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SUBJECT- PRINCIPLES OF ECONOMICS

METHODS OF MEASUREMENT OF PRICE ELASTICITY OF DEMAND-I

There are following two methods of measurement of price elasticity of demand:

(i) Percentage change method.

(ii) Geometric method.

In addition to the above mentioned two methods, we will also explain the measurement of price elasticity of demand on the basis of change in total expenditure incurred on the commodity.

I. Percentage Change Method

This method is also called 'Proportionate method' or 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.

$$\text{Price elasticity of demand } (e_d) = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price of the commodity}}$$

$$\% \text{ change in quantity demanded} = \frac{\text{Change in quantity } (\Delta Q)}{\text{Initial quantity } (Q)} \times 100$$

Percentage change in price = $\frac{\text{Change in Price } (\Delta P)}{\text{Initial price } (P)} \times 100$

Therefore, $e_d = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100}$

where ΔQ = Change in quantity demanded

Q = Initial quantity demanded

ΔP = Change in price

P = Initial price.

ILLUSTRATION.

Q⇒ Calculate price elasticity of demand if quantity demanded of a commodity rises by 20% due to 8% fall in its price.

Solution:

Price elasticity of demand = $\frac{\%\text{ change in quantity demanded}}{\%\text{ change in price of the commodity}}$

$= \frac{20}{(-)8} = (-)\ 2.5$ Ans.

(This is to be noted that price elasticity of demand is always a negative number because of inverse relationship between price and quantity demanded. However, minus sign is often ignored while writing the value of elasticity.)