

CHAPTER-2 (DEMAND & SUPPLY)

Elasticity of Demand

i) Price Elasticity of Demand (E_p) → Methods

Percentage method

$$\frac{\% \Delta Q_d}{\% \Delta P}$$

OR

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

OR

$$\frac{1}{\text{slope}} \times \frac{P}{Q}$$

Point method

Arc method

$$\frac{Q_1 - Q_2}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_1 - P_2}$$

OR

$$\frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

Total outlay method

Using Derivation

$$-\frac{dQ}{dP} \times \frac{P}{Q}$$

Geometric method

lower segment
upper segment

PRICE effect
After a Price ↑
Each unit sold
sells at higher
price, which
leads to more
Revenue.

QUANTITY effect
After a
Price ↑
fewer units are
sold, which
leads to lower
revenue.

ii) Income Elasticity of demand (E_y)

Methods

Percentage Method (E_y)

$$\frac{\% \Delta \text{Qty demanded}}{\% \Delta \text{Income}}$$

OR

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

Arc method (E_y)

$$\frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

OR

$$\frac{Q_1 - Q_2}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_1 - P_2}$$

iii) Cross-elasticity of demand (E_{xy})

Percentage method (E_{xy}) ⇒ $\frac{\% \Delta \text{Qty demanded of } x}{\% \Delta \text{ Price of } y}$ OR $\left[\frac{\Delta Q_x}{\Delta P_y} \times \frac{P_y}{Q_x} \right]$

Arc method (E_{xy}) ⇒ $\frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$ OR $\left[\frac{Q_1 - Q_2}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_1 - P_2} \right]$

LAW OF EQUIMARGINAL UTILITY

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

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

BUDGET LINE

Slope ⇒ Price Ratio ⇒ $\frac{P_x}{P_y}$

BUDGET CONSTRAINT

Budget Constraint for two goods
X & Y as → $P_x Q_x + P_y Q_y$

MARGINAL RATE OF SUBSTITUTION

$$MRS = \frac{\Delta Y}{\Delta X}$$

OR

$$MRS = \frac{MU_x}{MU_y}$$

CONSUMER EQUILIBRIUM

At Equilibrium ⇒ $\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$

Slope of IC = slope of BL

SUPPLY

[Elasticity of Supply]

Percentage method

$$\frac{\% \Delta Q_s}{\% \Delta P}$$

OR

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

OR

$$\frac{1}{\text{slope}} \times \frac{P}{Q}$$

Point method

$$\frac{dQ}{dP} \times \frac{P}{Q}$$

Where, $\frac{dQ}{dP}$ = Derivative of q_1 with respect to a point on Supply Curve

Arc method

$$\frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

OR

$$\frac{Q_1 - Q_2}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_1 - P_2}$$

CHAPTER - 3

CONCEPTS OF PRODUCTS

AP ⇒ TP (Total Product)
No. of units of variable factor

MP ⇒ $MP_n = TP_n - TP_{n-1}$

PRODUCER'S EQUILIBRIUM / PRODUCTION OPTIMIZATION

Slope = $\frac{\Delta Y}{\Delta X} = \frac{MP_x}{MP_y}$

For Iso-Cost line the same of Budget-line will be followed

CONCEPTS OF COST

SHORT-RUN AVERAGE COST

AFC ⇒ $\frac{TFC}{\text{Total output}}$

AVC ⇒ $\frac{TVC}{\text{Total output}}$

AC = AFC + AVC, TC = TFC + TVC

MC ⇒ $\frac{\Delta TC}{\Delta Q}$

CHAPTER - 4

[CONCEPTS OF REVENUE]

$$TR = P \times Q$$

$$AR = \frac{TR}{Q} \therefore AR = \text{Price}$$

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

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

$$\Rightarrow \frac{\Delta (P \times Q)}{\Delta Q}$$

[RELATIONSHIP b/w AR, MR]

$$MR = AR \times \frac{e-1}{e}$$

$$e=1 \rightarrow MR=0, TR=\text{MAX}$$

$$e>1 \rightarrow MR>0, TR=\text{Rise}$$

$$e<1 \rightarrow MR<0, TR=\text{fall}$$

CHAPTER - 7

* **REVENUE DEFICIT** $\rightarrow$ [Revenue Exp - Revenue Receipt]

* **BUDGETED DEFICIT** $\rightarrow$ [Total Exp - Total Receipts]

* **FISCAL DEFICIT** $\rightarrow$ [Total Exp - Total Receipts (Excl. borrowings)]

* **PRIMARY DEFICIT** $\rightarrow$ [Fiscal deficit - Net interest liability]

CHAPTER - 8 THEORIES

1) CLASSICAL APPROACH - OTM

$$MV = PT$$

Extended

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

$M \rightarrow$ Total quantity of credit money

$V \rightarrow$ velocity of circulation of credit money

$\rightarrow$ Irving Fisher
Book $\rightarrow$ Purchasing Power of Money
 $\rightarrow$ Name $\rightarrow$ 'Equation of Exchange' or 'transaction approach'

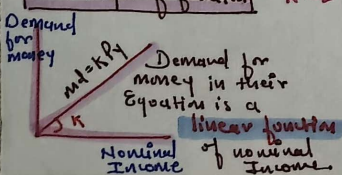
2) CAMBRIDGE APPROACH

$$M_d = K P Y$$

$$K \Rightarrow \frac{M_d}{P Y}$$

$$K \rightarrow \text{slope of function}$$

$\rightarrow$ Alfred Marshall
 $\rightarrow$ AR, 'CASH BALANCE APPROACH' or 'Neo-classical App.'
 $\rightarrow$ $M_d \rightarrow$ demand for money
 $\rightarrow$ $Y \rightarrow$ Real national income
 $\rightarrow$ $P \rightarrow$ Average Price
 $\rightarrow$ $P Y \rightarrow$ Nominal Income
 $\rightarrow$ $K \rightarrow$ Proportion of nominal income



3) KEYNESIAN THEORY

$$L_r = K Y$$

$L_r \rightarrow$ Trans-actin demand

$K \rightarrow$ Ratio of savings for transaction purpose

$Y \rightarrow$ Earnings

$\rightarrow$ Liquidity Preference Theory
 $\rightarrow$ Book $\rightarrow$ The General theory of Employment & money 1936.

4) POST KEYNESIAN $\rightarrow$ INVENTORY APPROACH

[SQUARE-ROOT RULE]

$$C = \sqrt{2bY/r}$$

$\rightarrow$ Given $\rightarrow$ Baumol & Tobin
 $\rightarrow$ Aka $\rightarrow$ Inventory Theoretic approach

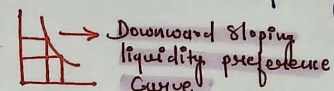
5) FRIEDMAN'S RESTATEMENT OF QUANTITY THEORY

$\rightarrow$ Milton Friedman (1956)

6) DEMAND FOR MONEY AS BEHAVIOUR TOWARD RISK

$\rightarrow$ Tobin

$\rightarrow$ Article $\rightarrow$ liquidity Preference as Behaviour Toward Risk



$\rightarrow$ Store of WEALTH
 $\rightarrow$ Interest Rate $(\uparrow)$ Demand for holding money $(\downarrow)$
 $\rightarrow$ Interest Rate $(\downarrow)$ Demand for holding money $(\uparrow)$

[INVERSE RELATION]

CHAPTER - 8 (UNIT - 2) $\rightarrow$ \$ MONEY SUPPLY

$$\Delta \text{Money Supply} = \frac{1}{R} \times \Delta \text{Reserves}$$

CHAPTER - 9

Tariffs

$\rightarrow$ COMPOUND TARIFF $\rightarrow T_{sq} + T_{apq}$

REAL EXCHANGE RATE

$$\text{Real Exchange Rate} = \text{Nominal Exchange rate} \times \frac{\text{Domestic Price}}{\text{Foreign Price}}$$

REAL EFFECTIVE EXCHANGE RATE

$$[REER = \frac{\text{Nominal Exchange Rate}}{\text{Price deflator}}]$$