UNIT – I: MICRO ECONOMIC THEORY CHAPTER-1

DEMAND

Topic-1

Fundamentals of Partnership

Concepts Covered • Introduction to demand, factors affecting demand, demand function Types of demand, Demand schedule and its types, Demand curve and its types, Determinants of individual and market demand



- ➤ **Demand:** The quantity of a commodity that a consumer is willing and able to buy at each possible price during a given period of time.
- > Factors affecting demand:
 - (1) Price of Product: It is the most important factor affecting demand for the given commodity. There is an inverse relationship between price and quantity demanded. It means, as price increases, quantity demanded falls and vice- versa.
 - (2) Income of the Consumer: demand for a commodity is also affected by income of the consumer. However, the effect of change in income on demand depends on the nature of the commodity under consideration.
 - (3) Tastes and Preferences: Tastes and preferences of the consumer is directly influenced by the demand for a commodity. It include changes in fashion, customs, habits, etc. If a commodity is preferred by the consumers, then demand for such a commodity rises. On the other hand, demand for a commodity falls, if the consumers have no taste for that commodity.
 - (4) Expectation of Change in the Price in Future: If the price of a certain commodity is expected to increase in near future, then people will buy more of that commodity. There exists a direct relationship between expectation of change in the prices in future and change in demand in the current period.
 - (5) Price of Related Goods: Demand for the given commodity is also affected by change in prices of the related goods. Related goods are of two types:
 - (i) Substitute goods
 - (ii) Complementary goods
- Quantity Demanded: Quantity demanded refers to a specific quantity to be purchased against a specific price of a commodity.
- ➤ **Demand function:** Demand function represents the relationship between the quantity demanded for a commodity (dependent variable) and the price of the commodity (independent variable).
- ➤ **Individual Demand function:** Individual demand for a commodity refers to the quantity of the commodity that an individual buyer is willing to buy at a given price during a given period of time.
- ➤ Market Demand function: Market demand for a good means the total quantity of a commodity that all the buyers of the good are willing to buy at a given price over a given time period.
- > Determinants of Individual Demand function: Important determinants of individual demand are: (1) Own price of commodity, (2) Price of related commodities, (3) Income of the consumers, (4) Tastes and preferences of consumers, (5) Expectations of consumers, etc.
- ➤ Determinants of Market Demand function: Important determinants of market demand are: (1) Own price of commodity, (2) Price of related commodities, (3) Money income of the consumers, (4) Tastes and preferences of consumers, (5) Changes in weather conditions, (6) Changes in population, (7) Distribution of income, (8) Changes in structure of population, (9) Changes in quantity of money, (10) Distribution of National Wealth, (11) Phases of business cycles, (12) Change in saving habits, (13) Changes in government policies, etc.
- > Types of demand:
 - Joint Demand: The demand for two or more than two commodities which are demanded together or jointly by the consumers.

For example, demand for bread and butter, car and petrol, etc. are joint demands.

- **Derived Demand:** The demand for commodity that arises due to demand of another commodity. For example, demand for commodities like thread, buttons, etc. have derived demand that arises due to demand for clothes.
- **Composite Demand:** The demand for a commodity that has multiple uses. For example, demand for milk, petrol, steel, plastic, etc. is composite demand.
- Ex-ante Demand: The quantity of goods that a consumer 'wants to buy' during a particular period.
- Ex-post Demand: The quantity of goods that a consumer 'actually buys' during a particular period.
- **Price Demand:** It expresses the inverse functional relationship between the price and demand of a commodity, other things being equal. It is expressed as:

$$Dx = f(P_x)$$

➤ **Income Demand:** It expresses the direct relationship between income of the consumer and quantity demanded of a commodity, other things remaining constant. It is expressed as:

$$Dx = f(Y)$$

➤ **Cross Demand:** Other things being equal, when there is a change in the price of commodity X the demand for commodity Y changes, when X and Y are related goods. It is called Cross Demand. It is expressed as:

$$Dy = f(P_y)$$

- ➤ **Demand Schedule:** Demand schedule is a tabular statement that shows different quantities of a commodity that would be purchased at different prices during a given time period.
- ➤ **Individual Demand Schedule:** It represents quantity of goods demanded by an individual at different prices in a different time period.
- ➤ Market Demand Schedule: It is a table that shows different quantities of a commodity that all the consumers in the market are willing to buy at different possible prices of the commodity at a point of a time.
- ➤ **Demand Curve:** Demand Curve is a graphic presentation of a demand schedule showing the relationship between different quantities of a commodity demanded at different possible prices during a given period of time.
- ➤ **Individual Demand Curve:** It is a curve showing different quantities of a commodity that one particular individual buyer is ready to buy at different possible prices of a commodity at a point of time.
- Market Demand Curve: It is a curve showing different quantities of a commodity that all the buyers in the market are ready to buy at different possible prices of a commodity at a point of time.

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2

Key Terms

- Normal Goods: These are those goods whose income effect is positive and price effect is negative.
- ➤ **Inferior Goods:** These are those goods whose income effect is negative.
- > Substitute Goods: These are those goods which can be used in place of one another to satisfy human wants. For example: Tea and Coffee are substitutes. When price of a goods increases, the demand of its substitute good also increases and vice versa.
- ➤ Complementary Goods: These are those goods which are used together to satisfy a particular want. They complete the demand for each other. For example: Car and Petrol. There exists an inverse relationship between price and quantity demanded of complementary goods.



Law of Demand



- ➤ Law of Demand: The law of demand states that other things remaining same, quantity demanded of a commodity is inversely related to its price. In other words, demand for a commodity rises when its price falls and its demand falls when price rises provided other factors remain unchanged.
- ➤ **Assumptions of Law of Demand:** The Law of demand assumes the following as constant:

- (i) Price of all related goods
- (ii) Income of the consumer
- (iii) Tastes and preferences of consumers
- (iv) Future expectations
- ➤ Why does Law of Demand Operate?: (1) Law of Diminishing Marginal Utility, (2) Substitution Effect, (3) Income effect, (4) Different uses, (5) Change in number of consumers.
- Exceptions to the Law of Demand: (1) Prestigious goods, (2) Expected rise in future price, (3) Ignorance, (4) The Giffen Paradox, and (5) Necessities.



Key Terms

> Giffen Goods: Giffen goods are those inferior goods in the case of which there is a positive relationship between price and quantity demanded and income effect is positive. Law of Demand is not applicable in case of Giffen Goods

Topic-3

Movements and Shifts in Demand Curve

Concepts Covered • Extension and Contraction of Demand, Increase and Decrease in



Revision Notes

- > Movement along Demand Curve: When demand of goods changes due to change in its own price of that good, it is represented at different points of the same demand curve. It is called, movement along demand curve. It shows 'Extension and Contraction' of demand.
- > Extension of Demand: Other things being equal, when demand of goods increases due to decline in price of that good, then it is called Extension of Demand.
- ➤ Contraction of Demand: Other things being equal, when demand of goods decreases due to increase in price of that goods, it is called Contraction of Demand.
- > Shifting of the Demand Curve: Shifts in demand curve takes place when quantity demanded changes due to change in factors other than the own price of commodity. It shows increase or decrease in demand.
- ➤ Increase in Demand: When due to change in factors, other than price of goods, demand of goods increases, it is called "Increase in Demand". In this case, demand curve shifts to right of the original demand curve.
- > Decrease in Demand: When due to change in factors, other than price of goods, demand of a goods decreases, it is called "Decrease in Demand". In this case, demand curve shifts to left of the original demand curve.



CHAPTER-2

THEORY OF CONSUMER BEHAVIOUR & EQUILIBRIUM



Utility and Cardinal Theory

Concepts Covered • Meaning of utility, Cardinal approach of utility, Types of utility- Marginal and total Utility, Law of diminishing Marginal Utility- Meaning, Schedule and diagram, Consumer's equilibrium - One commodity case, Law of Equi-Marginal Utility.



- > Consumer: The individual who takes the decision to buy a certain commodity for satisfaction of his needs or the needs of the family.
- > **Utility:** Utility is the power or capacity of a commodity to satisfy human wants. Alternatively, utility of a commodity means the amount of satisfaction that a person gets from consumption of a good or service.
- > Cardinal Theory of Utility: It is the theory according to which utility is measured in terms of numbers like 2, 4,

- 6, 8, etc. Cardinal utility is measured in terms of utility (the units on a scale of utility or satisfaction). According to cardinal utility the goods and services that are able to derive a higher level of satisfaction to a consumer will be assigned higher utility and goods that result in a lower level of satisfaction will be assigned lower utility. Cardinal utility is a quantitative method that is used to measure consumption satisfaction.
- > Total Utility: Total utility is the total psychological satisfaction a consumer obtain from consuming a given amount of a particular goods. It is the sum total of utility derived from the consumption of all the units of a commodity.

$$TU = MU_1 + MU_2 + MU_3 + \dots + MU_n$$
 or $TU = \sum MU_n$

> Marginal Utility: It refers to additional utility on account of the consumption of an additional unit of a commodity. It is calculated as:

$$MU = TU_n - TU_{(n-1)}$$
 or $MU = \frac{\Delta TU}{\Delta Q}$

- ➤ Relationship between Total Utility and Marginal Utility:
 - When MU is positive, TU is increasing.
 - When MU is zero, TU is maximum.
 - When MU is negative, TU is decreasing.
- ➤ Law of Diminishing Marginal Utility: Law of diminishing marginal utility states that as more and more units of a commodity are consumed, marginal utility derived from every additional unit must decline. This law is based on these assumptions:
 - The utility can be measured in terms of units.
 - The marginal utility of money is constant.
 - The consumption must be in identical units.
 - The consumption is continuous.
 - The consumption is made in terms of standard units.
 - The consumer is rational.
 - The income of the consumer and the prices of goods are constant.
- Law of Equi-Marginal utility: The law of equi-marginal utility states that the consumer will distribute his money income between the goods in such a way that the utility derived from the last rupee spent on each good is equal.
- ➤ **Consumer's Equilibrium:** The consumer is in equilibrium when, given his income and market prices, he plans his expenditure on different goods and services, in such a manner that he maximises his total satisfaction.
- > Consumer Equilibrium in case of a Single Commodity: A consumer purchasing a single commodity will be at equilibrium, when he is buying such a quantity of that commodity, which gives him maximum satisfaction. Being a rational consumer, he will be at equilibrium when marginal utility is equal to the price paid for the commodity *i.e.*

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

> Consumer Equilibrium in case of Two Commodities: A consumer purchasing two commodities will be at equilibrium when he spends his limited income in such a way that the ratios of marginal utilities of two commodities and their respective prices are equal and MU falls as consumption increase *i.e.*

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

Topic-2

Ordinal Theory of Utility

Concepts Covered • Ordinal Approach of Utility, Concept of Indifference curves, indifference set and indifference map and monotonic preferences, Concept of Marginal rate of substitution. and Law of diminishing Marginal rate of substitution, Concept of Budget set, budget line, Consumer's equilibrium through Budget line and indifference curve approach.



Revision Notes

> Ordinal Utility Approach: This approach was laid down by Professor Allen and Hicks. According to this theory, utility cannot be measured in quantitative terms. It can only be compared with each other as more utility, less utility or same utility. But it is rankable.

- > Monotonic Preferences: Consumer's preferences becomes monotonic if the consumer between various bundles of two goods, prefers the bundle which has more of at least one of the goods and no less of other goods as compared to the other bundle.
- ➤ **Indifference Set:** It is a set of those combinations of two goods which offer the consumer the same level of satisfaction, so that the consumer is indifferent across any number of combinations in his indifference set.
- ➤ **Indifference Curve:** A curve which is a graphical presentation of an indifference set showing different combinations of two commodities between which a consumer is indifferent.
- > The slope of indifference curve is known as MRS.
- ➤ Indifference Map: It refers to a set of indifference curves corresponding to different income levels of the consumers. An indifference curve which is to the right and above another indifference curve corresponds to higher level of income and therefore, represents higher level of satisfaction.

OR

- A collection of Indifference curve on a graph is called Indifference map.
- > Properties or Characteristics of Indifference Curves:
 - 1. It slopes downwards from left to right.
 - 2. Indifference Curves are convex to the origin.
 - 3. Indifference Curves will never intersect each other.
 - 4. A higher Indifference Curve represents higher level of satisfaction.
 - 5. Indifference Curve neither touches X-axis nor Y-axis.
- ➤ Slope of an Indifference Curve: An indifference curve slopes downward from left to right. In other words, an indifference curve is negatively sloped.
- Marginal Rate of Substitution (MRS): Marginal rate of substitution refers to the rate at which consumer is willing to give up amount of other goods to obtain one extra unit of the good in question without affecting total satisfaction. So, the rate of substitution of one commodity for another is called marginal rate of substitution. It is expressed as: $\frac{\Delta Y}{\Delta X}$ OR $\frac{\text{Sacrifice}}{\text{Gain}}$
- ➤ Law of Diminishing Marginal Rate of Substitution (MRS): This law states that as more and more units of Good-X are consumed, the consumer will sacrifice less and less units of Good-Y for each additional unit of Good-X. In other words, MRS falls continuously.
- > Consumer Budget: It refers to the purchasing power of the consumer with which the consumer can buy various combinations of two goods.
- ➤ **Budget Set:** It refers to attainable combinations of set of two goods, given the prices of goods and income of the consumer.
- ➤ **Budget Line:** It is a line showing different possible combinations of two goods, which a consumer can buy given his budget and the prices of the goods. It is expressed as:

$$P_X Q_X + P_Y Q_Y =$$
 Income of the consumer

- ightharpoonup Price Ratio or Slope of Budget Line: It is the rate at which the consumer is willing to exchange Goods-Y for Good-X. It is calculated as $\frac{P_X}{P_V}$. The price ratio is represented by a negatively sloped straight line.
- ➤ **Consumer's Equilibrium:** It is the point at which the consumer derives maximum level of satisfaction within his budget.
- > Conditions of Consumer's Equilibrium:
 - (i) Price Line should be tangent to Indifference Curve, that is, MRS_{XY} = $\frac{P_X}{P_V}$
 - (ii) At the point of equilibrium, Indifference Curve is convex to the origin.



Key Term

> Monotonic preference: Monotonic preference means that a rational consumer always prefers more of a commodity as it offers him a higher level of satisfaction.

CHAPTER-3

ELASTICITY OF DEMAND

Topic-1

Elasticity of Demand-Meaning, Types of Measurement

Concepts Covered • Concept of elasticity of demand; Types of elasticity of demand a. Price elasticity of demand, b. income elasticity of demand, c. Cross elasticity of demand; 3. Methods of measuring elasticity of demand—a. Percentage method, b. Total Outlay method,



- Elasticity of Demand: Price elasticity of demand means degree of responsiveness of demand for a commodity to the change in its price.
- Types of Elasticity of demand: Price elasticity, Income elasticity and Cross elasticity
- > Price Elasticity of Demand: Price Elasticity of Demand is defined as measurement of percentage in quantity demanded in response to a given percentage of change in own price of the commodity.

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

$$E_d = (-)\frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = (-)\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

$$E_d = (-)\frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = (-)\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

- ➤ Measurement of Price Elasticity of Demand:
 - (a) Total Outlay Method: Total expenditure method indicates the direction in which total expenditure on a product changes as a result of change in price of the commodity. Under this method, impact (effect) of change in price on the expenditure of a goods is studied. When price of a goods changes, consumer's total expenditure on it may increase, decrease or remain constant. Thus, elasticity is measured by comparing the total expenditure made on the goods before and after the price change.
 - (i) If total expenditure on a commodity remains unchanged before and after the price change, the elasticity is said to be unity $E_d = 1$.
 - (ii) If total expenditure increase with fall in price (and vice-versa), elasticity of demand is said to be greater than unity $E_d > 1$.
 - (iii) If total expenditure decreases with fall in price (and vice-versa), elasticity of demand, is said to be less than unity $E_d < 1$.
 - (b) Proportionate or Percentage Method: This method is also called flux method. According to this method price elasticity of demand is measured as a ratio of percentage change in quantity demanded to the percentage change in price of the commodity.

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

$$E_d = (-)\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

(c) Point Method or Geometric Method: This method is also known as 'point method'. Geometric method is used to measure the elasticity at a point on the straight line demand curve. Elasticity of demand is different at different points on the same straight line demand curve. According to the geometric method, elasticity of demand at any point of a straight line demand curve is measured as a ratio of lower segment of the demand curve and upper segment of the demand curve.

$$E_d = \frac{\text{Lower sector of the demand curve}}{\text{Upper sector of the demand curve}}$$

➤ **Income Elasticity of Demand:** Income Elasticity of Demand is defined as measurement of percentage in quantity demanded in response to a given percentage change in income of the consumer.

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

$$E_d = (-)\frac{\frac{\Delta Q}{Q}}{\frac{\Delta Y}{Y}} = (-)\frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

Cross Price Elasticity of Demand: Cross Price Elasticity of Demand is defined as measurement of percentage change in quantity demanded of a commodity in response to a given percentage change in price of the related goods.

$$E_d = \frac{\text{Percentage change in quantity demanded of goods } X}{\text{Percentage change in price of goods } Y}$$

$$E_d = (-)\frac{\frac{\Delta Q_X}{Q_X}}{\frac{\Delta P_Y}{P_Y}} = (-)\frac{\Delta Q_X}{\Delta P_Y} \times \frac{P_Y}{Q_X}$$

Topic-2

Elasticity of Demand - Degrees and Factors

Concepts Covered • 1. Degree of elasticity of demand—a. Perfectly elastic demand, b. More elastic, c. unit Elastic, d. Less elastic demand, e. Perfectly inelastic demand. 2. Factors affecting elasticity of demand.



- > Degrees of Price Elasticity of Demand
 - Perfectly Elastic Demand (E_d = ∞): When there is an infinite demand at a particular price and demand becomes zero with a slight rise in the price, then demand for such a commodity is said to be perfectly elastic. In such a situation, demand curve is parallel to X axis.
 - Perfectly Inelastic Demand (E_d = 0): The demand for a commodity is called perfectly inelastic when quantity
 demanded does not change at all in response to change in its prices. In this situation, demand curve is a
 straight line parallel to the Y axis.
 - Unitary Elastic Demand (E_d = 1): When percentage change in quantity demanded is equal to percentage
 change in price, then demand for such a commodity is said to be unitary elastic. Shape of demand curve is
 rectangular hyperbola and elasticity at every point on this curve is unity.
 - Highly Elastic Demand (E_d > 1): When percentage change in price of a commodity causes greater percentage
 change in quantity demanded then demand is said to be highly elastic. Graphically, the demand curve is
 flatter.
 - Relativity Inelastic Demand (E_d < 1): When percentage change in price of a commodity causes relatively less
 than percentage change in quantity demanded then the demand is said to be inelastic. Graphically, demand
 curve is steeper.
- > Factors Determining the Elasticity of Demand
 - Objective Factors: (1) Nature of commodity, (2) Existence of substitutes, (3) Alternative uses of a commodity,
 (4) Postponement of consumption, and (5) Joint demand.

- Subjective Factors: (1) Habits of consumers, (2) Change in income of consumers, (3) Standard of living of people, (4) Share in total expenditure, and (5) Class of buyers.
- Social Factors: (1) Distribution of National Income, and (2) Rationing System.
- **Price Factors:** (1) General price level, and (2) Effect of time element.

CHAPTER-4

SUPPLY AND ELASTICITY OF SUPPLY

Topic-1

Supply - Meaning and Determinants

Concepts Covered • Meaning of supply and stock, Concept of supply schedule and supply curve, Positive relationship between price and supply OR why supply curve is upward sloping? Concept of individual and market supply and determinants of supply.



Revision Notes

- > **Supply:** Supply refers to the quantity of a commodity that a firm is willing and able to offer for sale at a given price during a given period of time.
- > Individual Supply: Individual supply refers to the supply of a particular commodity at a particular price by a single firm in the market.
- > Market Supply: Market supply refers to the supply of a particular commodity at a particular price by all the firms in the market.
- > **Supply Schedule**: It is a tabular statement showing various quantities of a commodity being supplied at various levels of price, during a given period of time.
- > Individual Supply Schedule: It is a schedule which represents different quantities of a commodity which an individual producer or seller is ready to supply at various possible prices at a given period of time.
- ➤ Market Supply Schedule: It is a schedule which represents the total quantity of a commodity that all producers will supply at each market price per period of time. It is a horizontal summation of individual supply schedules.
- ➤ **Supply Curve**: It is a graphical representation of the supply schedule.
- > Individual Supply Curve: Graphical presentation of individual supply schedule is called individual supply curve. It shows the different quantities of a commodity, an individual firm is willing to sell at different prices during a given time period.
- ➤ Market Supply Curve: Market supply can be derived by horizontal summation of all individual supply curve: It show the different quantities of a commodity that all the firms are willing to sell at different prices during a given time period.
- Supply Function: It refers to functional relationship between supply of a commodity and its determining factors.

 $Sx = f \{P_{x'}, P_{r'}, P_{f'}, G, E_{x'}, T, N_{f'}, Gp\}$

➤ Factors Affecting Supply:

(1) Price of commodity

(3) Price of factor inputs

(5) Expected change in price

(7) Number of firms in the industry

(2) Price of related goods

(4) Goal of the firm

(6) Technical know-how

(8) Government Policies

> Stock: It refers to total quantity of goods which is available with the sellers in the market at a particular point of time.

Topic-2

Law of Supply and Changes in Supply

Concepts Covered • Law Of Supply- Meaning and assumptions, Exceptions to the law of supply, Movement along the supply curve—a. Extension of supply, b. Contraction of supply, Shift in supply curve, a. Rightward shift, b. Leftward shift



Revision Notes

Law of Supply: The law of supply depicts the relationship between price and quantity supplied of a commodity when all other determinants of supply remain constant. This law states that there is a direct relationship between

price and quantity supplied of a commodity, other factors determining supply remaining constant. It means quantity supplied of a commodity increases with increase in price and decreases with decrease in price.

- ➤ **Assumptions of Law of Supply:** The Law of Supply assumes the following as constant:
 - Price of all related goods
 - Prices of inputs or factors of production
 - Techniques of production
 - Goals of the producer
 - Policies of the government
 - Expectations about the market
- Exceptions to the Law of Supply: (1) Rare commodities (like old coins, postal stamps, etc.), (2) Supply of labour, (3) Agricultural produce, (4) Future expectations about further changes in prices, and (5) Backward economies.
- ➤ Change in Supply: It is of two kinds:
 - Movement along a supply curve due to change in prices.
 - Shifting of supply curve due to change in factors other than price.
- ➤ **Movement Along the Supply Curve**: Two types of movement:
 - Extension of Supply: Other things being constant, when supply increases due to increase in price only. It is termed as "Extension of Supply"
 - Contraction of Supply: Other things being equal, when supply decreases due to decrease in price only, it is termed as "contraction of supply".
- ➤ **Shifting of Supply Curve**: Two types of shifting:
 - **Increase in Supply:** It refers to a rise in the supply of a commodity caused due to any factor other than the own price of the commodity.
 - **Decrease in Supply:** It refers to a fall in the supply of commodity caused due to any factor other than own price of the commodity.
- > Causes of Increase in Supply:
 - Fall in the price of competing product
 - Fall in the price of factors of production
 - Improvements in technology
 - Increase in the number of firms in the market
 - Reduction in taxes or grant of subsidy
- Causes of Decrease in Supply:
 - Obsolescence of technology
 - Increase in the prices of substitute
 - Increase in factor prices
 - Increase in taxation or withdrawal of subsidy
 - Decrease in the number of firms in the market.

Topic-3

Elasticity of Supply

Concepts Covered • Meaning of elasticity of supply, Methods of measuring elasticity of supply—a. Percentage method OR proportionate method, b. Geometric method. Factors affecting elasticity of supply.



Revision Notes

Elasticity of Supply: Price elasticity of supply measures the degree of responsiveness of quantity supplied of a commodity to change in its price.

$$e_S = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

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

➤ Measurement of Elasticity of Supply:

 Percentage or Proportionate Method: This method measures the degree of responsiveness of quantity supplied of a commodity to change in its price. The price elasticity of supply is the ratio of percentage change in quantity supplied of a commodity to percentage change in its price.

$$e_{\rm S} = \frac{{
m Percentage\ change\ in\ quantity\ supplied}}{{
m Percentage\ change\ in\ price}}$$

$$e_{S} = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

- Geometric Method: Under this method, we can conceive following three possible situations of elasticity of supply:
 - (a) Any straight line supply curve passing through the origin has value of elasticity equal to one $e_S = 1$.
 - **(B)** If straight line supply curve goes through the X axis, it is inelastic. $e_S < 1$.
 - (c) If a straight line supply curve goes through the Y axis, it is elastic or highly elastic $e_S > 1$.

> Degrees of Elasticity of Supply:

- **Perfectly Elastic Supply** ($e_S = \alpha$): When the quantity supplied of a commodity expands or contracts to any extent without any change or with an infinitely small change in its price, the supply of the commodity is called perfectly elastic. Its supply curve is a horizontal line parallel to x-axis.
- **Greater than Unitary Elastic Supply** ($e_S > 1$): When the proportionate change in quantity supplied is more than proportionate change in price, elasticity of supply becomes greater than unity.
- Unitary Elastic Supply ($e_S = 1$): When the proportionate change in quantity supplied is equal to the proportionate change in price, the elasticity of supply becomes equal to one.
- **Perfectly Inelastic Supply** ($e_s = 0$): Supply of a commodity is said to be perfectly inelastic when the quantity supplied of a commodity does not change at all in response to change in price of the commodity. It means that the price of the commodity may increase or decrease but its quantity supplied remained the same. In such cases the price elasticity of supply is zero and supply curve is a vertical line parallel to y-axis.
- Inelastic or Less than Unitary Elastic Supply ($e_S < 1$): When the proportionate change in quantity supplied is less than the proportionate change in price, elasticity of supply in less than unitary.
- Factors Influencing Elasticity of Supply: (1) Nature of commodity, (2) Cost of production, (3) Estimates of future prices, (4) Natural constraints, (5) Techniques of production, (6) Nature of inputs used, and (7) Time element.



CHAPTER-5

CONCEPT OF PRODUCTION



Concepts of Production

Concepts Covered • Meaning and concept of production and production function, Time period- Short run time period and long run time period. Types of production function—(a). Short run production function, (b) Long run production function. Types of factors—(a) fixed factors, (b) Variable factors. Types of product—(a) Average product, (b) Total Product, (c) Marginal Product.



- Production: Production may be defined as a process through which a firm transforms inputs into output. It is the process of creating goods and services with the help of factors of production or inputs for satisfaction of human wants. In other words, 'transformation of inputs into output' whereby value is added, is broadly called production.
- ➤ **Production Function:** Production Function is the functional relationship between physical input and physical output. In production function, only physical inputs are taken into consideration in relation to the physical output and the market prices are not included in it.

$$Q_x = f\{L,K\}$$

- > Short-run: Short-run refers to a period in which output can be changed by changing only variable factors. Fixed inputs like plant, machinery, building, etc. cannot be changed.
- Long-run: Long-run refers to a period in which output can be changed by changing all factors of production. A firm can change its production techniques, purchase new machinery, etc.
- ➤ **Types of Production Function:** There are two types of production function:
 - (i) Short Run Production Function or Returns to a Factor: It is related to short-run, when only one factor of production is variable and others are fixed. Since units of variable factors are increased continuously, so factor ratio changes in this production function.
 - (ii) Long Run Production Function or Returns to Scale: It is related to long-run and all the factors are changed in same ratio. In this case, proportional relation between production and factors of production in the long-run is called Returns to Scale. Here, scale of production changes.
- > Total Product or Total Physical Product: Total production refers to total output produced by a firm during a given period of time with given number of inputs.
- > Average Product: Average product refers to output per unit of a variable input. To get Average Product, we divide total product by amount of variable factor.

$$AP = \frac{TP}{I}$$

➤ Marginal Product: Marginal Product is the change in Total Product resulting from the use of one more (or one less) unit of the variable input, keeping all other inputs constant.

$$MP = \frac{\Delta TP}{\Delta N}$$
 OR $MP_n = TP_n - TP_{n-1}$



Key Terms

- ➤ **Variable factors:** Its production are those factors of production, the application of which changes with the change in output.
- ➤ **Fixed Factor:** Fixed factors of production are those factors of production, the application of which does not change with the change in output.



Law of Variable Proportions

Concepts Covered • Concept of Law of variable proportion, Stages and assumptions of law of variable proportion, Relationship between TP, AP and MP, Causes of the operation of law of variable proportion, Law of diminishing returns to factor.



- ➤ Law of Production or Law of Variable Proportion: Law of Variable Proportion states that as more and more of the variable factor is combined with the fixed factor, a stage must ultimately come when marginal product of the variable factor starts declining.
- Assumptions of the Law of Variable Proportion: (i) Short run, (ii) Factors can be substituted mutually, (iii) Technology is constant, (iv) All units of variable factors are homogeneous.
- > Stages of Law of Variable Proportion: According to this law, there are three stages of production:
 - (i) First Stage: TP increases at an increasing rate and MP rises till it reaches its maximum point.
 - (ii) Second Stage: Total product increases at a decreasing rate and reaches maximum, and MP becomes zero.
 - (iii) Third Stage: Total product also decreases and marginal product becomes negative.
- ➤ Causes of the Operation of Law of Variable Proportion: (i) Indivisibility of factors, (ii) Division of Labour or specialisation, (iii) Imperfect substitutes, (iv) Change in factor ratio.
- ➤ Can the Law of Diminishing Returns be Postponed ?: Improvement in technique of production and discovery of fixed factor substitute can postpone the operation of Law of Diminishing Returns for some time, but ultimately it will apply.
- > Causes of Increasing Returns to a Factor: (i) Full utilization of fixed factors of production, (ii) Better coordination between fixed and variable factors, (iii) Improved efficiency of variable factors
- Causes of Diminishing Returns to a Factor: (i) Presence of fixed factors, (ii) Poor coordination between fixed and variable factors, (iii) Imperfect substitution of variable factors

- ➤ Relationship between Average Product (AP) and Marginal Product (MP):
 - AP increases when MP is greater than AP.
 - AP is at its maximum when both MP and AP are equal.
 - AP decreases when MP is less than AP.
 - MP can be positive, zero or negative, but AP is always positive.
- > Relationship between Total Product (TP) and Marginal Product (MP):
 - When MP increases, TP increases at an increasing rate.
 - When MP decreases, TP increases at a diminishing rate.
 - When MP is constant, TP increases at a constant rate.
 - When MP is zero, TP is maximum.
 - When MP is negative, TP declines.



Key Terms

➤ **Point of inflexion**: It is the point upto which the TP increases at an increasing rate and then increases at a diminishing rate. In other words, it is the point at which the slope of TP curve changes.



CHAPTER-6

COST, REVENUE AND PRODUCER'S EQUILIBRIUM

Topic-1

Cost Concepts

Concepts Covered • Meaning and types of cost—a. Explicit and implicit cost, b. Private and social cost, c. Short run and long run cost. Short run cost—a. total cost, Total variable cost and total fixed cost, b. Average cost, average fixed cost and average variable cost, c. Marginal cost. Relationship between TC, TVC and TFC. Relationship between AC, AVC and AFC. Relationship between TC and MC.



- Cost: It refers to the expenditure incurred by a producer on the factor as well as non-factor inputs for a given amount of output of a commodity.
- Cost Function: A Cost Function shows the functional relationship between output and cost of production. It is given as:

$$C = f(Q)$$

- Production Cost: It refers to the expenditure incurred by a producer used in the process of production on factor as well as non-factor inputs.
- ➤ Explicit Cost: It refers to the actual money expenditure of a firm on purchasing goods or hiring factor services and non-factor inputs (like raw material, electricity, fuel, etc). Explicit Cost are those cash payments which firms make to outsiders for their services and goods.
- ➤ **Implicit Cost**: Implicit cost is the imputed or estimated value of inputs supplied by the owner of the firm himself. Implicit Cost are the costs of entrepreneur's own factors or resources.
- > Accounting Cost or Money Cost: The money cost of producing a certain output of a commodity is the sum of all the payments to the factors of production engaged in the production of that commodity.
- **Opportunity Cost :** Opportunity cost is the cost of the next best alternative foregone.
- > Real Cost: Real cost is the qualitative sum of all the efforts made by the owners of factor of production.
- > Social Cost: Social cost is the cost that the society has to bear for production of a commodity. Social cost = Private cost + External cost. Examples of such costs are pollution, etc.
- > Short Run cost: The cost incurred by a producer in the short run. Short Run cost are those in which some factors of production are fixed and others are variable. These are classified as Total Cost, Average Cost and Marginal Cost.

- Total Fixed Costs or Supplementary Cost: Fixed Cost are the sum total of expenditure incurred by the producer on the purchase of fixed factors of production. Fixed costs are those costs of production which do not change with a change in output.
- > Total Variable Costs: Variable Costs are the expenditure incurred by the producer on the use of variable factors of production.
- > **Total Costs**: It is the total expenditure incurred by a firm on the factors of production required for the production of a commodity. It is a sum of total fixed cost and total variable cost.

$$TC = TFC + TVC$$

➤ **Average Costs**: Cost per unit of output is called Average Cost. It is obtained by dividing the total cost by the quantity of output.

$$AC = \frac{TC}{Q}$$

➤ **Average Fixed Cost (AFC)**: It is defined as the fixed cost of producing per unit of the commodity. It is obtained by dividing TFC by the level of output.

$$AFC = \frac{TFC}{O}$$

➤ Average Variable Cost (AVC): It is defined as the variable cost of producing per unit of commodity. It is obtained by dividing TVC by the level of output.

$$AVC = \frac{TVC}{O}$$

Marginal Cost: Marginal cost is the addition made to the total cost by the production of one more unit of a commodity.

or
$$MC = TC_n - TC_{n-1}$$

$$MC = TVC_n - TVC_{n-1}$$

$$MC = \frac{\Delta TC}{\Delta Q} = \frac{\Delta TVC}{\Delta Q}$$

- > Relationship between AC and MC:
 - Both are derived from TC.
 - When AC falls, MC is lower than AC.
 - When AC rises, MC is greater than AC.
 - MC cuts AC at its minimum point.
- > Relationship between TC and MC:
 - MC is the addition to total cost, when one more unit of output is produced. MC is calculated as;

$$MC_n = TC_n - TC_{n-1}$$

- TC increases at an increasing rate when MC is increasing.
- TC increases at a constant rate when MC is constant.
- TC increases at a diminishing rate when MC is decreasing.
- > Relationship between TC, TFC and TVC
 - TC is the sum total of TFC and TVC, i.e. TC = TFC + TVC
 - At zero level of output, TVC is zero, so TVC curve starts from origin.
 - At zero level of output, TFC is not zero, so TFC curve starts from a point F on the y-axis, above the origin.
 - At zero level of output, TC = TFC.
 - The difference between TC and TVC is TFC, which is constant. So, TC and TVC curves are parallel to each other.
 - Both TC and TVC curves rise at a diminishing rate and then at an increasing rate.
- > Long Run costs: The costs incurred by a producer in the long run. Since all factors of production are variable in long run, so there is no fixed costs in the long run.

- 14
 - Long Run Average Cost: It is the sum total of the minimum levels of short run average costs at various levels of outputs.
 - Long run Marginal Cost: Long Run Marginal Cost is the addition made to the total cost by the production of one more unit of a commodity when all factors of production are variable.

Topic-2

Revenue Concepts

Concepts Covered • 1. Meaning of revenue, 2. Types of revenue—a. Total revenue, b. Average revenue, c. Marginal Revenue, 3. Relationship between TR, AR and MR under, a. Perfect competition, b. Imperfect Competition



Revision Notes

- ➤ **Revenue**: Amount received by the producer upon sale of the output during a given period. Revenue includes cost incurred by the producer and the profit earned.
- ➤ **Total Revenue**: The total money receipts of a firm from the sale of a given output is called Total Revenue.
- > Average Revenue (AR): Average revenue is the per unit revenue received from the sale of one unit of a commodity.

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

- Average revenue curve and demand curve are one and same thing.
- > Average revenue is also called firms price line.
- ➤ AR Curve is Firm's Demand Curve : Firm's demand curve is a curve showing relationship between price of the products and its quantity demanded in the market.
- Marginal Revenue: Marginal revenue is the change in total revenue which results from the sale of one more or one less unit of output.

$$MR = TR_{n} - TR_{n-1}$$

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

Or,

- ➤ **Negative (MR):** It is possible only when price is declining under monopoly or monopolistic competition. It is not possible in case of perfect competition, where price remains constant for a firm.
- > Revenue Curves in Different Markets :
 - In perfect competition, AR is a horizontal line parallel to 'X' axis. It is equal to MR and TR curve is a straight positively sloping line from the origin and TR increases in same proportion as increase in output sold.
 - The area below the price line is total revenue in perfect competition.
 - In monopoly and monopolistic competition, AR and MR both are downward sloping and MR is always below
 AR. The main difference in these two markets is that in monopolistic competition AR and MR curve is more
 elastic than monopoly.

> Relationship between TR and MR:

- Initially or at first unit TR = MR
- When TR increases at increasing rate, then MR also increases.
- When TR increases at constant rate, MR is also constant.
- When TR increases at a diminishing rate, then MR declines.
- When TR is maximum, MR is zero.
- When TR declines, MR is negative.

> Relationship between AR and MR:

- If AR is constant, AR = MR
- If AR is diminishing, AR > MR
- MR can be negative, but not AR. AR is always positive.
- ➤ AR Curve is a Horizontal Straight Line under Perfect Competition: A firm under perfect competition is a price taker. It cannot influence/change the market price, implying a constant AR for a firm corresponding to all levels of output.

➤ AR Curve Slopes Downwards under Conditions of Monopoly and Monopolistic Competition: Under monopoly and monopolistic competition, more of the commodity can be sold only at a lower price. This implies an inverse relationship between price of the commodity and demand for the firm's output. Hence, a downward sloping firm's demand curve.

Topic-3

Producer's Equilibrium

Concepts Covered • 1. Concept of producer's equilibrium, 2. Conditions of producer's equilibrium, MC-MR Approach, TC-TR Approach



Revision Notes

- > **Producer's or Firm's Equilibrium :** A producer is said to be in equilibrium when he maximises his profit or minimises his losses. A producer is said to be in equilibrium when he produces that level of output at which his profits are maximum. Producer's equilibrium is also known as profit maximisation situation.
- **Profit**: The difference between TR and TC is profit.

Profit =
$$TR - TC$$

- > Conditions of Profit Maximization :
 - Necessary Condition: MR must be equal to MC.
 - **Supplementary Condition**: MC should cut MR from below. It simply means after equilibrium point MC should be greater than MR or MC is rising.
- > Producer's Equilibrium :
 - Total Revenue Total Cost Approach

The vertical distance between TR and TC is the measure of profit. When this distance is highest, that is the point of equilibrium.

Marginal Revenue – Marginal Cost Approach

When MR = MC and MC is rising.

Break-even point, where TR = TC

- > Firm's Equilibrium under Time Period
 - In Short Run : Three conditions :
 - (a) MR = MC
 - (B) MC should be greater than MR after equilibrium point.
 - (c) Price should be either equal to or more than AVC.
 - In Long Run
 - (a) MR = MC
 - **(B)** After equilibrium MC should be greater than MR.
 - (c) Price should be either equal to or more than AC.



Key Terms

- > **Producer:** A producer is one who produces and / or sells goods and services for the generation of income.
- > **Normal profits :** Normal profits are defined as the minimum return that the producer expects from his capital invested in the business. It is a situation when TR = TC.
- ➤ **Abnormal profits or Supernormal profits :** It is a situation when TR > TC.
- ➤ **Sub-normal profits (or losses) :** It is a situation when TR < TC.

CHAPTER-7 MAIN MARKET FORMS AND MARKET MECHANISM

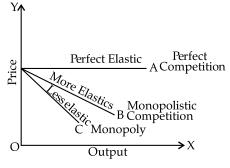
Topic-1

Main Market Forms

Concepts Covered • Meaning and types of market—Perfect competition, Monopoly, Monopolistic, Oligopoly, Monopsony. 2. Features of different forms of markets.



- > Meaning of Market: Market may be defined as an arrangement where buyers and sellers can meet to facilitate the exchange or transaction of goods and services.
- > Types of Market: On the basis of competition: (1) Perfect competition, (2) Monopoly, (3) Monopolistic competition, (4) Oligopoly and (5) Monopsony.
- ➤ **Perfect Competition :** It is defined as the situation in which large number of sellers sell homogeneous product at uniform price in the market.
- ➤ Characteristics or Features of Perfect Competition: (1) Large number of buyers and sellers, (2) Homogeneous product, (3) Free entry and exit, (4) Perfect knowledge, (5) Perfect mobility of factors of production, (6) Absence of transportation cost, (7) No selling cost, (8) Uniform prices, and (9) Horizontal average and marginal revenue curves.
- > Two important conclusions of Perfect Competition Market: (1) Firm is price taker not maker,(2) Perfectly elastic demand curve.
- ➤ Imperfect Competition: Imperfect competition is a competitive market environment where there are many vendors but in comparison to the perfect competitive market scenario, they sell heterogeneous products in competitive market. Monopoly, Monopolistic Competition and Oligopoly are types of Imperfect Competition markets.
- Monopoly: Monopoly is that market situation in which a firm has the sole right over production or sale of the product and it has no competitor. Monopoly is the price maker.
- > Features of Monopoly: (1) Single seller and large number of buyers, (2) Firm and industry are synonymous, (3) No close substitutes, (4) Closed Entry of New firm, (5) Negatively sloped AR and MR curves, (6) Price discrimination possible, (7) Full control over supply of goods, and (8) Abnormal profit in the long run.
- > Reasons for emergence of Monopoly: (a) Government licensing (b) Patent Rights (c) Cartel (d) Control on raw materials.
- ➤ Monopolistic Competition : Large number of sellers selling differentiated products.
- ➤ Characteristics of Monopolistic Competition: (1) Large number of firms, (2) Product differentiation, (3) Free entry and exit of firms, (4) Selling Cost, (5) Non-price competition, (6) Sales techniques, (7) Absence of collective action, (8) Consumer's attachment, (9) Price policy of a firm, (10) Lack of perfect knowledge.
- Oligopoly: It is a situation in which there exists few firms producing either homogeneous or differentiated products in a given line of production.
- ➤ Main Features of Oligopoly: (1) Few Sellers, (2) Monopoly Power, (3) Interdependence, (4) Indeterminate Demand curve, (5) Role of selling costs, (6) Lack of uniformity, (7) Price rigidity, (8) Non-price competition, (9) Barriers to entry of firms, (10) Nature of product.
- > Shapes of Firm's Demand Curve Under Different Markets:
 - (i) It is a horizontal straight line under perfect competition. It signifies that elasticity of demand $ed = \infty$.
 - (ii) It slopes downwards under monopoly. Relatively less elastic. This is because there are no close substitutes of the monopoly product in the market.
 - (iii) It slopes downwards under monopolistic competition but it is relatively more elastic than under monopoly. This is because there is a large number of close substitutes of a product in monopolistic competition.



- (iv) It is indeterminate under oligopoly. This is because of a high degree of interdependence between the firms. Price and output policy of one firm significantly impacts the price and output policy of the rival firms in the market.
- Monopsony: Monopsony is that market situation in which there is only a single buyer for the commodity. The sole buyer has no competing buyers for the product that he is purchasing from the firm.
- ➤ **Features of Monopsony**: (1) Single buyer and large number of sellers, (2) Homogeneous product, (3) Full control over price of goods, and (8) Immobility of factors of production.

Topic-2

Short Run and Long Run Equilibrium Under Perfect Competition

Concepts Covered • Short run equilibrium under perfect competition in three forms—a. losses, b. Profits, c. normal profits. Long run equilibrium under perfect competition. (Situation of normal profits). Concept of Break even point, Concept of shut down point.



Revision Notes

- > Price and Output Determination: The equilibrium of the industry is determined at the point where independent market forces of demand and supply intersect. This equilibrium price is taken by the individual firm. Industry is the price maker and firm is the price taker.
- ➤ Short run equilibrium of firm : Conditions of equilibrium are: (1) AR = MR = MC, (2) MC cuts MR from below.
- > **Super normal profits of firm**: A firm may earn short run super normal profits, that is, AR > AC at the point of equilibrium.
- > **Super normal losses of firm**: A firm may incur short run super normal losses, that is, AR < AC at the point of equilibrium.
- ➤ **Break-even point :** It is the point at which AC = AR. This means, it is the point at which the firm is neither making any profits nor incurring any losses.
- > Shut down point: It is the point at which the firm is not even able to recover per unit variable cost on sale of a single unit of the commodity or, AVC > AR.
- > Normal profits of the firm : A firm under perfect competition earns only normal profits in the long run.

Topic-3

Market Mechanism

Concepts Covered • Condition of equilibrium. Effect of change in demand on market equilibrium. Effect of change in supply on market equilibrium. Effect of simultaneous change in demand and supply on market equilibrium.



- ➤ Market Equilibrium : It is a state in which market demand is equal to market supply.
- Equilibrium Price: It is the price at which market demand is equal to market supply.
- **Equilibrium Quantity**: It is the quantity which corresponds to equilibrium price.
- ➤ Effect of Change in Demand : Increase in demand raises and decrease in demand lowers the equilibrium price. Also, equilibrium quantity will increase when demand increases and will decrease when demand decreases.
- ➤ In Case of Perfectly Elastic Supply: Increase or decrease in demand for a commodity does not cause any change in its price in case supply of the commodity is perfectly elastic.
- > In Case of Perfectly Inelastic Supply: Increase or decrease in demand causes a change in the price of the commodity. Equilibrium quantity remains constant.
- ➤ Effect of Change in Supply: Increase in supply causes a fall in equilibrium price and decrease in supply causes a rise in equilibrium price. Equilibrium quantity will increase if supply increases and decrease if supply decreases.
- ➤ In Case of Perfectly Elastic Demand : Increase or decrease in supply does not cause any change in equilibrium price but quantity changes.
- In Case of Perfectly Inelastic Demand: Decrease in supply result in an increase in price and increase in supply leads to decrease in price. The equilibrium quantity remains constant.

- > Effect of a Simultaneous Change in Demand and Supply on Equilibrium Price :
 - (i) When demand increase more than supply, equilibrium price will increase.
 - (ii) When demand and supply increases equally, equilibrium price remains constant.
 - (iii) When supply increases more than demand, equilibrium price falls.

UNIT-2: THEORY OF INCOME AND EMPLOYMENT CHAPTER-8

INCOME AND EMPLOYMENT

Topic-1

Basic concepts of Aggregate Demand and Aggregate Supply

Concepts Covered • Aggregate demand, Aggregate supply, Propensity to Consume, Propensity to Save, Consumption Function, Saving Function, Investment Function, Marginal Efficiency of Capital



Revision Notes

- > **Aggregate Demand :** Aggregate Demand refers to the total demand for all goods and services in the economic system as a whole. This is expressed in terms of total expenditure made in the economy.
- > Constituents of Aggregate Demand: In an open economy constituents of aggregate demand. are:
 - (i) Consumption Demand
 - (ii) Investment Demand
 - (iii) Government Expenditure
 - (iv) Net Exports

:
$$AD = C + I + G + (X - M)$$

- ➤ **Aggregate Supply**: The concept of aggregate supply is related to the total supply of goods and services made available by all the producers in the economy. It can be expressed in three forms:
 - (i) Money value of goods and services produced during a year in an economy, i.e., National Income.
 - (ii) In the form of total income, i.e., consumption + saving.
 - (iii) In the form of minimum income which the firm will receive as sale proceeds from the sale of goods and
- ➤ Aggregate Supply Price: The minimum expected sale proceeds of the output resulting from a given amount of employment is called the 'Aggregate Supply Price' of that output.
- > Aggregate Supply Schedule: This schedule represents the addition of consumption expenditure and saving at various levels of income.
- > Propensity to Consume: It expresses the consumption levels at different levels of income.
 - Average Propensity to Consume (APC): It is the ratio of consumption expenditure to any particular level of
 income.

$$APC = \frac{Consumption(C)}{Income(Y)}$$

• Marginal Propensity to Consume (MPC): It is the ratio of change in consumption to change in income.

$$\mathbf{MPC} = \frac{\mathbf{Change in Consumption}(C)}{\mathbf{Change in Income}(Y)} = \frac{\Delta C}{\Delta Y}$$

- ➤ **Propensity to Save**: It is the ratio of saving to income at different levels of income.
 - Average Propensity to Save (APS): It is the ratio of saving to income.

$$APS = \frac{Saving(S)}{Income(Y)}$$

Marginal Propensity to Save (MPS): It is the ratio of change in saving to a change in income.

MPS =
$$\frac{\text{Change in Saving}}{\text{Change in Income}} = \frac{\Delta S}{\Delta Y}$$

> Relationship between Propensity to Save and Propensity to Consume :

$$MPC + MPS = 1$$
or
$$MPC = 1 - MPS$$
or
$$MPS = 1 - MPC$$

$$APC + APS = 1$$
or
$$APC = 1 - APS$$
or
$$APS = 1 - APC$$

> Consumption Function: The functional relationship between consumption and income is called as Consumption Function.

$$C = f(Y)$$

The algebraic expression of consumption function is given by:

$$C = \overline{C} + b(Y)$$
 where,
$$C = consumption$$

 \overline{C} = Minimum level of Consumption at zero Income.

b = Marginal Propensity to Consume

Y = Income

> Saving Function: It denotes the relation between saving and income. It shows the desire of savings at various levels of income.

$$S = f(Y)$$
.

The algebraic expression of saving function is given by :

$$S = (-) \overline{S} + b(Y)$$
Where,
$$S = Saving$$

$$\overline{S} = Level \text{ of saving when Income is Zero.}$$

$$b = Marginal Propensity \text{ to Save}$$

$$Y = Income$$



Key Terms

- > Investment: Investment expenditure includes expenditure for producer's durable equipment, new construction and the change in inventories.
- ➤ **Investment Function**: It refers to the behaviour of investment corresponding to different levels of income / employment.
- ➤ **Induced Investment**: It depends upon income and profit in the economy. Investment made with expectation of profit is called induced investment. It depends upon (i) Marginal efficiency of capital, and (ii) rate of interest.
- Autonomous Investment: This investment is independent of income and employment. Such investment is made by the government with the motive of social welfare.
- > Marginal Efficiency of Capital (MEC): Marginal efficiency of capital is the expected rate of return on an additional unit of capital goods over its cost.

$$MEC = \frac{Prospective Yield}{Cost (Supply Price of Capital)}$$

Topic-2

Short-run Equilibrium and Concept of Multiplier

Concepts Covered • Short Run Equilibrium, Change in Equilibrium, Multiplier, Relationship between Multiplier and MPC, Paradox of Thrift



- ➤ **Short Run**: According to **J. M. Keynes**, "A period of time during which level of output is determined exclusively by the level of employment in the economy, is termed as short run."
- ➤ Classical Concept of Equilibrium: It is based on J.B. Say's Law, "Supply creates its own demand". Main contribution of classical concept of equilibrium are as follows:
 - (i) Every Economy works at full employment level.
 - (ii) Economy has a capacity of self-adjustment. Whatever is produced in an economy is automatically consumed, i.e., Supply Creates its own demand.

- (iii) Over production in an economy is impossible, because every additional production generates additional income and as a result total income equals total saving.
- (iv) General unemployment in the economy is not possible because no possibility of over production arises in the economy.
- (v) Wage flexibility helps in elimination of unemployment.
- (vi) Interest rate flexibility maintains the equality between saving and investment.
- > Short Run Equilibrium, i.e., Keynesian Approach :
 - (a) AD = AS Approach

20

Employment is determined at a point where AD = AS.

If AD > AS, firm will employ more factors of production and it will again attain AD = AS.

If AD < AS, firm will cut employment and it will bring again AD = AS.

(B) S = I Approach

According to Keynes income-employment equilibrium is determined at a point where S = I.

If S > I then equilibrium income will have a tendency to reduce.

If S < I then equilibrium income will have a tendency to increase.

- Ex-Post (S) = Ex-Post (I): At all levels of income and they are necessarily be equal.
- **Ex-Ante (S)** = **Ex-Ante (I)**: Only at equilibrium level of income.
- ➤ Change in Equilibrium: Equilibrium position described above may be of full employment or may not be of full employment. It only determines the level of income. Therefore, for full employment we have to twist AD or AS. But AS depends on technological factors therefore if AD increases, it will raise the level of employment.
- > Multiplier: It establishes relation between investment and income. It measures the change in income due to change in investment.

$$K = \frac{\Delta Y}{\Delta I} = \frac{\text{Change in Income}}{\text{Change in Investment}}$$

➤ Relationship between Multiplier and Marginal Propensity to Consume (MPC): The size of multiplier is determined by the Marginal Propensity to Consume. There is a direct relation between MPC and K. Higher the MPC, higher is value of K and *vice-versa*.

$$K = \frac{1}{1 - MPC}$$
and,
$$K = \frac{1}{MPS}$$
if
$$MPC = Zero, K = 1$$
if
$$MPC = 1 \qquad K = \infty$$

Value of K lies between 1 and infinity.

> Paradox of Thrift: According to this Paradox, if all the consumers in an economy increase the proportion of their saving, that is, if MPS increases, still the overall savings in the economy will either remain same or decrease but will never increase.

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Key Terms

- > Ex-Ante Saving: It is the planned or desired or intended saving during a particular period.
- > Ex-Ante Investment: It is the planned or desired or intended investment during a particular period.
- > Ex-Post Saving: It is realised saving. It is equal to Ex-Ante saving + Unplanned saving.
- > Ex-Post Investment: It is realised investment. It is equal to Ex-Ante investment + Unplanned investment.

Topic-3

Concepts of Excess Demand and Deficient Demand

Concepts Covered • Full Employment, Under Employment, Involuntary Employment, Deficient Demand, Deflationary Gap, Inflationary Gap



Revision Notes

- > Full Employment: It refers to a situation, where all those workers who are able to work and willing to work get employment at prevailing wage rate.
- ➤ **Under Employment :** It refers to a situation, where those workers who are able to work and willing to work do not get employment at prevailing wage rate.
- > In an economy:
- ➤ Income Equilibrium Level = Output Equilibrium Level = Employment Equilibrium Level

 $(Y) \qquad \qquad (O) \qquad \qquad (N$

- ➤ Voluntary unemployment occur when some people are not willing to work at all or are not willing to work at the existing wage rate.
- ➤ **Involuntary Unemployment**: It is that part of the labour force which is willing and able to work at the prevailing wage rate but is out of work. **Significance**: It helps to estimate Aggregate Demand.
- ➤ **Deficient Demand**: It refers to a situation in which Aggregate Demand remains short of required Aggregate Supply corresponding to full employment.

Deficient Demand =AD < AS (at full employment level).

➤ Deflationary Gap or Measurement of Deficient Demand : Deflationary Gap is the measurement of deficient demand and is equal to the difference between Aggregate Demand at full employment (AD_F) and actual Aggregate Demand.

Deflationary
$$Gap = AD_F - AD$$

- ➤ Reasons for Deficient Demand : (i) Reduction in Supply of Currency, (ii) Increase in Bank Rate, (iii) Increase in Taxes, (iv) Reduction in Public Expenditure, (v) Increase in Propensity to Save, (vi) Decline in Export Demand.
- ➤ Effects of Deficient Demand: (i) Fall in production level, (ii) Fall in price level (iii) Increase in unemployment.
- ➤ Measures to correct Deficient Demand:
 - 1. **Fiscal Policy**: (a) Increase in Expenditure, (b) Reduction in Tax burden, (c) Reduction in Public Debt, (d) Deficit Budget
 - Monetary Policy: (a) Reduction in Bank Rate, (b) Purchase of Securities in Open Market, (c) Reduction in Cash Reserve Ratio, (d) Reduction in Liquidity Ratio, (e) Reduction in Margin Requirement of Money, (f) Abolition of Credit Rationing, (g) Direct Action
 - **3.** Others: (a) Less imports, more exports, (b) Stable Wage Policy, (c) Govt. purchases at higher support price.
- ➤ Excess Demand : When current Aggregate Demand becomes higher than the amount of Aggregate Demand required for full employment.

AD > AS (at full employment level)

> Inflationary Gap or Measurement of Excess Demand: Inflationary gap is the measurement of excess demand and is equal to the difference between Aggregate Demand beyond full employment (AD) and Aggregate Demand at full employment (AD_p).

Inflationary
$$Gap = AD - AD_{E}$$

- ➤ Reasons for Excess Demand: (i) Increase in public expenditure, (ii) Reduction in taxes, (iii) Deficit financing, (iv) Extension of credit facilities, (v) Increase in investment demand, (vi) Increase in propensity to consume (vii) Increase in export demand.
- **Effects of Excess Demand :** (i) Effects on employment, (ii) Effects on production, and (iii) Effects on prices.

➤ Measures to correct Excess Demand:

- 1. **Fiscal Policy**: (a) Reduction in Public Expenditure, (b) Increase in tax burden, (c) Increase in Public Debt, (d) Surplus Budget
- 2. Monetary Policy: (a) Rise in Bank rate, (b) Sale of Securities in Open Market, (c) Rise in Cash Reserve Ratio, (d) Increase in Liquidity Ratio, (e) Increase in Margin Requirement of Money, (f) Credit Rationing, (g) Direct Action
- 3. Others: (a) More import, less exports, (b) Linking of wages with productivity, (c) Increase in production.



Key Terms

- ➤ **Fiscal Policy**: Fiscal policy refers to revenue and expenditure policy of the government, to correct the situation of excess and deficient demand in the economy.
- Monetary Policy: It is that policy of the government which corrects the situation of excess and deficient demand by regulating interest rate and availability of credit in the economy.
- > Varies measures of monetary policy are :
 - (i) Quantitative: Bank Rate, Open Market Operations, Minimum Reserve Ratio and Liquidity Ratio.
 - (ii) Qualitative: Margin requirement of loans, Credit rationing, Direct action and Moral suasion.

UNIT-3: MONEY AND BANKING CHAPTER-9

MONEY AND BANKING

Topic-1

Money
Concepts Covered

Concepts Covered • Barter System, Money, Kinds of Money, Functions of Money, Supply of Money



Revision Notes

- Exchange: It is a type of trade in which people get goods they need by giving other goods or money.
- Barter system: Direct exchange of goods against goods without use of money is called barter system.
- > Problems of barter system: (1) Lack of double coincidence of wants, (2) Lack of common measure of value, (3) Lack of standard for deferred payments, (4) Difficulty in storing wealth, and (5) Indivisibility of goods.
- ➤ Money: Money is a liquid asset used to facilitate transactions of value. It is used as a medium of exchange between individuals and entities. It's also a store of value and a unit of account that can measure the value of other goods.
- Kinds of money :
 - 1. Commercial bank money: It is consists mainly of deposit balances that can be transferred either by means of paper orders (e.g., checks) or electronically (e.g., debit cards, wire transfers, and Internet payments). Some electronic-payment systems are equipped to handle transactions in a number of currencies.
 - 2. **Fiduciary money:** Fiduciary cash, currency or money, alludes to banknotes and coins available for use in the economy. This is the liquidity accessible to financial actors to do exchanges. It is a method for payment. Cash is a substantial or tangible property, not at all like scriptural cash which is insignificant.
 - **3. Fiat money:** Fiat money is a government-issued currency that is not backed by a commodity such as gold. Fiat money gives central banks greater control over the economy because they can control how much money is printed. Most modern paper currencies, such as the U.S. dollar, are fiat currencies.

Functions of money :

- 1. **Primary functions:** (a) Medium of Exchange, (2) Measure of Value.
- 2. Secondary functions: (a) Standard for Deferred Payments (b) Store of Value (c) Transfer of Value.
- 3. Contingent functions: (a) Basis of distribution of social national income (b) Basis of credit (c) Basis of maximum satisfaction (d) Guarantee of solvency (e) Bearer of option

- Demand for money: Money demand or demand for money means total amount of money required by individuals in an economy. In other words, money demand refers to the volume of money held by people in the country for holding in liquid form as cash or to earn interest through deposits.
- ➤ **Reasons for demand for money :** (1) Transaction motive (2) Speculative motive
- > Supply of money: Money supply or supply of money is the total amount of money available in an economy. In other words, money supply refers to the volume of money held by the people in the country for transaction or settlement of debts.
- > Components of money supply: (1) Currency (2) Demand deposits with bank (3) Time deposits with bank (4) Savings deposits (5) Deposits with post offices (6) Other deposits with RBI
- \triangleright Measures of money supply: In India, RBI uses four measures of money supply. These are M_1 , M_2 , M_3 , and M_4

$$M_1 = C + DD + OD$$

 $M_2 = M_1 + \text{savings deposits with post office}$

 $M_3 = M_1 + \text{Time deposits of public with banks}$

 $M_4 = M_3 + \text{Total deposits}$ with the post offices

➤ High powered money: It is the sum of (i) Currency held by the public, (ii) Cash reserve of the banks.

$$H = C + R$$

- ➤ **Inflation**: Inflation is the rate of increase in prices over a given period of time. Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country.
- ➤ **Demand-pull inflation**: Demand-pull inflation is when there is an increase in aggregate demand, and the supply remains the same or decreases. When supply cannot meet growing demand, prices for goods and services are pulled higher.
- > Cost push: Cost push inflation is inflation caused by an increase in prices of inputs like labour, raw material, etc. The increased price of the factors of production leads to a decreased supply of these goods.



Banking

<u>Concepts Covered</u> • Functions of Commercial Bank, CRR, LRR, Central Bank, Methods of Credit Control



- ➤ Bank: The word Bank is supposed to have been derived from German word Bank. A few believe that the word Bank has been derived from bancus or banque which means a bench that money changers used to change one kind of money into another.
- ➤ **Commercial bank**: A commercial bank is an institution that operates for profit. It accepts deposits from the general public and extends loans to the households, the firms and the government.
- > Functions of commercial banks:
 - (a) Primary functions:
 - (i) Accepting deposits
 - (ii) Granting loans
 - (iii) Credit creation
 - (B) Secondary functions:
 - (i) Overdraft facility
 - (ii) Discounting bills of exchange
 - (iii) General utility functions
- ➤ Credit Creation by commercial banks: The power of commercial banks to expand deposits through loans, advances and investments is known as credit creation.
- ➤ Cash Reserve Ratio (CRR): Cash Reserve Ratio (CRR) is a specified minimum fraction of total deposit of customers, which commercial banks have to hold as reserves either in cash or as deposits with the central bank.
- > Primary Deposits: Primary deposit are those deposits which people deposit in cash in their own account with bank.
- > **Derived Deposits**: Derived deposits are the result of primary deposits because banks provide loans on the basis of primary cash deposits. Derived deposits are also called credit deposits.

24

Total Deposits (TD) =
$$\frac{\text{Primary Deposits } (P)}{\text{Cash Reserve Ratio } (r)}$$

- Legal Reserve Ratio (LRR): LRR is the minimum ratio of deposit legally required to be kept as liquid assets by the bank. It has two variants:
 - (a) Cash Reserve Ratio (CRR), and (b) Statutory Liquidity Ratio (SLR)
- > Money Multiplier: Money multiplier is the fractional quantity of money created by the banks. It is calculated as:

Money Multiplier =
$$\frac{1}{\text{Legal Reserve Ratio}}$$

- > Central Bank: A central bank is an apex institution in the banking structure of a country. It supervises, controls and regulates the activities of the commercial banks and acts as a banker to them. The Reserve Bank of India (RBI) is the central bank of India.
- > Functions of central bank: The functions of central bank can broadly be studied under two headings:
 - (a) Issuance and regulatory functions: (1) Monopoly of note issue (2) Banker's fiscal agent and Advisor to the government (3) Banker's bank (4) Lender of the last resort (5) Custodian of foreign exchange reserves (6) Clearing house function (7) Control of credit
 - (B) Functions of economic development: (1) Money and capital market (2) Industrial credit (3) Agriculture credit (4) Export assistance (5) Price stability (6) Exchange Rate
- ➤ Credit control by central bank: This is also called monetary management. This means to regulate money and credit in such a way it may satisfactorily meet the demand for money needed for trade, business and economic activities.
- > Methods of credit control:
 - Quantitative methods:
 - (i) Bank rate: It is the rate at which the central bank gives loans to commercial banks
 - (ii) Open market operations: It means purchase and sale of securities by central bank in the open market.
 - (iii) Cash Reserve ratio: In this method, each and every commercial bank has to keep a fixed percentage of his deposits with the central bank of the country.
 - (iv) Statutory Liquidity ratio: It is a fixed percentage of cash balances and other assets, which the commercial banks ought to keep with them in order to discharge customers liabilities in routine.
 - Qualitative methods or Selective Credit Control: These methods are meant to regulate and control the supply of credit in the country. These include margin requirements, credit rationing, regulation of consumers credit, direct action, moral suasion and publicity.

UNIT-4: BALANCE OF PAYMENTS AND EXCHANGE RATE

CHAPTER-10

BALANCE OF PAYMENTS AND FOREIGN EXCHANGE RATE

Topic-1

Balance of Payments – Meaning and Components

Concepts Covered • Balance of Trade and Balance of Payments Components of BOP Account



- > Balance of Trade: Balance of Trade is the difference between exports and imports of goods of a country.
- ➤ Balance of Payments: Balance of Payments of a country is the systematic record of all economic transactions between the residents of a country and the rest of the world, during a year. Balance of payments has two accounts: (a) Current Account, and (b) Capital Account.
- > Classification of Economic Transactions in BOP: The economic transactions in BOP are classified as: (i) Visible

items (physical goods) (ii) Invisible items (services) (iii) Capital transfers (capital receipts and payments)

- Components of BOP Account: The transactions entering into the balance of payments account can be grouped under three broad accounts:
 - (i) Current account
 - (ii) Capital account
 - (iii) Official International Reserve Account
- Current Account: Transactions relating to trade in goods and services and transfer payments constitute the current account.
- > Items of Current Account: (i) Merchandise Account, (ii) Invisible Items, and (iii) Unilateral Transfers.
- > Capital Accounts: Capital account represents international capital transactions which include sale and purchase of assets such as bonds, equities, lands, bank accounts, etc.
- > Other Items of BOP: (i) The official settlements Account, and (ii) Errors and Omissions.
- ➤ Balance of Payment is always balanced: The equality of both sides of balance of payment is only accounting equality not real equality.
- > Autonomous and Accommodating Items :
 - (i) Autonomous Transactions: Refer to those international economic transactions which are taken with the motive of profit. These are also called above the line items.
 - (ii) Accommodating Items: Refers to all the items related to the monetary transfers (or official reserve transactions) correcting balance of payments disequilibrium. These are also called below the line items.



Key Terms

- ➤ **Appreciation of currency**: It is the increase in the value of domestic currency in terms of foreign currency under flexible exchange rate system.
- ➤ **Depreciation of currency**: It is the decrease in the value of domestic currency in terms of foreign currency under flexible exchange rate system.
- ➤ **Revaluation of currency**: It is the measure taken by Central Government of a country to increase the value of domestic currency in terms of foreign currency under fixed exchange rate system.
- ➤ **Devaluation of currency**: It is the measure taken by Central Government of a country to decrease the value of domestic currency in terms of foreign currency under fixed exchange rate system.



Balance of Payments - Disequilibrium

Concepts Covered • Disequilibrium in Balance of Payments, Causes of Disequilibrium of Balance of Payments, Measures to Correct Adverse Balance of Payments.



- Disequilibrium in Balance of Payments: The situations where the total amount debited in Balance of Payments account is different from the total amount credited in the account. It means, the BOP is either in surplus or in deficit.
- ➤ Causes of Disequilibrium of Balance of Payments :
 - (i) Natural Causes: (a) Floods (b) Earthquakes
 - (ii) Economic Factors: (a) Developmental activities, (b) High rate of inflation, (c) Trade cycle, (d) Change in cost structure of trading partners, (e) Development of import substitutes.
 - (iii) Political Factors: (a) Political Instability, (b) Political disturbances
 - (iv) Social Factors: (a) Demonstration effect, (b) Change in tastes and preferences, (c) Cross border prejudices.
- Measures to Correct Adverse Balance of Payments :
 - (i) Economic Measures: (a) Export promotion, (b) Devaluation of domestic currency, (c) Exchange control, (d) Depreciation, (e) Reducing Inflation, (f) Import Restrictions and Import Substitution.
 - (ii) Social Measures
 - (iii) Political Measures: (a) Less Expenses on Embassies, (b) End of Political Alliances, (c) Political and Administrative Thriftiness, (d) Participation of non-residents, (e) Changes in Basic Political Ideology.

Topic-3

Foreign Exchange Rate

Concepts Covered • Foreign Exchange Rate System, Demand of Foreign Exchange, Supply of Foreign Exchange, Equilibrium Rate of Exchange



- > Foreign Exchange: It means the currencies of other countries along with the cheques, bank deposits, etc. in terms of foreign currencies with domestic or foreign banks.
- > Terms of Trade: It means the ratio between exports and imports of the country.
- ➤ Foreign Exchange Rate: The rate at which one currency is exchanged for another is known as the Rate of Exchange or Foreign Exchange Rate.
- Fixed Exchange Rate System: When the Central Bank of a country fixes (or pegs) the value of exchange rate, it is called Fixed Exchange Rate system or Pegged Exchange Rate System.
 - (i) Gold Standard System of Exchange Rate: According to the Gold Standard System of Exchange Rate, value of one currency in terms of the other currency was fixed considering gold value of each currency. This system was prevailing before 1920's where gold was taken as the common unit of parity between currencies of different countries.
 - (ii) Adjusted Peg System: It is also referred to as Bretton Woods System, which allows some adjustment in exchange rate, it is as rigid as Gold Exchange Rate System.
- > Arguments in Favour of Fixed Exchange Rate: (1) Promotion of international trade, (2) Incentives of foreign capital, (3) Acceleration in capital formation, (4) Economic planning, (5) Source of economic benefit, (6) Helpful in maintaining favourable Balance of Payments, (7) Ensures stability in exchange rate, (8) Helpful to check inflation.
- ➤ Arguments against Fixed Exchange Rates: (1) Neglects National interest, (2) Control over various sectors, (3) High fluctuation in exchange rates, (4) Intervention of Central Bank.
- ➤ Flexible Exchange Rate System: The system of exchange rate in which value of a currency is allowed to adjust freely or to float as determined by the demand for and supply of foreign exchange is called Flexible Exchange Rate System.
- > Arguments in favour Flexible Exchange Rate System: (1) Simple system, (2) Continuous adjustment, (3) Lesser requirement of reserve funds, (4) Efficient utilization of resources.
- Arguments against Flexible Exchange Rate System: (i) Bad effects of less elasticity, (ii) Creates uncertainty, (iii) Instability in international trade.
- > Determination of Flexible Exchange Rate / Demand and Supply theory of exchange rate determination / Equilibrium Rate of Exchange: Exchange rate is determined by the interaction of demand and supply in foreign exchange market. There is an inverse relationship between price of foreign exchange (*i.e.*, rate of exchange) and demand for foreign exchange rate. On the contrary, there is direct relation between foreign exchange rate and supply of foreign exchange.
- Reasons for the Demand of Foreign Exchange: The demand for Foreign Exchange is created due to the following purposes:
 - Imports: It requires foreign exchange because payments for imports are made in foreign exchange only.
 - Foreign Investment: Investment in rest of the world is an important business activity. We need foreign currency in which investment is to be made.
 - Direct purchase Abroad: Foreign exchange is needed to make direct purchases of goods and services from abroad.
- Reasons for the Supply of Foreign Exchange: The supply of Foreign Exchange is created due to the following purposes:
 - Exports: Exports of goods and services is an important source of supply of foreign exchange.
 - **Grants and donations from rest of the world:** A significant amount of foreign exchange flows from rich to poor countries by way of grants and donations.
 - Loans form rest of the world: It refers to the borrowings from rest of the world. It contributes to the supply
 of foreign exchange.
- > Equilibrium Rate of Exchange: This rate is determined by the independent market sources of demand for and supply of each foreign currency.



Key Terms

- > Hybrid System of Exchange Rate: (i) Wider Bands, (ii) Crawling Peg, and (iii) Managed Floating: These systems are in between fixed exchange rate and flexible exchange rate.
- > Spot Exchange Rate: The rate of exchange which happens to prevail in the market at the time when transactions are incurred, is called Spot Exchange or Current Exchange Rate.
- > Forward Exchange Rate: The rate of exchange at which forward transactions are to be done is termed as Forward Exchange Rate.
- Managed Floating: It is a system in which exchange rate is determined by the demand and supply, but at times it is controlled by government it is also called Dirty Floating.

UNIT-5: PUBLIC FINANCE CHAPTER-11

FISCAL POLICY AND GOVERNMENT BUDGET

Topic-1

Fiscal Policy - Public Revenue Concepts Covered • Fiscal Policy, Revenue Policy



Revision Notes

- Fiscal Policy: Policy of the government dealing with generating revenue and utilizing funds of the government to provide for growth and stability in the economy.
- ➤ **Objectives of Fiscal Policy :** (1) Growth of economy, (2) Stability of economy, (3) Stability of prices, (4) Achieving full employment, (5) Reducing income inequality, (6) Reducing wealth inequality.
- ➤ **Instruments of Fiscal Policy**: The various instruments are Revenue Policy, Expenditure Policy and Debt Policy.
- Revenue Policy or Public Revenue Policy: It refers to the total income of the government from various sources. It covers revenue receipts as well as capital receipts.
- > Revenue Receipts : Comprises of :
 - (i) Tax receipts
 - (a) Direct Tax: Tax in which burden of tax and responsibility to deposit tax lies on the same person. For example, income tax, corporate tax, wealth tax, etc. are direct taxes.
 - **(b) Indirect Tax :** Tax in which burden of tax and responsibility to deposit tax does not lie on the same person. For example, VAT, sales tax, service tax, GST, etc. are indirect taxes.
 - (ii) Non-tax receipts: These can be government fees (like passport fees, etc.), fines (like penalties for traffic rules, disobeying laws, etc.) and donations (like in case of natural disasters).
- > **Types of Taxes**: The different types of tax regimes are:
 - (i) **Progressive tax**: The tax structure in which the tax rate increases with increase in income.
 - (ii) Regressive tax: The tax structure in which the tax rate decreases with increase in income.
 - (iii)Degressive tax: The tax structure in which the tax rate increases with increase in income but the increase in tax rate is not proportional to increase in the income.
 - (iv)Proportional tax: The tax structure in which the tax rate remains constant, only the tax liability increases with increase in income.
- ➤ Capital Receipts: The receipts of the government which either decrease assets of the government or increases liability of the government.



Key Terms

> **Disinvestment**: It is the policy of the government to sell shares of public enterprises to the private sector for generating revenue for the government.

Topic-2

Fiscal Policy – Public Expenditure and Deficit Financing

<u>Concepts Covered</u> • Expenditure Policy, Public Debt.



Revision Notes

- **Expenditure Policy or Public Expenditure Policy :** It refers to the total expenditure of the government. It covers revenue expenditure as well as capital expenditure.
- ➤ **Importance of Public Expenditure :** (1) Economic growth, (2) Economic stability, (3) Rural development, (4) Efficient utilization of resources, (5) Price stability.
- ➤ Causes of rise in Public Expenditure: (1) Rapid increase in population, (2) Huge subsidies, (3) Inflation, (4) Rising interest obligations, (5) Defence expenditure, (6) Rural development.
- ➤ **Public Debt**: It refers to the borrowings made by the government from various sources like individuals, organisations, financial institutions and other countries.
- ➤ **Need for public debt :** Government needs to raise public debt in situations when public revenue is less than public expenditure.
- ➤ Methods of repayment or redemption of debts: (1) Debt refunding, (2) Debt conversion, (3) Debt refusal, (4) Capital levy, (5) Installment redemption, (6) Deficit financing.
- ➤ Effects of Deficit Financing: It causes inflation in the economy, changes the investment pattern, unequal distribution of income and wealth. Also, the people are forced to save.



Key Terms

- > Debt refunding: Procuring fresh loan to repay the old loan
- > Debt conversion : Altering the terms of old loan without actual payment of loan
- ➤ **Debt refusal** : Refusing to repay the debt
- ➤ **Deficit financing :** Process of printing new currency notes by the Central Bank in exchange of security bills or gold obtained from Central Government.

Topic-3

Government Budget

Concepts Covered • Budget, Revenue Receipts, Capital Receipts, Revenue Expenditure, Capital Expenditure, Budget Deficit.



- > **Budget**: A Budget is a consolidated financial statement prepared by government on expected public expenditure and public revenue during a financial year.
- Objectives of Government Budget: (i) Encouragement to economic development, (ii) Balanced Regional development, (iii) Redistribution of Income and Property, (iv) Economic stability, (v) Generation of employment, (vi) Management of public enterprises.
- > Types of Government Budget:
 - Revenue Budget: It shows revenue receipts and revenue expenditure of the government.
 - Capital Budget: It shows capital receipts and capital expenditure of the government.
- > Revenue Receipts: (a) Which do not cause any reduction in assets and; (b) Which do not create any corresponding liability to the government. [Example: Tax receipts of the government].
- ➤ Capital Receipts: (a) Which creates corresponding liability for the government [Example: Loans by the Government] and; (b) Which cause reduction in assets of the government [Example: Disinvestment]
- > Tax: It is a compulsory contribution by an individual, household or a firm to the government without receiving anything in return.
- > Non-Tax Receipts: These are those receipts which are received from sources other than taxes. *e.g.*, Fees, Fines, Grants, Donations, etc.
- ➤ **Revenue Expenditure**: It is that expenditure by the government which:
 - Does not cause increase in government asset, and

- Does not cause any reduction in government liability.
- **Capital Expenditure :** It is that expenditure by the government which :
 - Causes increase in government assets, and;
 - Which causes reduction in government liability.
- > Development Expenditure: It is directed towards development programmes of the country, and which directly contributes to the flow of goods and services in the economy.
- Non-Development Expenditure: It is not directly related to development programmes of the country, and which does not directly contribute to the flow of goods and services in the economy.
- > Budget Deficit: It is the excess of total estimated expenditure over total estimated revenue.
 - **Revenue Deficit :** Revenue Receipts < Revenue Expenditure.
 - **Fiscal Deficit**: [Revenue Expenditure + Capital Expenditure] Revenue Receipts + Capital Receipts (other than government borrowing)].

Effects of Fiscal Deficit : The effects of Fiscal Deficit are :

- (i) High Inflation
- (ii) Increased foreign dependence
- (iii) Financial Burden on citizens
- (iv) Increased borrowings by government
- 3. Primary Deficit: Fiscal Deficit Interest Payments
- > Types of Budget
 - (a) Balanced Budget

Total Expenditure = Total Revenue

- (B) Deficit Budget
 - Total Anticipated Expenditure > Total Anticipated Revenue
- (c) Surplus Budget

Total Anticipated Expenditure < Total Anticipated Revenue



Key Terms

- **Budget**: Annual financial statement of the country.
- **Balanced Budget**: When government revenue and expenditure are equal.
- Surplus Budget: When anticipated revenues exceed expenditure.
- ➤ **Deficit Budget**: When anticipated expenditure is greater than revenues.



CHAPTER-12

NATIONAL INCOME

Topic-1

Circular Flow of Income

Concepts Covered • Principles of Circular Flow of Income, Real Flow, Money Flow, Conditions of Equilibrium



- ➤ Circular Flow of Income: A continuous flow of production, income and expenditure in an economy is known as circular flow of income. It is circular because it has neither any beginning nor an end.
- Principles of Circular Flow of Income: (1) The seller receives the same amount as spent by the buyer, and (2) The direction of flow of goods and services is opposite to the direction of flow of money spent to acquire those goods and services.
- Real Flow: It shows the flow of goods and services among the various sectors of economy.
- ➤ Money Flow : It shows the flow of money among various sectors of economy.

- Conditions of Equilibrium :
 - Two Sector Model

S = I

Or

C + S = C + I

• Three Sector Model:

$$C + S + T = C + I + G$$

(iii) Four Sector Model:

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

- > Four Sectors of the Economy :
 - Household sector
 - Firms or producer sector
 - Government sector
 - External sector (Rest of the world)



Key Terms

- ➤ **Leakages of Income**: That part of income which is not returned back to circular flow is called leakage of income. *For example,* Savings, Tax and Imports, etc.
- ➤ **Injections of Income**: Some additions made in the economy from sources like investment, government expenditure and exports.



Basic Concepts of National Income Accounting

<u>Concepts Covered</u>
• National Income, GNP, NNP, GDP and NFIA,National Disposable Income



- ➤ **National Income**: National Income can be defined from different points of view:
 - From the point of view of production: It is the total monetary value of addition to the value of goods and services produced by residents both within and outside the country during the period of an accounting year.
 - From the point of view of income: It is the sum total of factor incomes earned by normal residents of a country
 during the period of an accounting year.
 - From the point of view of expenditure: It is the sum total of all expenses incurred by consumers on consumption
 of final goods and services during the period of an accounting year.
- > Intermediate Goods: Goods which are used for further production or for resale in the same year are known as Intermediate Goods.
- > Final Goods: Goods which are used either for final consumption by the consumers or for investment by the producers are called Final Goods.
- ➤ **Domestic Territory**: Domestic or Economic territory is the geographical territory administered by a Government within which persons, goods and capital circulate freely.
- ➤ **Normal Residents**: A resident (or a normal resident) of a country is a person or institution who ordinarily resides in a country and whose centre of interest also lies in that country.
- ➤ **Transfer Payments**: These are all those unilateral payments corresponding to which there is no value addition in the economy, *e.g.*, gifts, donations, etc.
- ➤ Gross National Product: It is defined as the total value of all final goods and services produced in a country in a particular year, plus the income which is earned by its citizens who are located abroad and minus the income of non-residents located within the country.
- ➤ **Net National Product at Factor Cost (NNP**_{FC}): It is the sum total of factor incomes (rent + interest + profits + wages) earned by normal residents of a country during the period of an accounting year. It is also known as National Income.

$$NNP_{FC} = GNP_{FC} - Depreciation$$

$$NNP_{FC} = NDP_{FC} + NFIA$$

Net National Product at Market Price (NNP_{MP}): It refers to market value of final goods and services produced during the year inclusive of Net Factor Income from Abroad but exclusive of depreciation.

$$NNP_{MP} = GDP_{MP} - Depreciation + NFIA$$

- ➤ Gross Domestic Product (GDP): It is the total value of all the final goods and services by all the enterprises (both resident and non-resident) within the domestic territory of a country in a particular year. GDP is considered as one of the best indicators of judging the economic performance of a country.
- > Nominal Gross Domestic Product: It refers to market value of the final goods and services produced within the domestic territory of a country during a financial year, as estimated using the current year prices. It is also called GDP at current price.
- ➤ Real Gross Domestic Product: It refers to market value of the final goods and services produced within the domestic territory of a country during a financial year, as estimated using the base year prices. It is also called GDP at constant price.
- ➤ Net Factor Income from Abroad (NFIA): This is the difference between the income earned from abroad for rendering factor services by the normal residents of the country to the rest of the world and the income paid for the factor services rendered by non-residents in the domestic territory of a country.
- > Factor Income: These are incomes received by the owners of factors of production for rendering their factor services to the producers.
- ➤ **Private Income**: It is the total income from all sources (factor income as well as current transfers) that accrues to the private sector during the period of one year.
- ➤ **Personal Income**: It is the income actually received by the individual households from all sources in the form of current transfer payment and factor incomes.
- ➤ **Personal Disposable Income**: It is the amount which is actually available to the households and the non-corporate businesses after the deduction of all tax obligations to the government.
- ➤ National Disposable Income (NDI): It is defined as the maximum, the country can afford to spend on consumption of goods or services during an accounting year without having to finance its expenditure by disposing of assets or by increasing its liabilities.

National Disposable Income can be 'Gross' or 'Net'.

Net National Disposable Income = NNP_{FC} + Net Indirect Taxes + Net Current Transfers from Rest of the World Gross National Disposable Income = Net National Disposable Income + Depreciation (current replacement cost)

- Private Sector: It refers to all those businesses and enterprises which are owned and controlled by the private individuals.
- Public Sector: It refers to all those departmental and non-departmental businesses and enterprises which are owned or controlled by government, For Example:
 - Departmental Post offices, Railways, Tourism Corporation of India, etc.
 - Non-departmental Indian Aviation, Indian Oil, etc.
- Nominal National Income or National Income at Current Prices: It is defined as the value of current output at current year prices.
- Real National Income or National Income at Constant Prices: It is defined as the value of current output at some base year prices.

Real NI =
$$\frac{\text{Nominal NI}}{\text{Current Price Index Number}} \times 100$$

➤ **GNP Deflator**: It shows the change in GNP with the change in price levels.

o≕ Key Terms

- ➤ **Intermediate Goods**: Goods which are used for further production or for resale in the same year are known as intermediate goods.
- **Final Goods**: Goods which are used either for final consumption or investment.
- ➤ **Normal Residents**: A resident of a country is a person whose centre of economic interest lies in that country.

> GDP Deflator : GDP Deflator =
$$\frac{\text{GDP at Current Price}}{\text{GDP at Constant Price}} \times 100^{\circ}$$

Topic-3

Measurement of National Income

<u>Concepts Covered</u> • 1. Measurement of National Income, a. Value Added Method, b. Income Method, c. Expenditure Method



- ➤ Measurement of National Income: In every economy the circular flow of production, income and expenditure remains in operation continuously due to economic activities. Production generates income which creates demand and hence expenditure. In this way, the national income of a country may be measured by three alternative methods. These are:
 - In the form of flow of goods and services,
 - In the form of income flow,
 - In the form of expenditure flow.
- > Value Added Method or Production Method: Product Method or Valued Added Method is that method which measures the national income by estimating the contribution of each producing enterprise to production in the domestic territory of the country in an accounting year. For measuring national income by this method, we have to estimate the following components:
 - Net Domestic Product at Market Price (NDP_{MP}): Gross Valued Added by [Primary Sector + Secondary Sector + Tertiary Sector] + Depreciation.
 - Net National Product at Factor Cost (NNP_{FC}) or NI: NNP_{FC} or NI = NDP_{MP} Indirect Tax + Net Income from Abroad.
- > Precautions While Using Value Added Method:
 - The value of intermediate goods should not be included.
 - Purchase and sale of second hand goods should not be included.
 - Imputed value of self-consumed goods should be included, but self-consumed services should not be included.
 - Own account production should be included.
 - Commission earned on account of sale and purchases of second hand goods is included.
- > **Income Method**: It measures national income in terms of payments made in the form of wages, rent, interest and profit to the primary factors of production, *i.e.*, labour, land, capital and enterprise respectively for their productive services in an accounting year.
 - Net Domestic Income or Net Domestic Product at Factor Cost :
 - (1) Compensation to Employees + (2) Operating Surplus + (3) Mixed Income from Self Employment.
 - National Income = Domestic Income + Net Income from Abroad.
- > Precautions While Using Income Method:
 - Income from illegal activities like smuggling, theft, gambling, etc, should not be included.
 - Corresponding to production for self-consumption as these are reward for rendering services.
 - Brokerage on the sale/purchase of shares and bonds is to be included.
 - Income in terms of windfall gains should not be included.
 - Transfer earning like old age pensions, unemployment allowances, scholarships, pocket expenses, etc. should not be included.
- ➤ **Expenditure Method**: By this method, the total sum of expenditures on the purchase of final goods and services produced during an accounting year within an economy is estimated to obtain the value of GDP.
- ➤ **Final Expenditure** It is the expenditure on the purchase of final goods and services during an accounting year. It is broadly classified into four categories :
 - Private final consumption expenditure
 - Government final consumption expenditure
 - Investment expenditure
 - Net exports i.e., difference between exports and imports during an accounting year

Computation of National Income (by expenditure method)

 $NNP_{FC} = GDP_{MP} - Depreciation + NFIA - Net Indirect Tax$

Where, GDP_{MP} = Private Final Consumption Expenditure + Government Final Consumption Expenditure + Gross Domestic Capital Formation + Net Exports (Exports – Imports)

Where, Gross Domestic Capital Formation = Gross Domestic Fixed Capital Formation + Change in Stock (Closing Stock – Opening Stock)

- > Precautions While Using Expenditure Method
 - Only final expenditure is to be taken into account to avoid error of double counting.
 - Expenditure on second hand goods is not to be included.
 - Expenditure on transfer payments by the government is not to be included.
 - Imputed value of expenditure on goods produced for self consumption should be taken into account.
 - Expenditure on shares and bonds is not to be included in total expenditure.
- ➤ Gross Domestic Product at Market Price (GDP_{MP}): (1) Private Final Consumption Expenditure (C) + (2) Government final Consumption Expenditure (G) + (3) Investment or Gross Capital Formation (I) + Net Exports.
- ➤ National Income = GDP_{MP} Depreciation Net Indirect taxes + Net Income from abroad.

🖭 Key Terms

- > Value Added: Means additions in value by each firm in the process of production at each stage.
- > **Double Counting:** Counting the value of the same product more than once in calculation of National Income.
- > Wages and Salaries: Factor payments received by employees in the form of basic, DA, bonus, commission, HRA, perquisites, etc.
- **Employers' contribution of social security :** Amount deposited by the employer in Provident Fund, insurance schemes, etc. of the employees.
- > Retirement Benefits: Amount deposited in pension and pension-linked schemes for the employees.
- > Operating Surplus: Total amount of rent, royalty, interest and profit.
- ➤ Mixed Income of self-employed: Income of the entrepreneurs who use their own services of land, labour and capital.