weight of input), both of which are used in the chemical, refining, wood pulp, and other process industries. Quality statistics like defect rates are tracked in the same way. Summary reports are routinely issued to various departments and department managers are held accountable for managing inputs in their respective areas.

### **Outputs**

Output is simply the rate of which goods are being produced and readied for sale. Managing production levels is part of the control process—management teams must predict demand to avoid market saturation.

From the control manager's point of view, more outputs from the inputs describe above is a step in the right direction. Finding ways to streamline internal operations to minimize cost, limit resource use, and optimize performance (quality) is the control manager's central responsibility. Productivity in producing outputs, in short, can determine a control manager's success or failure.

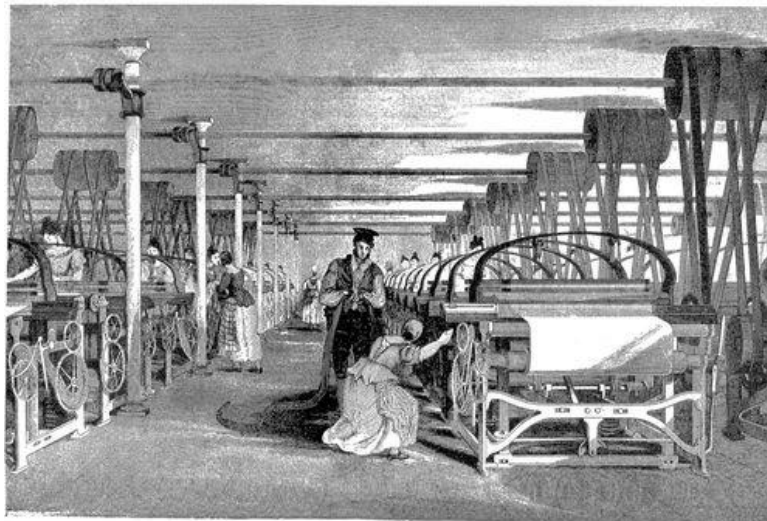
### **Productivity and the Firm**

Productivity growth is important to a firm because more real income means the firm can meet its obligations to customers, suppliers, workers, shareholders, and governments (taxes and regulation), and still remain competitive or even improve its competitiveness in the marketplace.

Productivity is one of the main concerns of business management and engineering. Practically all companies have established procedures for collecting, analyzing, and reporting productivity data. The accounting department typically has the overall responsibility of collecting, organizing, and storing data generated by various departments.

### **Improving Productivity**

Many companies have formal programs for improving productivity via existing control systems. Companies are constantly looking for ways to improve quality, reduce downtime, and increase inputs of labor, materials, energy, and purchased services. Simple changes to operating methods or processes can increase productivity (think Henry Ford's assembly line). The biggest gains often come from adopting new technologies or concepts, which requires capital expenditures for new equipment, computers, or software.



**Textile manufacturing:** During the Industrial Revolution, productivity increased with the implementation of the assembly line.

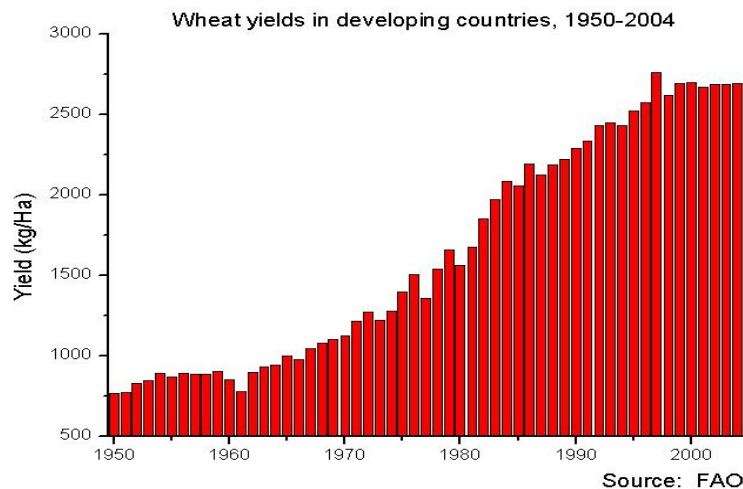
### **The Importance of Productivity**

Productivity is the ratio of total output to one unit of total input; high productivity means larger capital gains.

### Definition of Productivity

Productivity is a measure of the efficiency of production. It is a ratio of actual output (production) to what is required to produce it ( inputs ). Productivity is measured as a total output per one unit of a total input. Control managers in a given organization are concerned with maximizing productivity through process-oriented observations and improvements.

For businesses, productivity growth is important because providing more goods and services to consumers translates to higher profits. As productivity increases, an organization can turn resources into revenues, paying stakeholders and retaining cash flows for future growth and expansion. Productivity leads to competitiveness and potentially competitive advantages.



**Productivity Gains:** Wheat production has increased as the productivity gains improve, particularly since the 1980s.

### Processes that Affect Productivity

A producer can be broken down five main processes, each with a logic, objectives, theory, and key figures of its own. The main processes of a company are:

- Real process
- Income distribution process
- Production process
- Monetary process
- Market value process

Controllers in an organization are responsible for understanding each of these elements. Real process and production process are often seen as focal points in efficiency, but monetary concerns and market value are also very important. For example, Starbucks must regularly buy a huge volume of coffee beans. Those coffee beans are vulnerable to plant diseases and other factors that could make them scarce. The price of coffee beans in dollars is therefore an enormous monetary risk for the company because resource scarcity could raise its expenses exponentially. Its controllers must hedge against these risks.

- *Real process* – Real process generates the production output from input. It can be described by the production function. This refers to a series of events in production in which inputs of different quality and quantity are combined into products of different quality and quantity. Products can be physical goods, immaterial services, or combinations of both.

- *Income distribution* – Income distribution process refers to a series of events in which the unit prices of constant-quality products and inputs change, causing an alteration in the income distribution among those participating in the exchange. The magnitude of the change in income distribution is directly proportionate to the change in the price of the outputs and inputs and to their quantities. For example, productivity gains are distributed to customers as lower prices, which may lead to higher sales revenues. Productivity gains can also be distributed to employees in the form of higher wages.
- *Production process* – Production process is the real process and the income distribution process. Profitability is both a result and a criterion of business success. Profitability of production is the share of the real process result that the owner has been able to retain in the income distribution process (profits earned). Factors describing the production process are the components of profitability, which are revenues and expenses.
- *Monetary and market value processes* – Monetary process refers to financing a business and the inputs of production. Market value process refers to a series of events in which investors determine the market value of the company in the investment markets.

### **The Cobb-Douglas Production Function**

**The below mentioned article provides a close view on the Cobb-Douglas Production Function.**

The Cobb-Douglas production function is based on the empirical study of the American manufacturing industry made by Paul H. Douglas and C.W. Cobb. It is a linear homogeneous production function of degree one which takes into account two inputs, labour and capital, for the entire output of the manufacturing industry.

**The Cobb-Douglas production function is expressed as:**

$$Q = AL^a C^\beta$$

where Q is output and L and C are inputs of labour and capital respectively. A, a and  $\beta$  are positive parameters where  $a > 0$ ,  $\beta > 0$ .

The equation tells that output depends directly on L and C, and that part of output which cannot be explained by L and C is explained by A which is the 'residual', often called technical change.

The production function solved by Cobb-Douglas had 1/4 contribution of capital to the increase in manufacturing industry and 3/4 of labour so that the C-D production function is

$$Q = AL^{3/4} C^{1/4}$$

which shows constant returns to scale because the total of the values of L and C is equal to one:  $(3/4 + 1/4)$ , i.e.,  $(a + \beta = 1)$ . The coefficient of labourer in the C-D function measures the percentage increase in Q that would result from a 1 per cent increase in L, while holding C as constant.

Similarly, B is the percentage increase in Q that would result from a 1 per cent increase in C, while holding L as constant. The C-D production function showing constant returns to scale is depicted in Figure 20. Labour input is taken on the horizontal axis and capital on the vertical axis. To produce 100 units of output, OC<sub>1</sub> units of capital and OL<sub>1</sub> units of labour are used. If the output were to be doubled to 200, the inputs of labour and capital would have to be doubled. OC<sub>2</sub> is exactly double of OC<sub>1</sub> and of OL<sub>2</sub> is double of OL<sub>1</sub>.

Similarly, if the output is to be raised three-fold to 300, the units of labour and capital will have to be increased three-fold. OC<sub>3</sub> and OL<sub>3</sub> are three times larger than OC<sub>1</sub>, and OL<sub>1</sub>, respectively. Another method is to take the scale line or expansion path connecting the equilibrium points Q, P



and R. OS is the scale line or expansion path joining these points.

It shows that the isoquants 100, 200 and 300 are equidistant. Thus, on the OS scale line  $OQ = QP = PR$  which shows that when capital and labour are increased in equal proportions, the output also increases in the same proportion.

### **Criticisms of C-D Production Function:**

**The C-D production function has been criticised by Arrow, Chenery, Minhas and Solow as discussed below:**

1. The C-D production function considers only two inputs, labour and capital, and neglects some important inputs, like raw materials, which are used in production. It is, therefore, not possible to generalize this function to more than two inputs.

2. In the C-D production function, the problem of measurement of capital arises because it takes only the quantity of capital available for production. But the full use of the available capital can be made only in periods of full employment. This is unrealistic because no economy is always fully employed.

3. The C-D production function is criticised because it shows constant returns to scale. But constant returns to scale are not an actuality, for either increasing or decreasing returns to scale are applicable to production.

It is not possible to change all inputs to bring a proportionate change in the outputs of all the industries. Some inputs are scarce and cannot be increased in the same proportion as abundant inputs. On the other hand, inputs like machines, entrepreneurship, etc. are indivisible. As output increases due to the use of indivisible factors to their maximum capacity, per unit cost falls.

Thus when the supply of inputs is scarce and indivisibilities are present, constant returns to scale are not possible. Whenever the units of different inputs are increased in the production process, economies of scale and specialization lead to increasing returns to scale.

In practice, however, no entrepreneur will like to increase the various units of inputs in order to have a proportionate increase in output. His endeavour is to have more than proportionate increase in output, though diminishing returns to scale are also not ruled out.

4. The C-D production function is based on the assumption of substitutability of factors and neglects the complementarity of factors.

5. This function is based on the assumption of perfect competition in the factor market which is unrealistic. If, however, this assumption is dropped, the coefficients  $\alpha$  and  $\beta$  do not represent factor shares.

6. One of the weaknesses of C-D function is the aggregation problem. This problem arises when this function is applied to every firm in an industry and to the entire industry. In this situation, there will be many production functions of low or high aggregation. Thus the C-D function does not measure what it aims at measuring.

### **It's Importance:**

Despite these criticisms, the C-D function is of much importance.

1. It has been used widely in empirical studies of manufacturing industries and in inter-industry comparisons.

2. It is used to determine the relative shares of labour and capital in total output.

3. It is used to prove Euler's Theorem.

4. Its parameters  $a$  and  $b$  represent elasticity coefficients that are used for inter-sectoral comparisons.

5. This production function is linear homogeneous of degree one which shows constant returns to

scale, If  $\alpha + \beta = 1$ , there are increasing returns to scale and if  $\alpha + \beta < 1$ , there are diminishing returns to scale.

6. Economists have extended this production function to more than two variables

### **CES Model Problems of Price Fixation**

Price fixing is when two entities, usually companies, agree to sell a product at a set price. They do this to maintain profit margins. It's easiest for monopolies to fix prices. They operate without competitors that could offer products at lower prices.

Types

There are four types of price fixing.

**Agreement to raise prices:** All competitors agree to raise prices of a product by a certain amount. In 2012, the Cardozo Law Review published a study of 75 such situations. It found such agreements raise prices by 20%.

**Freeze or lower prices:** Governments fix prices by setting price freezes. In the 1970s, inflation threatened to destroy consumers' confidence in the economy itself. The government fixed prices to stop inflation and restore confidence. It is a very clumsy tool and is only used when monetary policy has proven ineffective.

**Horizontal price fixing:** That is among competitors of a particular product. It was most famously done by the Organization of the Petroleum Exporting Countries. Although the countries do fix oil prices, they are government, not commercial entities. That makes them beyond the reach of U.S. antitrust laws, according to a 1979 U.S. District Court decision.

**Vertical price fixing:** It usually occurs among those in the supply chain, like an auto manufacturer and its dealers. For example, a manufacturer of a popular doll might use its clout to force its retailers to follow the "Manufacturer's Suggested Retail Price" and not offer sales or discounts. This type of price fixing has been illegal since 1911. That's thanks to the Supreme Court's decision in *Miles v. Park* when the Court said price fixing violated the Sherman Antitrust Act.

Some manufacturers get around this through vertical integration. For example, Apple has its stores. That allows it to remain full-price without being accused of illegal price fixing.

### **Other Forms of Price Fixing**

Price fixing isn't simply confined to an agreement of setting the same price. Corporations can do a price fix by making a joint effort to:

- Offer or withhold the same discounts or shipping terms.
- Establish a common formula for price changes.
- Set a production amount, quota, or capacity.

### UNIT-III Concept of Normal Profit – Sales Maximization Principles – Monopoly

- Monopolistic Competition – Perfect Competition – Imperfect Competition – Oligopoly.

#### ***Normal profits – definition***

There are many theories of profit in economics. Economists tend to start with [Alfred Marshall's](#) concept of normal profit, which, he argued, was the residual gain to a firm's owner as a result of contributing two benefits to the business. The first benefit to the business is the investment of the owner's personal capital. The second benefit derives from the supply of what Marshall called 'business power' – which is the ability to organise business activities.

To ensure that an entrepreneur continues to provide these two inputs, a minimum reward will be required – namely, normal profit. Normal profit is, essentially, an opportunity cost – given that the reward must be marginally better than could be derived by supplying these inputs into an alternative endeavour.

Given that normal profit is seen as the necessary reward to enterprise as a factor of production it is possible to think of normal profit as a production cost. If so, then normal profit will be earned if the revenue generated from the sale of a quantity of goods or services (total revenue – TR) equals the cost of producing that quantity (total cost – TC) which covers the opportunity cost of all the factors used. In simple terms, when  $TC = TR$  normal profits will be made.

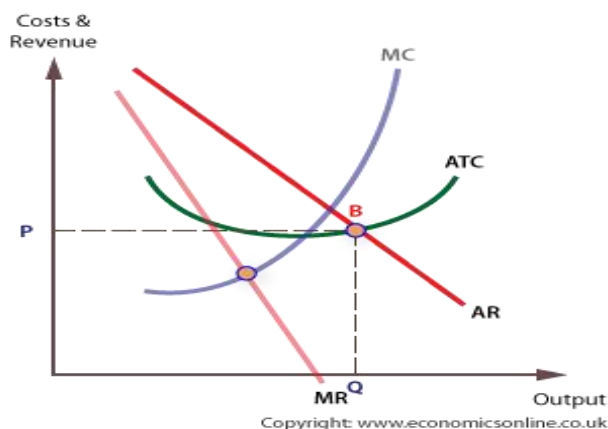
Super-normal profit (SNP) is any reward over and above normal profit.

#### **Sales maximisation – definition**

Sales maximisation is a theoretical objective of a firm which involves selling as many units of a good or service as possible, without making a loss.

This means sacrificing some short-term profit with a view to achieving a longer term gain. For example, while seasonal 'sales' may result in lower profits, space is created as stocks are cleared, and more profitable lines can be introduced.

Graphically, it means selling at a quantity where  $AR = ATC$ , as shown (at point B.)



## Monopoly

Monopoly means *'single selling'*. In brief, monopoly is a market situation in which there is only one seller or producer of a product for which no close substitution is available. As there is only one firm under monopoly, that single firm constitutes the whole industry. The monopolist can fix price of his product and can pursue an independent price policy. A monopolist can take the decision about the price of his product. For ex:- electricity, water supply companies etc.

### Features

The following are the important features of monopoly :-

1. One seller and a large number of buyers.
2. No close substitutes for the product.
3. Monopolist is not the price taker and the price maker.
4. Monopolist can control the supply.
5. No entry of new firm to the market.
6. Firm and industry are the same Causes of Monopoly

1. Legal restrictions
2. Exclusive ownership or control over the raw materials.
3. Economies of large scale production
4. Exclusive knowledge of a production technique.

### Price Determination under Monopoly

A monopoly firm has complete control over the entire supply. It can sell different quantities at different prices. It can sell more if it cuts down its price. Thus the monopoly firm faces a downward sloping demand curve or average revenue (AR) curve. As the single firm constitutes

the industry the demand curve of the monopoly firm and the industry will be the same. But under perfect competition the firm's demand curve is a horizontal straight line, but the industry's demand curve slopes downwards. Since average revenue falls when more units of output are sold marginal revenue will be less than average revenue. MR curve thus declines at a greater rate than AR curve and it falls below AR curve.

Though the monopolist has the freedom to fix any price he will prefer a price output combination that gives him maximum profit. He goes on producing so long as additional units add more to revenue than to cost. He will stop at that point beyond which additional units of production add more to cost than to revenue. In other words he will be in equilibrium position at the output level at which MR equals MC and MC cuts MR from below.

### **Difference between perfect competition and Monopoly**

1. Under perfect competition there are many sellers but in the case of monopoly, there is only one seller.
2. Individual seller has no control over the market supply in the case of perfect competition. But in the case of Monopoly individual seller controls the supply.
3. Products are identical in the case of perfect competition, but there is only one product in the case of Monopoly.
4. Under perfect competition, there are free entry and exit of firms. But the Monopolist blocks the entry.
5. The Monopolist discriminates the price but there is uniform price in perfect competition.
6. Firm and Industry is different in the case of perfect competition, they are same in the case of Monopoly.

### **Monopolistic Competition**

In the present World market, it can be seen that there is no monopoly and there is no real competition. There is a mix up of the two. This situation is generally known as Monopolistic competition. According to Prof. E. H. Chamberlin of America, Monopolistic Competition means a market situation in which competition is imperfect. The products of the firms under monopolist competition, are mainly close substitutes to each other.

### **Features / Assumptions of Monopolistic Competition.**

The following are the important features of Monopolistic Competition.

1. There are large numbers of producers or sellers.
2. It deals with differentiated products.
3. There are free entry and exit of firms to the markets.
4. The selling cost determines the demand for the products.
5. There is no association of firms.
6. There is no price competition.
7. There is lack of knowledge of the market.

### **Price and Output decisions under Monopolistic Competition Short run period**

In short run, each existing firm is a monopolist having a downward sloping demand curve for its product. In order to maximize its profit the firm will produce that level of output at which

MC=MR if price is more than MR, there will be abnormal profit.

**Long –Run Period**

In the long period, normal profits will disappear .New firms will enter the industry and consequent expansion of output will decrease the price and only normal profit are made by the firms. Profit are normal only when Average Cost (AC) equals the Average Revenue (AR).Then the equilibrium output will be at AC and MC=MR.

**Difference between Perfect Competition and Monopolistic Competition**

Perfect Competition	Monopolistic Competition
1)Products are identical . 2)It is not a real concept 3)Large Number of buyers and sellers . 4)Perfect knowledge of market Condition 5)Selling Cost do not play any role . 6)They are price takers 7) Demand curve is horizontal 8) AR,.MR curves are parallel to x axis and price = demand = AR=MR	1) Products are differentiated 2) It is real concept . 3) Buyers and Sellers are not so large 4) Lack of perfect knowledge of market Condition 5) Selling cost has an important role. 6) They are price markers . 7) Demand curve is downward sloping 8) Price = demand =AR=But MR<AR.

**Perfect Competition**

The term perfect competition is used in wider sense. perfect competition means all the buyers and sellers in the market are aware of price of products .The following are the characteristics of perfectly competitive market

1. Large number of buyers and sellers in the market
2. Homogeneous product
3. Free entry or exit
4. All the buyers and sellers in the market have perfect knowledge about the market conditions.
5. Perfect mobility of factor of production
6. Absence of transportation costs.

When the first three assumptions are satisfied there exists pure competition .competition becomes perfect only when all the assumptions are satisfied . In perfect competition ,the demand for the output for each producer is perfectly elastic .With the larger number of firms and homogeneous products, no individual firm is in a position to influence the price .

## Equilibrium Price

The demand curve normally slopes downwards showing that more quantity of commodity will be demanded at a lower price than at a higher price. Similarly supply curve showing an upward trend where the producers will offer to sell a larger quantity at a higher price than at a lower price. Thus the quantity demanded and quantity supplied vary with price.

### Effect of time on supply

According to Marshall, time has great influence on the determination of price. The following are the market periods based on time- market period, short period and long period.

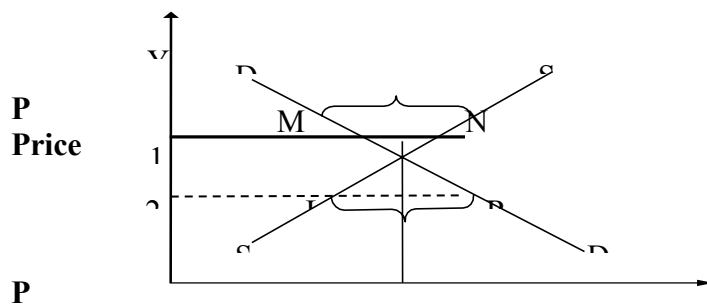
#### 1. Very short period (Market period) 2. Short period 3. Long period

Market period or very short period may be only a day or very few days. Change in supply is not possible where the period is very short and quantity demanded will be the determining factor in this period. Further, supply curve in the market period is remain fixed showing vertical straight line.

The short period is a period not sufficient to make any changes in the existing fixed plant capacity. Increase in supply in the short period is possible by increasing the variable factors of production only. The supply curve slopes upward to the right showing that some increase in supply is possible when the price increases.

### Price determination Under perfect competition

In perfect competition the market price of a commodity is determined by its demand and supply. The price of a commodity determines at the point where quantity demanded equates quantity supplied. It can be explained through the following diagram.



O Q X

### Quantity demanded and supplied

In the above diagram, DD denotes the demand curve and SS denotes the supply curve. Demand and supply curves slope in opposite directions. In this diagram OP is the equilibrium price where the demand curve equates with the supply curve. In this figure, the point E determines the equilibrium price and OQ is the equilibrium quantity. From the diagram it can be noted that if the price increases to  $OP_1$ , the demand will be  $P_1M$  and supply will be  $P_1N$ . So MN will be excess supply. Under this circumstance, the firm will be forced to lower the price in order to sell the excess stock. If the firm can minimize the price, the profit will be low. Thus we can say that at the point of equilibrium, a firm can derive maximum profit. At the point of equilibrium, there are two conditions to be satisfied.

## **Imperfect Competition'**

**Definition:** Imperfect competition is a competitive market situation where there are many sellers, but they are selling heterogeneous (dissimilar) goods as opposed to the perfect competitive market scenario. As the name suggests, competitive markets that are imperfect in nature.

**Description:** Imperfect competition is the real world competition. Today some of the industries and sellers follow it to earn surplus profits. In this market scenario, the seller enjoys the luxury of influencing the price in order to earn more profits.

If a seller is selling a non identical good in the market, then he can raise the prices and earn profits. High profits attract other sellers to enter the market and sellers, who are incurring losses, can very easily exit the market.

*There are four types of imperfect markets:*

- Monopoly (only one seller) - Oligopoly (few sellers of goods) - Monopolistic competition (many sellers with highly differentiated product) - Monopsony (only one buyer of a product)

### **Oligopoly**

Oligopoly is a situation in which there are so few sellers that each of them is conscious of the results upon the price of the supply . Which he individually places upon the market . According to J .Stigler `Oligopoly is that situation in which a firm bases its market policy in part on the expected behavior of a few close rivals`. Further ,they may produce homogeneous or differentiated products.

#### **Characteristics**

Oligopoly is a distinct market condition . It has the following features:

1. The firms are inter dependent in decision making .
2. Advertising should be effective.
3. Firms should have group behavior.
4. Indeterminateness of demand curve .
5. The number of firms or producers or sellers are very small .
6. Product are identical or close substitutes to each other
7. There is an element of Monopoly

#### **Price Determination Under Oligopoly**

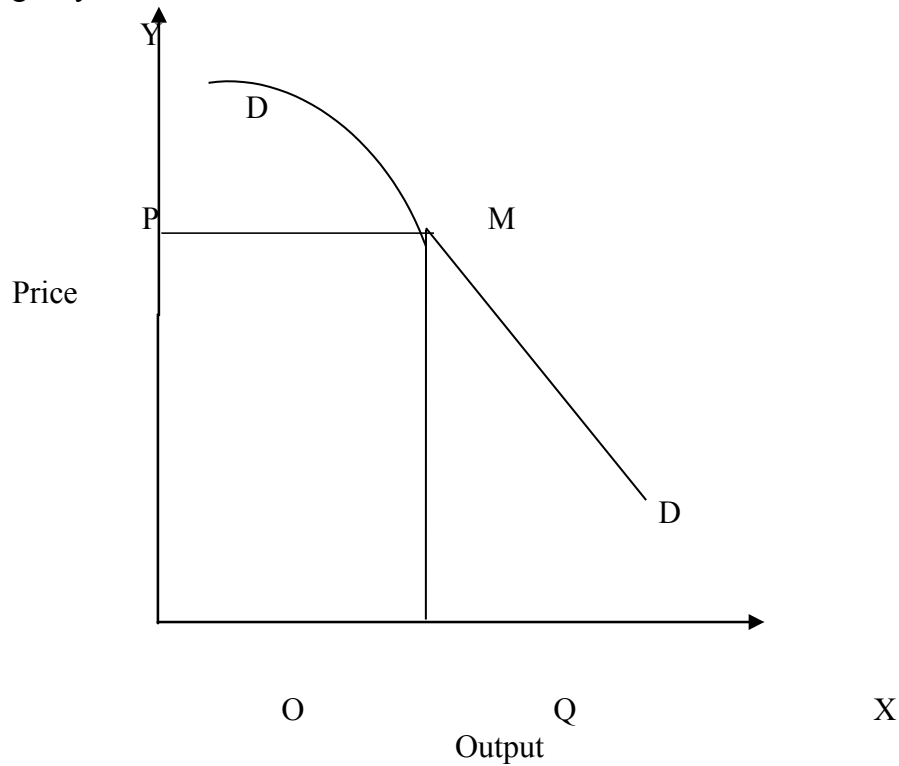
Pricing may be in condition of independent pricing ,Pricing under price leadership and pricing under collusion.

#### **Independent pricing (Kinked Demand Model or Price rigidity Model)**

Kinked demand curve was first introduced by prof Paul M Sweezy to explain price rigidity under oligopoly. An oligopolist always guesses about his competitors reaction. They assume that if one decides to decrease the price , the others will also reduce the price . The assumption behind the kinked curve is that each oligopolist will act and react in a way that keep condition tolerable for all the members of the industry . If one firm reduces the price of the product ,the others will be compelled to reduce the price . But some Times, If one increases the price, the other will not increase the price. The firms in Oligopoly do not increase the prices due to the possibility of losing the customers to rivals who do not raise their prices. Firms usually do not change their price in response to small changes in costs.



The kinked demand curve has two segments i.e(i) the relatively elastic portion of the demand curve and(ii)the relatively inelastic portion of the demand curve. The following diagram will give you the clear idea:



Kinked demand curve DD with a kink at point M. The price prevailing in the market is OP and the firm produces OQ output . Here .D, M is the relatively elastic of the demand curve and MD Is the relatively inelastic portion. This difference in the elasticities of demand due to the particular competitive reaction pattern assumed by the Kinked demand Curve hypothesis.

## **UNIT-IV National Income – Circular Flow of Income – Measurement – Difficulties in the Measurement.**

National income is the aggregate money value of all incomes earned by individuals and enterprises. National income may also be defined as the money measure of the net aggregates of all commodities and services accruing to the inhabitants of an economy during a year. Thus, the concept national income has different meanings. It may be described as the 'national product' or 'national income' or 'national dividend'.

### **I. Different Views on National Income by Different Economists:**

**Here we present different views on national income suggested by different economists at different times:**

#### **1. Marshall's Definition:**

Marshall defines national income or national dividend in the following way: "The labour and capital of a country, acting on its natural resources, produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds... This is the true net annual income or revenue of the country or national dividend."

The term net refers to deductions from total gross produce in respect of depreciation and wearing out of the plant and equipments plus additions of net income from abroad. This may be construed as national dividend as a flow of goods and services but not a fund. In Marshall's words, "the national dividend is at once the aggregate net product of and the sole source of payment for all agents of production within the country." Thus, what is produced in an economy is distributed among the various factors of production.

#### **2. Pigou's Definition:**

According to A.C. Pigou; "National income is that part of the objective income of the community, including, of course, income derived from abroad which can be measured in money." This definition is rather narrow as it does not include unmarketed goods and services for which no money payment is involved. This definition involves certain paradoxes. He argues that if a man marries his maid-servant the national income is reduced since he is not supposed to pay any remuneration or wages to his housewife who was paid before marriage. Anyway, Pigou's definition is narrow.

Prof. Cairncross says; "The national income is, in fact, simply the output upside down. What we produce flows into a reservoir; what are consumed is drawn from the same reservoir, from the joint output of the community."

What is clear from the above discussion is that Marshall's definition seems to be more comprehensive.

#### **3. Modern Definition:**

National income is a money measure of the value of all goods and services produced in a year by a nation. The National Sample Survey defines national income as "money measures of the net aggregates of all commodities and services accruing to the inhabitants of a community during a specific period." According to the National Income Committee of India "A national income estimate measures the volume of commodities and services turned out- during a given period, counted with duplication."

According to Froyen; “National income is the sum of all factor earnings from current production of goods and services. Factor earnings are incomes of factors of production.” In the same vein, Gardner Ackley defines “National income is the sum of all (a) wages, salaries, commissions, bonuses and other form of incomes, (b) net income from rentals and royalties, (c) interest, (d) profit.”

**The concept ‘national income’ has been interpreted by economists usually in three ways. These are:**

- (i) National product,
- (ii) National expenditure, and
- (iii) National dividend. It is to be kept in mind that these are not different concepts.

As these three imply the same thing, these will be used interchangeably in the following pages. Using these three concepts we will show that national income is “the total flow of wealth produced, distributed and consumed.”

## **II. National Income Accounts:**

Economic growth of any country is measured by its growth of national and per capita incomes. In other words, national income is the yardstick of measuring the growth performance of any economy. Increase in national income is tantamount to economic growth. In view of this, every country prepares statistics on national income as well as its various facets.

The method through which national income statistics is prepared and compiled is called national income accounting. Thus, national income accounts can be defined as a set of systematic statements which reflect the aggregate money value of all goods and services produced in different sectors of an economy (primary, secondary and tertiary sectors) together with the records of distribution of factor incomes among different groups and final expenditures (either gross or net) of the economy.

In national income accounts, all types of transactions conducted, say, in a year, are recorded. These are systematically classified and entered into national income accounts by the statisticians. Thus, national income accounts reflect how millions of transactions that are conducted are interrelated. Above all, by reading these accounts one gains clear knowledge about the working of the economy.

Economists, planners, government, businessmen, international agencies (IMF, World Bank, etc.) use national income data and analyse them for variety of purposes. Firstly, while formulating national economic plans and policies, national income statistics are taken into account. Secondly, national income data help in measuring changes in the standard of living over time. Level of development is also measured by using national income figures. Such figures are also of importance for making international comparisons. There are other uses too. Above all, national income figures enable us to compare standards of living of different countries.

## **III. Circular Flow of Income:**

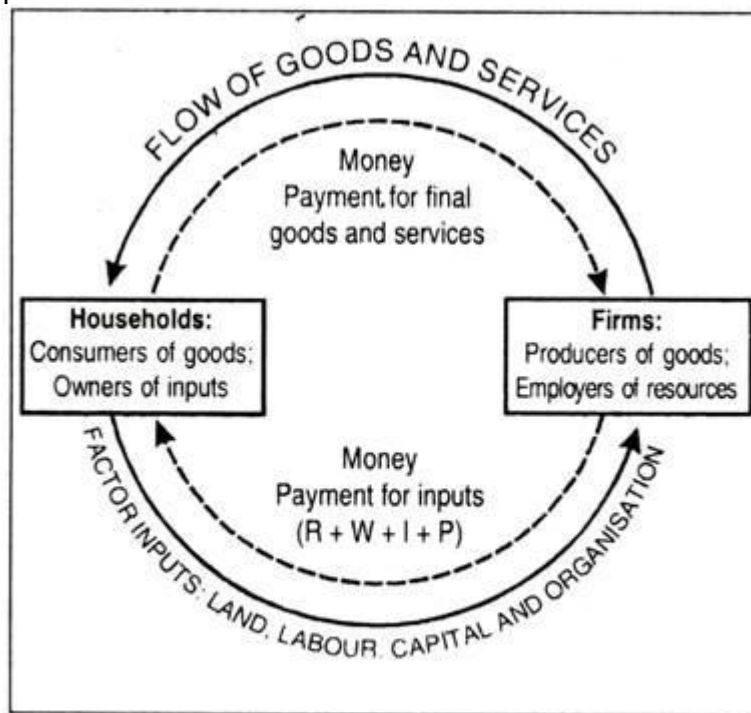
The national income and national product accounts of a country describe the economic performance or production performance of a country. Various measures of the nation’s income and product exist the most frequently cited summary measures of an economy’s performance is the gross national product (GNP) or gross domestic product (GDP). However, there is a subtle distinction between GNP and GDP since both move closely together. Anyway, the distinction between the two will be presented in due time.

The national product is the value of final goods and services produced in a country. Since all the value produced must belong to someone in the form of a claim on the value, national product is equal to national income. Each transaction in an economy involves a buyer and a seller. Households spend money for buying goods and services produced.

Thus, from the buyers' side comes the flow of money demand. In other words, we have expenditure-side transaction. On the sellers' side, money payments go to factor owners in the form of rent, wages, etc. Firms spend money for buying input services. Thus, we have income-side transaction from the seller's side. These two are obverse and reverse of the same coin. This is called circular flow of income and expenditure.

Graphically, we can present the circular flow of income. We are assuming that we are living in a market-oriented economy or a capitalistic economy where there are two decision-makers: firms and households. Firms make production decision. Households are consuming units which absorb output produced in the business firms. Again, firms coordinate and employ different factor units which are owned by households.

In Fig. 2.1, goods and services flow from firms to households via the product market in return for the money payment for these goods and services by firms. Arrowhead indicates such goods flow and money flow between firms and households. It is clear that the flow of monetary payment on goods and services by buyers must be identical to the money value of all goods and services that firms produce and sell to households.



**Fig. 2.1:** Circular Flow of Income and Expenditure in a Two-sector Economy

But wherefrom do the households get money? The diagram answers this question. Households supply factor inputs to firms via the factor markets. In return, households receive money from firms in the form of rent, wages, etc. These income payments to households on hiring input services must be identical to the firms' income. This is the essence of the circular

flow of income in a two-sector economy where there is no governmental activity and the economy is a closed one. Adding these, we have

$$Y = C + I$$

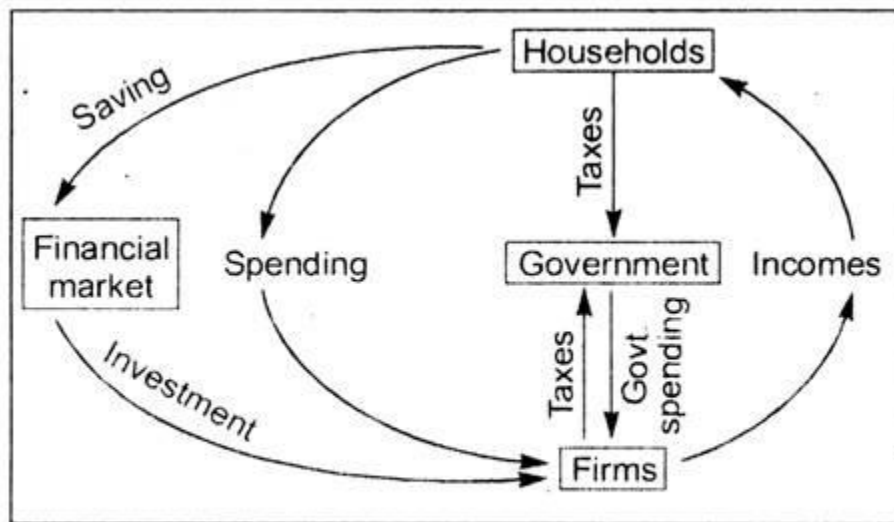
where Y stands for national income, C for private consumption spending, and I for private investment spending.

In a three-sector (closed) economy, the government intervenes. It spends not only for the benefits of the general people and firms but also imposes taxes on them to finance its spending.

If we add government activities (levying of taxes, T and incurring expenditures, G), we have

$$Y = C + I + G$$

The relationships between households, firms and government have been presented in a circular flow diagram (Fig. 2.2).



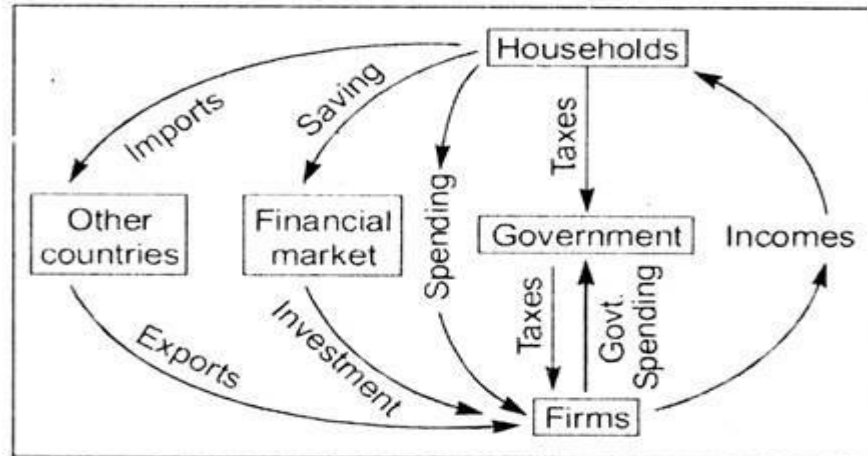
**Fig. 2.2:** Circular Flow of Income and Expenditure in a Three-sector Economy (Closed Economy)

Households receive money income from firms and government by selling input services. Part of this income is used to pay taxes to the government. Government spends by utilising its tax revenues. Households save in the financial market. These two—saving and taxes—constitute leakages in the circular flow. It is, thus, clear from Fig. 2.2 that the circular flow of money income depends upon consumption spending of households, investment spending of business firm and government's plans to tax and spend.

A four-sector economy is called an open economy in the sense that the country gets money by sending its goods outside i.e., exports (X), and spends money by buying foreign-made goods and services i.e., imports (M). In other words, in an open economy, there occurs a trading relationship between nations. Adding (X-M) in the above equation, we get

$$Y = C + I + G + (X - M)$$

The circular flow model in a four-sector open economy has been shown in Fig. 2.3.



**Fig. 2.3:** Circular Flow of Income and Spending in an Open Economy

The only difference in the circular flow of income between a closed economy and an open economy is that, in a four-sector economy, households purchase foreign-made goods and services (i.e., imports). Likewise, people of other countries purchase goods and services not produced domestically (i.e., exports). Imports constitute leakage from the circular flow while exports constitute injection in the circular flow. For simplicity's sake, we have not shown in the diagram that firms and governments also sell export goods and purchase import goods. Note that  $(I + G + X)$  constitute 'injections' into the circular flow and  $(S + T + M)$  constitute 'leakages' from circular flow. Injections increase national income while withdrawal or leakages reduce national income.

The national product or national income measures the overall economic performance of a nation. To measure the national product, we add up the value of all final goods and services produced in a country in a year. Thus, we focus on firms or sellers which receive payment for the production. This is the product method of calculating national income.

#### **IV. Concepts of National Income:** **Some Important Concepts of National Income:** **1. GDP and GNP:**

GDP measures the aggregate money value of output produced by the economy over a year. In other words, GDP is obtained by valuing all final goods and services produced domestically in a year at market prices. GDP is also calculated by adding all the incomes generated by the act of production. Since only domestically produced goods and services is estimated, we use the word 'domestic' to distinguish it from the gross national product. The word 'gross' means that no deduction for depreciation is allowed.

GNP includes GDP plus net property income from abroad. Thus, GNP includes incomes that nationals earn abroad, but it does not include the incomes earned by foreign nationals. On the other hand, GDP is concerned with incomes generated domestically even by the foreigners. GDP ignores incomes received from abroad.

It is a measure of the goods and services produced within the country, regardless of who owns the assets. And GNP is the total of incomes earned by the residents of a country, regardless of where the assets are located. India's GNP includes profits from Indian-owned businesses located in other countries. In other words,

GNP = market value of domestically produced goods and services + incomes earned by the nationals in foreign countries – incomes earned in the country by foreigners.

GDP = market value of goods and services produced in the country + incomes earned in the country by foreigners – incomes received by resident nationals from abroad.

An example will help our understanding. Suppose, an Indian doctor goes to the USA temporarily to work there. The income he earns by rendering his service in the USA is included in the US GNP and not India's GDP because it is earned in the USA. But this income is not part of the US GDP because the Indian doctor is a foreign national there. Similarly, the income of a US ambassador in New Delhi is not included in the US GNP, but it is a part of India's GDP. Thus,

$GNP = GDP + \text{net property income from abroad.}$

Thus, GDP measures the aggregate money value of all goods and services produced by factors of production located and paid for in the domestic economy, even if these factors are owned abroad.

## **2. GDP at Market Price and GDP at Factor Cost:**

When national product is measured, it is measured at current market prices. Market prices always reflect taxes and subsidies on the commodities produced. If indirect taxes are imposed on commodities, market prices of the commodities go up. A 10 p.c. tax on a book on economics will raise its price. Tax is included in the price of a commodity and tax is not a production. Similarly, subsidies are provided to some commodities, as a result of which prices decline. If we do not make any adjustment for such taxes and subsidies, we obtain GDP at market prices.

GDP at market prices do not reflect true incomes of factors of production. It includes taxes and subsidies but such are not production and, hence, they cannot be treated as incomes of productive inputs.

So, taxes and subsidies are to be excluded and included respectively to obtain the true figure of production. Value of output can never be equal to the value of incomes paid to all productive inputs. By adjusting taxes and subsidies, we obtain GDP at factor cost, i.e.,

$GDP \text{ at factor cost} = GDP \text{ at market prices} - \text{indirect taxes (T)} + \text{subsidies (S}_U)$

An example may be given here. Suppose, an excise duty on Indica car has been imposed. As a result of this, price of the car goes up to Rs. 2.75 lakh (Rs. 5 lakh being the excise duty). Value of the car output is, in fact, Rs. 2.70 lakh. This means different factor inputs have earned incomes in the form of rent, wages, etc. to the extent of Rs. 2.70 lakh. Value of output must equal value of incomes generated. Thus, indirect taxes are to be excluded.

Subsidies have the opposite effect of taxes. A subsidy per unit of coarse cotton cloth has the effect of reducing its market price. As a result of, say, one rupee subsidy per meter, consumers get the cotton cloth at Rs. 20 per meter. But incomes received by input owners in this cloth mill are Rs. 21 per meter. Value of output must equal the value of all incomes. So, subsidies are to be added. Thus, by subtracting taxes and adding subsidies from GDP at market prices, one obtains GDP at factor cost.

**GNP at market prices and GNP at factor cost are calculated in the same way as described above:**

$NI = NNP - T + S_U$

or  $NI = (GNP - D) - T + S_U$

## **3. NNP:**

If we deduct depreciation from gross product we obtain net product. GDP minus depreciation is called NNP. NNP is sometimes called national income.

Anyway, to measure NNP, we must make a distinction between gross investment ( $I_G$ ) and net investment ( $I_N$ ). Gross investment refers to total expenditure for new plant, equipment, etc., plus the change in inventories. Net investment is equal to gross investment less depreciation. That is,

$$I = I_G - \text{depreciation}$$

$$\text{Since } GNP = C + I_G + G + (X - M),$$

$$\therefore NNP = C + I_N + G + (X - M)$$

$$\text{or } NNP = GNP - \text{depreciation}$$

Although NNP gives us the better measure of an economy's performance, we pay more attention to GNP. This is because estimation of NNP is difficult in practice, as one has to measure depreciation to obtain the net investment figure. In practice, GNP is the more commonly used indicator than NNP.

#### 4. Personal Income:

Although national income is the sumtotal of all individuals' personal income, it is observed that received income is smaller than the earned income. This is because first a company has to pay corporate income tax ( $T_c$ ) to the government out of its earned income. Secondly, firms keep a portion of their profits for internal expansion.

This is called undistributed corporate profit ( $P_c$ ) or retained earnings. Thirdly, individuals pay social security taxes ( $T_s$ ), like provident fund, life insurance premium, etc. Finally, since government transfer payments ( $T_R$ ) do not reflect current earnings and, hence, are not included in national income, it increases received income.

To measure personal income (PI), we subtract  $T_c$ ,  $P_c$  and  $T_s$  (i.e., all the components of income that is earned but not received) from NI and add  $T_R$  (i.e., income received but not earned) from national income. Symbolically,

$$PI = NI - (T_c + P_c + T_s) + T_R$$

**We can summarise this discussion in the following form:**

$\begin{array}{r} GNP \\ - D \\ \hline = NNP \end{array}$	$\begin{array}{r} NNP \\ - T \\ + S_U \\ \hline = NI \end{array}$	
$\begin{array}{r} NI \\ - T_c \\ - P_c \\ - T_s \\ + T_R \\ \hline = PI \end{array}$	$\begin{array}{r} PI \\ - T_D \\ \hline = DI \end{array}$	$\begin{array}{r} DI \\ - S \\ \hline = C \end{array}$

Here,  $T_p$  refers to direct tax, DI to disposable income, S to saving and C to consumption.

#### Difficulties of Measuring National Income

The measurement of national income in any country is beset with many problems.

Problems are more acute in LDCs like India than advanced countries.

These problems are grouped into two: (i) conceptual or theoretical problem, and (ii) practical or statistical problem. However, as there is no escape route to avoid all the conceptual problems, we set aside these problems and consider only practical problems.



**Some of the difficulties in measuring national income are as follows:**

**1. Lack of Reliable Data:**

The reliability of data relating to national income estimation is often questioned (in India). National income estimate is made on the basis of primary data relating to incomes and values of goods produced. It is observed that many producers —particularly petty producers and traders— do not maintain any accounts of their incomes and even goods produced. Obviously, the primary data collected from this source is supposed to be vague. The reason behind this is illiteracy. Further, many people are reluctant to cooperate with the data collectors. Above all, data collectors often ‘fabricate’ data even without approaching the door of producing sectors or economic units. If this information is considered to be the basis of judgement, then the judgement will suffer from inaccuracy.

**2. Existence of Non-Monetised Sector:**

The soundness of national income estimates is affected badly if there exists a large non-monetised sector. This creates valuation problem. In an LDC, there exists an unorganised barter economy where money is not used for transaction purposes.

In each transaction, the problem of valuation of goods transacted crops up. Further, poor farmers of these countries retain large chunks of their output for self-consumption. Naturally, a large amount of output does not come to the market and is not subject to the valuation process. By imputing values to these goods, the problem of valuation can be partially removed. But considering the vastness of a country like India, such imputation is an uphill task. Even if imputation is possible, its reliability is also doubted.

Various non-market and domestic activities like child care by mothers and sisters are not taken into account while estimating national income of a country, for the said reasons. In fact, these activities add to production when we engage the services of a lady ayah who takes care of a child against some monetary payments. But these are not considered in view of the difficulties of estimating such income.

Further, in national income estimation, losses or social ills do not get reflected. CO<sub>2</sub> emission from automobile car pollutes the environment resulting in fewer ‘outputs’ for future generations. Such is not adjusted usually, although attempts are often made to measure ‘green GNP’.

**3. Difficulties in the Classification of Working Population:**

In India, working population is not clearly defined. For instance, agriculturists in India are not engaged in agriculture round the year. Obviously, in offseason they engage themselves in alternative occupations. In such a case, it is very difficult to identify their incomes to a particular occupation.

**4. Illegal Income:**

Finally, illegal incomes are not reported in national income accounts. In other words, illegal forms of economic activity and illegal activities that are not reported to the authority for the purpose of paying taxes are left out from national income accounts.

This is what is called underground or black economy. Gambling and drug trade are illegal forms of economic activities while people in power receive bribes but these people either underreport or do not report the bribed incomes that are illegal. In India, incomes generated in India’s black economy are estimated to be around 40 p.c. of GDP. Such transactions underestimate the true value of national income of any country.

**UNIT-V Functions of Money – Theories of Money Supply – Role of Commercial Banks – RBI – Methods of Credit Control – Monetary and Fiscal.**

## **FUNCTIONS OF MONEY.**

### **Function # 1. A Medium of Exchange:**

The only alternative to using money is to go back to the barter system. However, as a system of exchange the barter system would be highly impracticable today.

For example, if the baker who supplied the green-grocer with bread had to take payment in onions and carrots, he may either not like these foodstuff or he may have sufficient stocks of them.

The baker would, therefore, have to re-sell the product which would take time and be very inconvenient. By replacing these complicated sales by the use of money it is possible to save a lot of trouble. If the baker accepts payment in money this can be spent in whatever way the baker wishes. The use of money as a medium of exchange overcomes the drawbacks of barter.

Thus, money provides the most efficient means of satisfying wants. Each consumer has a different set of wants. Money enables him (her) to decide which wants to satisfy, rank the wants in order of urgency and capacity (income) and act accordingly.

This type of system also enables specialisation to extend. Take, for example, a person who performs only a single task in a shoe factory. He has not actually produced anything himself. So what could he exchange if a barter system were in operation? With money system the problem is removed. He can be paid in terms of money and can use that money to buy what he wants.

### **Function # 2. A Measure of Value:**

Under the barter system, it is very difficult to measure the value of goods. For example, a horse may be valued as worth five cows or 100 quintals of wheat, or a Maruti car may be equivalent to 10 two- wheelers. Thus one of the disadvantages of the barter system is that any commodity or service has a series of exchange values.

Money is the measuring rod of everything. By acting as a common denominator it permits everything to be priced, that is, valued in terms of money. Thus, people are enabled to compare different prices and thus see the relative values of different goods and services.

#### **This serves two basic purposes:**

- (1) Households (consumers) can plan their expenditure and
- (2) Business people can keep records of income and costs in order to work out their profit and loss figures.

### **Function # 3. A Store of Value (Purchasing Power):**

A major disadvantage of using commodities — such as wheat or salt or even animals like horses or cows — as money is that after a time they deteriorate and lose economic value. They are, thus, not at all satisfactory as a means of storing wealth. To realise the problems of saving in a barter economy let us consider a farmer. He wanted to save some wheat each week for future consumption. But this would be of no use to him in his old age because the ‘savings’ would have gone off.

Again, if a coal miner wanted to set aside a certain amount of coal each week for the same purpose, he would have problems of finding enough storage space for all his coal. By using money, such problems can be overcome and people are able to save for the future. Modern form of money (such as coins, notes and bank deposits) permit people to save their surplus income.

Thus money is used as a store of purchasing power. It can be held over a period of time and used

to finance future payments. Moreover, when people save money, they get the assurance that the money saved will have value when they wish to spend it in the future. However, this statement holds only if there is no severe inflation (or deflation) in the country.

In other words, it is quite obvious that money can only act effectively as a store of value if its own value is stable. If, for example, most people feel that their savings would become worthless very soon, they would spend them at once and save nothing. For the last few years the value (or the purchasing power) of money has been falling in India. Yet in the short run—for day-to-day purposes—money has sufficient stability of value to serve quite well as a store of value.

#### **Function # 4. The Basis of Credit:**

Money facilitates loans. Borrowers can use money to obtain goods and services when they are needed most. A newly married couple, for example, would need a lot of money to completely furnish a house at once. They are not required to wait for, say ten years, so as to be able to save enough money to buy costly items like cars, refrigerators, T.V. sets, etc.

#### **Function # 5. A Unit of Account:**

An attribute of money is that it is used as a unit of account. The implication is that money is used to measure and record financial transactions as also the value of goods or services produced in a country over time. The money value of goods and services produced in an economy in an accounting year is called gross national product. According to J. R. Hicks, gross national product is a collection of goods and services reduced to a common basis by being measured in terms of money.

#### **Function # 6. A Standard of Postponed Payment:**

This is an extension of the first function. Here again money is used as a medium of exchange, but this time the payment is spread over a period of time. Thus, when goods are bought on hire-purchase, they are given to the buyer upon payment of a deposit, and he then pays the remaining amount in a number of installments.

Under the barter system this type of transaction could involve problems. Imagine a farmer buying a video-recorder and agreeing to pay for it in terms of a fixed amount of wheat each week for a certain number of weeks. After a few weeks the seller of the video recorder might have more than enough wheat.

Yet he will have to receive more wheat in the coming weeks. If money had been used, the seller could then use it to buy whatever he wanted, whether it is wheat or something else—now or in future. In other words, the use of money permits postponement of spending from the present to some future occasion.

### **Theories of Money**

Value of money is a term that is necessary to be understood to get acquainted with the theories of money. In economics, different economists have defined the term value of money differently. Some of the economists explained value of money as the value of gold and silver in terms of their weight and fineness.

Other has defined the value of money as the value of Indian currency against foreign currencies. On the other hand, few economists have associated the term value of money with the internal purchasing power of a nation. However, logically, value of money is associated with its purchasing power, which refers to the quantity of goods and services that can be purchased with a unit of money. The values of money and price levels in a country are inversely proportional to each other. For example, when the price level in a country is high, the value of money is low and

vice-versa.

**The three main approaches are used for the monetary analysis of a country, which are as follows:**

- a. Quantity Velocity Approach/Cash Transaction Approach/Freidman's Restatement
- b. Cash Balances Approach
- c. Income-Expenditure Approach

Among these three approaches, quantity velocity approach and cash balances approach are grouped under quantity theories of money. On the other hand, the income-expenditure approach is the modern theory of money. Let us discuss these theories of money in detail.

**a. Quantity Velocity Approach:**

Till now, the economists believed that the price level show changes because of the changes in quantity (demand and supply) of money. However, in the present scenario, most of the economists have believed that quantity theory of money is not applicable in practical situations. Quantity of money comprises cash (M) and its velocity (V).

The velocity of circulation of cash depends on various factors, such as frequency of transactions, trade volume, type of business conditions, price levels, and borrowing and lending policies. According to the quantity theory of money, the changes in price level of a country occur due to changes in the quantity of money in circulation, while keeping other factors at constant. In other words, an increase or decrease in the price level would occur due to increase or decrease in the quantity of money.

Therefore, it can be concluded that price level and quantity of money are directly proportional to each other. However, in extreme conditions, an increase in the quantity of money would lead to a proportional decrease in the value of money, while keeping other factors at constant and vice versa.

**In the quantity theory, the other factors that are kept constant are as follows:**

**(a) Velocity of circulation of money:**

Refers to the frequency at which a single money unit flows from one individual to another. For example, if a ten-rupee note circulates through 10 individuals, then the quantity of money would be 100, but not 10.

**(b) Credit instruments:**

Help in increasing the quantity of money. An increase in the use of credit instruments, such as bank cheques and book credit, would lead to an increase in the quantity of money.

**(c) Barter system:**

Involves transactions that take place without the use of money. Such transactions are either discarded or considered to increase the quantity of money.

**(d) Volume of transactions:**

Requires to be constant. Volume of transactions refers not only to the amount of goods and services exchanged, but the number of times money changes hand.

**Prof. Irvin Fisher has provided a formula for explaining the relationship between quantity of money and its value, which is as follows:**

$$P = MV + M'V'/T$$

Where, P = Price level/Value of money

M = Metallic money

M' = Credit money

V = Velocity of metallic money

V' = Velocity of credit money

T = Transactions performed by money

In the preceding formula, the supply and demand of money becomes equal. When the price level is multiplied by the transactions performed by money, it provides the total value of transactions (PT). It is also termed as the demand for money. PT is equal to the supply of money as it includes cash and credit instruments along with their velocities ( $MV + M'V'$ ), which is described as follows:

$$PT = MV + M'V'$$

$$MV + M'V' / T$$

According to Fisher, in short-run, the values of T, V, and V remain constant. In addition, the proportional change between M' and M also remains constant. Therefore, P and M are directly proportional to each other. In other words, the value of money (1/P) is inversely proportional to quantity of money (M).

The other factors remain same due to various reasons. Prof. Fisher has explained that in short run, there are no or negligible changes in the economic factors, such as population, consumption, production, production techniques, technology, customer's tastes and preferences, and circulation of money.

Therefore, the demand for money is constant in short run. With respect to the supply of money, the circulation of money and credit is dependent on the habit of people. The proportional change between M' and M depends on bank policies. Therefore, these factors also remain constant in short-run.

The quantity theory is criticized on a large scale due to its static nature. In quantity theory, most of the factors remain constant, which is not true as real world conditions are dynamic in nature. Therefore, all the factors in this dynamic world keep on changing with time.

In short-run, factors, such as population, frequency of transactions, and velocity of circulation, change either at a low rate or at high rate, but show changes. Therefore, apart from the quantity of money, other factors may also produce changes in level of price and consequently in the value of money.

For example, change in trade volume, better transport facilities, and increase in credit facilities would also bring a change in the level of price. In addition, the quantity theory has not explained the process by which the change in quantity of money produces change in the price level. The theory also considers that money is only used for the transaction purposes. However, it can also be held by individuals as idle cash and savings.

Apart from this, other factors, such as M, V, M', and V', are not independent factors. Among these factors, one factor can easily bring changes in other factors. For example, change in M can produce changes in V, which further make changes in the value of P.

#### **b. Cash Balances Approach/Cambridge Equation:**

Cash balances approach is the modification of quantity velocity approach and is widely accepted in Europe. This approach is based on national income approach and considers the concept of liquidity. According to cash balances approach, the value of money depends on the demand and supply of cash balances for a given period of time. The demand for money is not only dependent on the quantity of goods and services that would be exchanged, but also on the time period at which the transaction takes place.

For example, an individual would not purchase food grains for the whole year at once, but he/she would purchase on monthly basis. Therefore, he/she is required to hold enough cash with him/her to buy food grains and other products from month after month.

Thus, if in an economy individuals are habitual for holding money for overcoming their

expenditure for a longer period of time, then the demand for money would be more. In such a case, only a small part of income is held by individuals and rest of the amount is invested. This is because holding a large amount of cash as idle cash would be a loss or danger for the individual. On the other hand, cash balances held by individuals should also not be very low, so that contingencies cannot be overcome.

According to Marshall, "A man fixes the appropriate fraction (of his income) after balancing one against another the advantages of a further ready command and the disadvantages of putting more of his resources into a form in which they yield him no direct income or other benefit."

Therefore, an individual should hold a particular amount of cash with him/her to fulfill his/her needs as well as overcome uncertainties. Let us express the fraction of income that should be held by individuals as  $k$ .

**Now, the equation usually used is as follows:**

$$M = kpR$$

Where,  $M$  = quantity of money

$R$  = real national income (total of final goods and services that are directly consumed)

$P$  = average price-level of real national income (average of price of clothes, food, shelter, and services)

$pR$  represents the monetary national income. Now, a proportion of the monetary national income is held in liquid form by individuals in an economy. In addition, it also expresses the desire of individuals in an economy to have liquid cash that is termed as liquidity for buying.

If the circulation of money takes place only once, the amount of money required would be equal to the monetary national income. However, if circulation of money takes place twice, then only half  $pR$  is required for buying national product.

### **c. Income-Expenditure Approach:**

The income-expenditure approach is given by Keynes. It is also termed as the modern theory of money. Keynes was agreed with the concept that changes in quantity of money produces changes in the price levels, as given in the quantity theory of money.

However, he did not agree with the view that determining relationship between quantity of money and price level is as easy as demonstrated by quantity theory.

According to the modern theory of money, changes in price level are brought by the changes in national income rather than quantity of money. The main reason for the change in the price level is the changes that occur in the aggregate income or expenditure. Therefore, change in quantity of money can only bring changes in the price level when it can change the aggregate expenditure with respect to the supply of output.

If there is no rise in the expenditure, then the demand for goods would not rise and consequently, the price level would not increase. In case, the expenditure rises but the supply of output is fairly elastic, then also the price level would not rise.

**Therefore, the impact of change in quantity of money would depend on the following factors:**

- a. Effect of change in money supply on level of aggregate expenditure and volume of production
- b. Type of relation between aggregate expenditure and volume of production

The amount of expenditure depends on the consumption function, investment demand schedule, liquidity preference schedule, and supply of money. An increase in the quantity of money would decrease the rate of interest. However, in case the rate of interest is very low, then the increase in quantity of money would not be able to reduce rate of interest further.

The reduced rate of interest would help in increasing the rate of investment by individuals, which would further result in increase in income. The increase in income would increase the aggregate expenditure of a nation. However, when the increased quantity of money is not able to reduce the rate of interest as it is already very low, the investment would not show any increase.

Thus, the income and aggregate expenditure would simultaneously fail to show any type of increase. In such a case, the price level would not rise even with the rise of quantity of money. However, it is also not guaranteed that if the increase in quantity of money reduces the rate of interest, then price level would rise or not.

This is because it may be possible that the proportional increase in price level is very less as compared to increase in money supply. Therefore, it is hard to determine relationship between changes in money supply and changes in price level. This is because they are indirectly related to each other and depend on aggregate expenditure and elasticity of supply of output.

## **ROLE OF COMMERCIAL BANKS IN ECONOMIC DEVELOPMENT OF COUNTRY**

Commercial Banks have always played an important position in the country's economy. They play a decisive role in the development of the industry and trade. They are acting not only as the custodian of the wealth of the country but also as resources of the country, which are necessary for the economic development of a nation.

### **Role of Commercial Banks in economic development of country**

We shall now discuss the contributions made by the banks for the economic development of the nation.

### **Role of Commercial banks in economic development of a country**

#### **1. Capital Formation**

Banks play an important role in capital formation, which is essential for the economic development of a country. They mobilize the small savings of the people scattered over a wide area through their network of branches all over the country and make it available for productive purposes.

Now-a-days, banks offer very attractive schemes to attract the people to save their money with them and bring the savings mobilized to the organized money market. If the banks do not perform this function, savings either remains idle or used in creating assets, which are low in scale of plan priorities.

#### **2. Creation of Credit**

Banks create credit for the purpose of providing more funds for development projects. Credit creation leads to increased production, employment, sales and prices and thereby they cause faster economic development.

#### **3. Channelizing the Funds to Productive Investment**

Banks invest the savings mobilized by them for productive purposes. Capital formation is not the only function of commercial banks. Pooled savings should be distributed to various sectors of the economy with a view to increase the productivity of the nation. Then only it can be said to have performed an important role in the economic development of the nation.

Commercial Banks aid the economic development of the nation through the capital formed by them. In India, loan lending operation of commercial banks subject to the control of the RBI. So our banks cannot lend loan, as they like.

#### **4. Fuller Utilization of Resources**

Savings pooled by banks are utilized to a greater extent for development purposes of various regions in the country. It ensures fuller utilization of resources.

### **5. Encouraging Right Type of Industries**

The banks help in the development of the right type of industries by extending loan to right type of persons. In this way, they help not only for industrialization of the country but also for the economic development of the country. They grant loans and advances to manufacturers whose products are in great demand. The manufacturers in turn increase their products by introducing new methods of production and assist in raising the national income of the country.

### **6. Bank Rate Policy**

Economists are of the view that by changing the bank rates, changes can be made in the money supply of a country. In our country, the RBI regulates the rate of interest to be paid by banks for the deposits accepted by them and also the rate of interest to be charged by them on the loans granted by them.

### **7. Bank Monetize Debt**

Commercial banks transform the loan to be repaid after a certain period into cash, which can be immediately used for business activities. Manufacturers and wholesale traders cannot increase their sales without selling goods on credit basis. But credit sales may lead to locking up of capital. As a result, production may also be reduced. As banks are lending money by discounting bills of exchange, business concerns are able to carryout the economic activities without any interruption.

### **8. Finance to Government**

Government is acting as the promoter of industries in underdeveloped countries for which finance is needed for it. Banks provide long-term credit to Government by investing their funds in Government securities and short-term finance by purchasing Treasury Bills.

### **9. Bankers as Employers**

After the nationalization of big banks, banking industry has grown to a great extent. Bank's branches are opened in almost all the villages, which leads to the creation of new employment opportunities. Banks are also improving people for occupying various posts in their office.

### **10. Banks are Entrepreneurs**

In recent days, banks have assumed the role of developing entrepreneurship particularly in developing countries like India. Developing of entrepreneurship is a complex process. It includes the formation of project ideas, identification of specific projects suitable to local conditions, inducing new entrepreneurs to take up these well-formulated projects and provision of counseling services like technical and managerial guidance.

## **RESERVE BANK OF INDIA**

### **Establishment:**

The Reserve Bank of India was established in **1935** under the provisions of the Reserve Bank of India Act, 1934 in Calcutta, eventually moved permanently to **Mumbai**. Though originally privately owned, was nationalized in 1949.

### **Organisation and Management:**

The Reserve Bank's affairs are governed by a *central board of directors*. The board is appointed by the Government of India for a period of **four years**, under the Reserve Bank of India Act.

- Full-time officials : **Governor** and *not more than four Deputy Governors*. The current Governor of RBI is *Mr. Urjit Patel*.



There are 3 **Deputy Governors** presently – *B P Kanungo, N S Vishwanathan and Viral V Acharya.*

- Nominated by Government: ten Directors from various fields and two government Officials
- Others: four Directors – one each from four local boards

### **Main Role and Functions of RBI**

- **Monetary Authority:** Formulates, implements and monitors the monetary policy for A) maintaining price stability, keeping inflation in check ; B) ensuring adequate flow of credit to productive sectors.
- **Regulator and supervisor of the financial system:** lays out parameters of banking operations within which the country's banking and financial system functions for- A) maintaining public confidence in the system, B) protecting depositors' interest ; C) providing cost-effective banking services to the general public.
- **Regulator and supervisor of the payment systems:** A) Authorises setting up of payment systems; B) Lays down standards for working of the payment system; C) lays down policies for encouraging the movement from paper-based payment systems to electronic modes of payments. D) Setting up of the regulatory framework of newer payment methods. E) Enhancement of customer convenience in payment systems. F) Improving security and efficiency in modes of payment.
- **Manager of Foreign Exchange:** RBI manages forex under the FEMA- Foreign Exchange Management Act, 1999. in order to A) facilitate external trade and payment B) promote the development of foreign exchange market in India.
- **Issuer of currency:** RBI issues and exchanges currency as well as destroys currency & coins not fit for circulation to ensure that the public has an adequate quantity of supplies of currency notes and in good quality.
- **Developmental role :** RBI performs a wide range of promotional functions to support national objectives. Under this it setup institutions like NABARD, IDBI, SIDBI, NHB, etc.
- **Banker to the Government:** performs merchant banking function for the central and the state governments; also acts as their banker.
- **Banker to banks:** An important role and function of RBI is to maintain the banking accounts of all scheduled banks and acts as the banker of last resort.
- An agent of Government of India in the IMF.

### **Offices and Training Centres:**

1. RBI has 20 regional offices, most of them in state capitals and 11 Sub-offices. So, the RBI has its offices at 31 locations.
2. Has five training establishments – Two, *College of Agricultural Banking* and *Reserve Bank of India Staff College* are part of the Reserve Bank. Other three are autonomous, *National Institute for Bank Management; Indira Gandhi Institute for Development Research (IGIDR); Institute for Development and Research in Banking Technology (IDRBT).*

### **Instruments of Monetary Policy of RBI :**

As discussed earlier, RBI executes Monetary Policy for Indian Economy. The RBI formulates, implements and monitors the monetary policy. The Monetary Policy Committee (MPC) is entrusted with the task of fixing the benchmark policy interest rate (repo rate) for inflation targeting.

The main objectives of monitoring monetary policy are:

- Maintaining price stability while keeping in mind the objective of growth
- Inflation control (containing inflation at 4%, with a standard deviation of 2%)
- Control on bank credit
- Interest rate control

The monetary policy (credit policy) of RBI involves the two instruments given in the flow chart below:

### Quantitative Measures

Quantitative measures refer to those measures that affect the variables, which in turn affect the overall money supply in the economy.

Instruments of quantitative measures:

#### Bank rate

The rate at which central bank provides loan to commercial banks is called bank rate. This instrument is a key at the hands of RBI to control the money supply in long term lending. **At present it is 6.25%.**

- Increase in the bank rate will make the loans more expensive for the commercial banks; thereby, pressurizing the banks to increase the rate of lending. The public capacity to take credit at increased rates will be lower, leading to a fall in the volume of credit demanded.
- The reverse happens in case of a decrease in the bank rate. This increases the lending capacity of banks as well as increases public demand for credit and hence will automatically lead to a rise in the volume of credit flowing in the economy.
- This rate has been aligned to the MSF rate and hence, changes automatically with the MSF rate changes alongside policy repo rate changes.

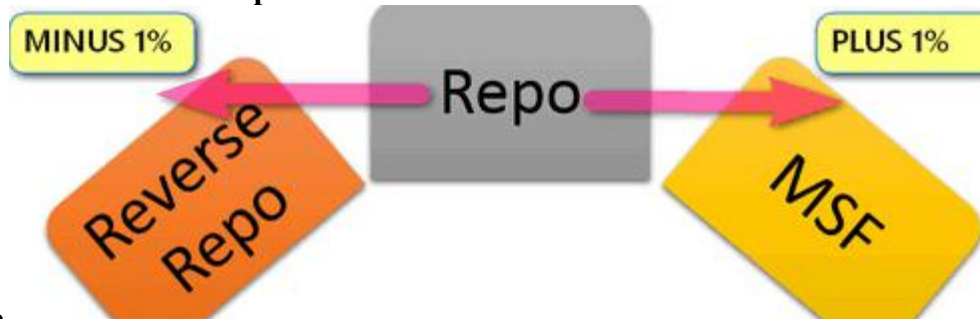
Interest rates		
What is bank rate?	The rate at which a bank can borrow from the RBI	Any hike in the bank, repo and reverse repo rates
What is repo rate?	The rate at which RBI lends short-term money to banks against deposits.	will lead to a rise in interest rates in the economy and vice versa.
What is reverse repo rate?	The rate at which a bank can park excess short-term funds with the RBI.	

### Liquidity Adjustment Facility-

Reserve Bank of India's LAF helps banks to adjust their daily liquidity mismatches. LAF has two components – repo (repurchase agreement) and reverse repo.

(i) **Repo Rate:** Repo (Repurchase) rate is the rate at which the RBI lends short-term money to the banks against securities. When the repo rate increases borrowing from RBI becomes more expensive. Repo rate is always higher than the reverse repo rate. **At present it is 6.00%**

(ii) **Reverse Repo Rate:** It is the exact opposite of repo. In a reverse repo transaction, banks purchase government securities from RBI and lend money to the banking regulator, thus earning interest. Reverse repo rate is the rate at which RBI borrows money from banks. The banks use this tool when they feel that they are stuck with excess funds and are not able to invest anywhere for reasonable returns. **At present it is**



**5.75%**

(iii) **Marginal Standing Facility (MSF):** was introduced by the Reserve Bank of India (RBI) in its Monetary Policy (2011-12). The MSF would be a penal rate for banks and the banks can borrow funds by pledging government securities within the limits of the statutory liquidity ratio SLR.

The scheme has been introduced by RBI for reducing volatility in the overnight lending rates in the inter-bank market and to enable smooth monetary transmission in the financial system. **Currently, it is 6.25%**

### **Varying reserve ratios –**

The reserve ratio determines the reserve requirements that banks are liable to maintain with the central bank. These tools are:

#### **(i) Cash Reserve Ratio (CRR)**

It refers to the minimum amount of *funds* in cash( decided by the RBI) that a commercial bank has to maintain with the Reserve Bank of India, in the form of deposits. An increase in this ratio will eventually lead to considerable decrease in the money supply. On the contrary, a fall in CRR will lead to an increase in the money supply. **Currently, it is 4%.**

#### **(ii) Statuary Liquidity Ratio (SLR)**

SLR is concerned with maintaining the minimum percentage( fixed by RBI) of *assets* in the form of non-cash with itself. The flow of credit is reduced by increasing this liquidity ratio and vice-versa. As SLR rises the banks will be restricted to pump money in the economy, thereby contributing towards a decrease in money supply. The reverse case happens if there is a fall in SLR, it increases the money supply in the economy. **Currently, SLR is 19.5%.**

### **Open Market Operations (OMOs)**

These include both, outright purchase and sale of government securities, for both, injection and absorption of liquidity in the economy.

### **Market Stabilisation Scheme (MSS)**

This instrument was introduced in 2004. Surplus liquidity of a more enduring nature arising from large capital inflows is absorbed through sale of short-dated government securities and treasury bills. The cash so mobilised is held in a separate government account with the Reserve Bank.

## **IMPORTANT METHODS ADAPTED BY RBI TO CONTROL CREDIT CREATION**

**Some of the methods employed by the RBI to control credit creation are: I. Quantitative Method II. Qualitative Method.**

The various methods employed by the RBI to control credit creation power of the commercial banks can be classified in two groups, viz., quantitative controls and qualitative controls. Quantitative controls are designed to regulate the volume of credit created by the banking system qualitative measures or selective methods are designed to regulate the flow of credit in specific uses.

Quantitative or traditional methods of credit control include banks rate policy, open market operations and variable reserve ratio. Qualitative or selective methods of credit control include regulation of margin requirement, credit rationing, regulation of consumer credit and direct action.

### **I. Quantitative Method:**

#### **(i) Bank Rate:**

The bank rate, also known as the discount rate, is the rate payable by commercial banks on the loans from or rediscounts of the Central Bank. A change in bank rate affects other market rates of interest. An increase in bank rate leads to an increase in other rates of interest and conversely, a decrease in bank rate results in a fall in other rates of interest.

A deliberate manipulation of the bank rate by the Central Bank to influence the flow of credit created by the commercial banks is known as bank rate policy. It does so by affecting the demand for credit the cost of the credit and the availability of the credit.

An increase in bank rate results in an increase in the cost of credit; this is expected to lead to a contraction in demand for credit. In as much as bank credit is an important component of aggregate money supply in the economy, a contraction in demand for credit consequent on an increase in the cost of credit restricts the total availability of money in the economy, and hence may prove an anti-inflationary measure of control.

Likewise, a fall in the bank rate causes other rates of interest to come down. The cost of credit falls, i. e., and credit becomes cheaper. Cheap credit may induce a higher demand both for investment and consumption purposes. More money, through increased flow of credit, comes into circulation.

A fall in bank rate may, thus, prove an anti-deflationary instrument of control. The effectiveness of bank rate as an instrument of control is, however, restricted primarily by the fact that both in inflationary and recessionary conditions, the cost of credit may not be a very significant factor influencing the investment decisions of the firms.

#### **(ii) Open Market Operations:**

Open market operations refer to the sale and purchase of securities by the Central bank to the commercial banks. A sale of securities by the Central Bank, i.e., the purchase of securities by the commercial banks, results in a fall in the total cash reserves of the latter.

A fall in the total cash reserves is leads to a cut in the credit creation power of the commercial banks. With reduced cash reserves at their command the commercial banks can only create lower volume of credit. Thus, a sale of securities by the Central Bank serves as an anti-inflationary measure of control.

Likewise, a purchase of securities by the Central Bank results in more cash flowing to the commercials banks. With increased cash in their hands, the commercial banks can create more credit, and make more finance available. Thus, purchase of securities may work as an anti-deflationary measure of control.

The Reserve Bank of India has frequently resorted to the sale of government securities to which the commercial banks have been generously contributing. Thus, open market operations in India have served, on the one hand as an instrument to make available more budgetary resources and on the other as an instrument to siphon off the excess liquidity in the system.

### **(iii) Variable Reserve Ratios:**

Variable reserve ratios refer to that proportion of bank deposits that the commercial banks are required to keep in the form of cash to ensure liquidity for the credit created by them.

A rise in the cash reserve ratio results in a fall in the value of the deposit multiplier. Conversely, a fall in the cash reserve ratio leads to a rise in the value of the deposit multiplier. A fall in the value of deposit multiplier amounts to a contraction in the availability of credit, and, thus, it may serve as an anti-inflationary measure.

A rise in the value of deposit multiplier, on the other hand, amounts to the fact that the commercial banks can create more credit, and make available more finance for consumption and investment expenditure. A fall in the reserve ratios may, thus, work as anti-deflationary method of monetary control.

The Reserve Bank of India is empowered to change the reserve requirements of the commercial banks.

The Reserve Bank employs two types of reserve ratio for this purpose, viz. the Statutory Liquidity Ratio (SLR) and the Cash Reserve Ratio (CRR).

The statutory liquidity ratio refers to that proportion of aggregate deposits which the commercial banks are required to keep with themselves in a liquid form. The commercial banks generally make use of this money to purchase the government securities. Thus, the statutory liquidity ratio, on the one hand is used to siphon off the excess liquidity of the banking system, and on the other it is used to mobilise revenue for the government.

The Reserve Bank of India is empowered to raise this ratio up to 40 per cent of aggregate deposits of commercial banks. Presently, this ratio stands at 25 per cent.

The cash reserve ratio refers to that proportion of the aggregate deposits which the commercial banks are required to keep with the Reserve Bank of India. Presently, this ratio stands at 9 percent.

## **II. Qualitative Method:**

The qualitative or selective methods of credit control are adopted by the Central Bank in its pursuit of economic stabilisation and as part of credit management.

### **(i) Margin Requirements:**

Changes in margin requirements are designed to influence the flow of credit against specific commodities. The commercial banks generally advance loans to their customers against some security or securities offered by the borrower and acceptable to banks.

More generally, the commercial banks do not lend up to the full amount of the security but lend an amount less than its value. The margin requirements against specific securities are determined by the Central Bank. A change in margin requirements will influence the flow of credit.

A rise in the margin requirement results in a contraction in the borrowing value of the security and similarly, a fall in the margin requirement results in expansion in the borrowing value of the security.

**(ii) Credit Rationing:**

Rationing of credit is a method by which the Central Bank seeks to limit the maximum amount of loans and advances and, also in certain cases, fix ceiling for specific categories of loans and advances.

**(iii) Regulation of Consumer Credit:**

Regulation of consumer credit is designed to check the flow of credit for consumer durable goods. This can be done by regulating the total volume of credit that may be extended for purchasing specific durable goods and regulating the number of installments through which such loan can be spread. Central Bank uses this method to restrict or liberalise loan conditions accordingly to stabilise the economy.

**(iv) Moral Suasion:**

Moral suasion and credit monitoring arrangement are other methods of credit control. The policy of moral suasion will succeed only if the Central Bank is strong enough to influence the commercial banks.

In India, from 1949 onwards, the Reserve Bank has been successful in using the method of moral suasion to bring the commercial banks to fall in line with its policies regarding credit. Publicity is another method, whereby the Reserve Bank makes direct appeal to the public and publishes data which will have sobering effect on other banks and the commercial circles.

**Effectiveness of Credit Control Measures:**

The effectiveness of credit control measures in an economy depends upon a number of factors. First, there should exist a well-organised money market. Second, a large proportion of money in circulation should form part of the organised money market. Finally, the money and capital markets should be extensive in coverage and elastic in nature.

Extensiveness enlarges the scope of credit control measures and elasticity lends it adjustability to the changed conditions. In most of the developed economies a favourable environment in terms of the factors discussed before exists, in the developing economies, on the contrary, economic conditions are such as to limit the effectiveness of the credit control measures.

**Fiscal policy in India:** Fiscal policy is the guiding force that helps the government decide how much money it should spend to support the economic activity, and how much revenue it must earn from the system, to keep the wheels of the economy running smoothly.

**MONETARY POLICY IN INDIA**

In India, the Monetary Policy is an important tool for the economic management of the country. The Reserve Bank of India (RBI) is the central bank of the monetary authority of India. It controls the supply of money and bank credit.

It is responsible for ensuring that the banking system meets the legitimate credit requirements and not for unproductive or speculative reasons.

**Objectives of the Monetary Policy in India**

‘Growth with Stability’ is the backbone of the monetary policy in India. The policy helps in the regulation of the availability, cost, and use of money. Here are the primary objectives of the monetary policy in India:

**Growth with Stability**

Traditionally, the monetary policy in India was focused on controlling inflation. This was

done through the contraction of money supply and credit. However, this resulted in poor growth of the economy.

Therefore, RBI adopted a new policy of growth with stability. In simple terms, this means that the RBI will provide sufficient credit for the increasing needs of the different sectors of the economy. Also, it will control inflation within a certain limit.

### **Regulation, Supervision, and Development of Financial Stability**

Financial stability is the ability of an economy to absorb shocks and ensure that people retain confidence in the financial system of the country. Internal and External shocks can threaten the financial stability of a country and destabilize its financial system.

Therefore, the RBI gives a lot of importance to maintaining confidence in the country's financial system through adequate regulation and controls. It also ensures that the objective of growth is not sacrificed. Therefore, we can say that the RBI focuses on the regulation, supervision, and development of financial stability.

### **Promoting Priority Sector**

In India, the priority sector includes agriculture, export, small-scale enterprises, and the weaker section of the population. RBI consistently ensures that the banking system provides timely and adequate credit to these sections at affordable costs.

### **Employment Generation**

The monetary policy of a country can influence the rate of investment and its allocation among the different economic activities of the country with varying labor intensities. Therefore, it helps in employment generation.

### **External Stability**

As the imports and exports are increasing, India's linkages with the global economy are getting stronger. Traditionally, the RBI determined the exchange rate and also controlled the foreign exchange market.

However, now RBI only has indirect control over external stability through managed flexibility. Through this mechanism, the RBI influences the exchange rate by buying or selling foreign currencies in the open market.

### **Encouraging Savings and Investments**

In order to encourage people to save, the RBI offers attractive interest rates. Further, a high saving rate leads to investment.

Therefore, the monetary management via influencing interest rates can mobilize savings and thereby investments in the country.

### **Redistribution of Income and Wealth**

Since the RBI controls inflation and deploys affordable credit to the weaker sections of the society, it can redistribute income and wealth to the weaker sections of the economy.

### **Regulation of NBFIs**

NBFIs or Non-Banking Financial Institutions like IDBI, UTI, IFCI, etc. play an important role in the Indian economy. They help in the deployment of credit and also the mobilization of savings.

RBI does not directly control the functioning of these institutions. However, through the monetary policy, it can indirectly influence the policies and functions of the NBFIs.

## **+FISCAL POLICY**

**Fiscal policy in India definition:** Through the fiscal policy, the government of a country controls the flow of tax revenues and public expenditure to navigate the economy.

**Fiscal policy in India:** Fiscal policy in India is the guiding force that helps the government decide how much money it should spend to support the economic activity, and how much revenue it must earn from the system, to keep the wheels of the economy running smoothly. In recent times, the importance of fiscal policy has been increasing to achieve economic growth swiftly, both in India and across the world. Attaining rapid economic growth is one of the key goals of fiscal policy formulated by the Government of India. Fiscal policy, along with monetary policy, plays a crucial role in managing a country's economy.

**What is meant by Fiscal Policy in India? Example of Fiscal Policy in India:**

Through the fiscal policy, the government of a country controls the flow of tax revenues and public expenditure to navigate the economy. If the government receives more revenue than it spends, it runs a surplus, while if it spends more than the tax and non-tax receipts, it runs a deficit. To meet additional expenditures, the government needs to borrow domestically or from overseas. Alternatively, the government may also choose to draw upon its foreign exchange reserves or print additional money.

For example, during an economic downturn, the government may decide to open up its coffers to spend more on building projects, welfare schemes, providing business incentives, etc. The aim is to help make more of productive money available to the people, free up some cash with the people so that they can spend it elsewhere, and encourage businesses to make investments. At the same time, the government may also decide to tax businesses and people a little less, thereby earning lesser revenue itself.

**Main objectives of Fiscal Policy in India:**

- **Economic growth:** Fiscal policy helps maintain the economy's growth rate so that certain economic goals can be achieved.
- **Price stability:** It controls the price level of the country so that when the inflation is too high, prices can be regulated.
- **Full employment:** It aims to achieve full employment, or near full employment, as a tool to recover from low economic activity.

**What is the difference between fiscal policy and monetary policy?**

The government uses both monetary and fiscal policy to meet the country's economic objectives. The central bank of a country mainly administers monetary policy. In India, the Monetary Policy is under the Reserve Bank of India or RBI. Monetary policy majorly deals with money, currency, and interest rates. On the other hand, under the fiscal policy, the government deals with taxation and spending by the Centre.

**Importance of Fiscal Policy in India:**

- In a country like India, fiscal policy plays a key role in elevating the rate of capital formation both in the public and private sectors.
- Through taxation, the fiscal policy helps mobilise considerable amount of resources for financing its numerous projects.
- Fiscal policy also helps in providing stimulus to elevate the savings rate.
- The fiscal policy gives adequate incentives to the private sector to expand its activities.
- Fiscal policy aims to minimise the imbalance in the dispersal of income and wealth.