Elasticity of Demand

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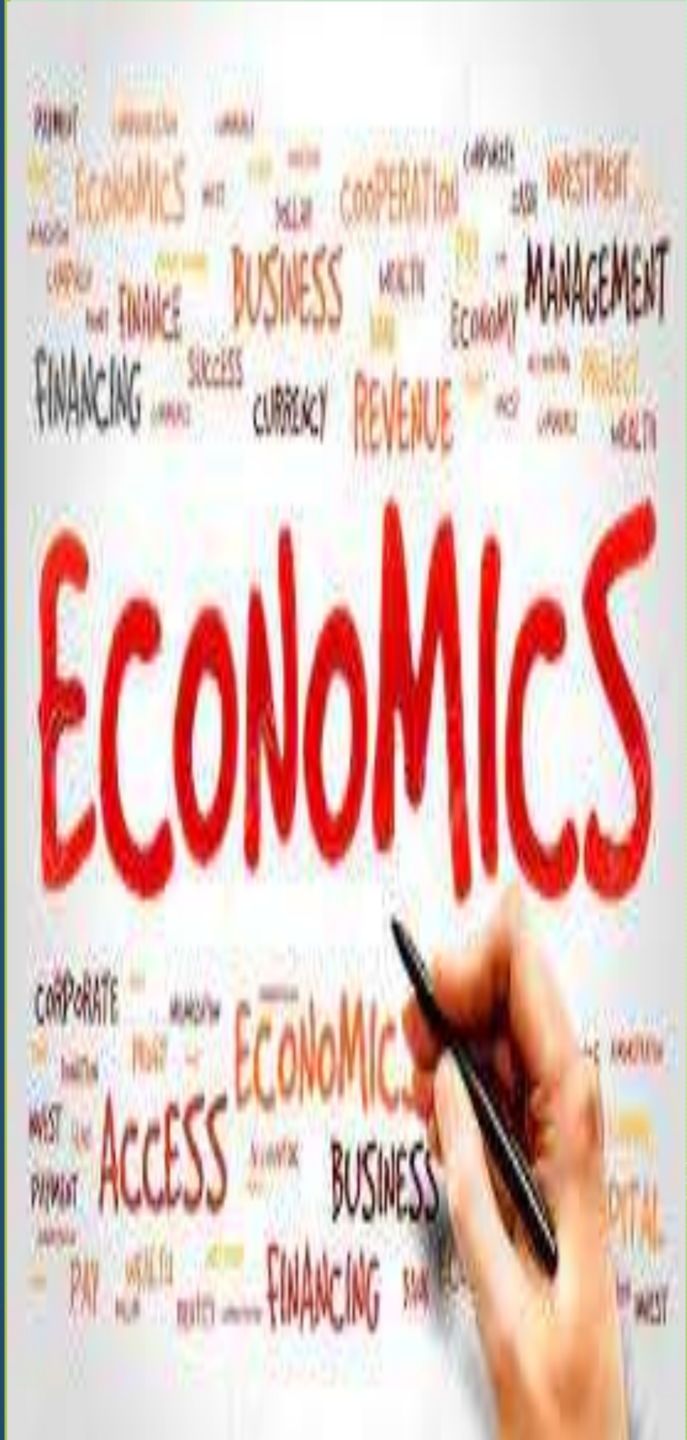
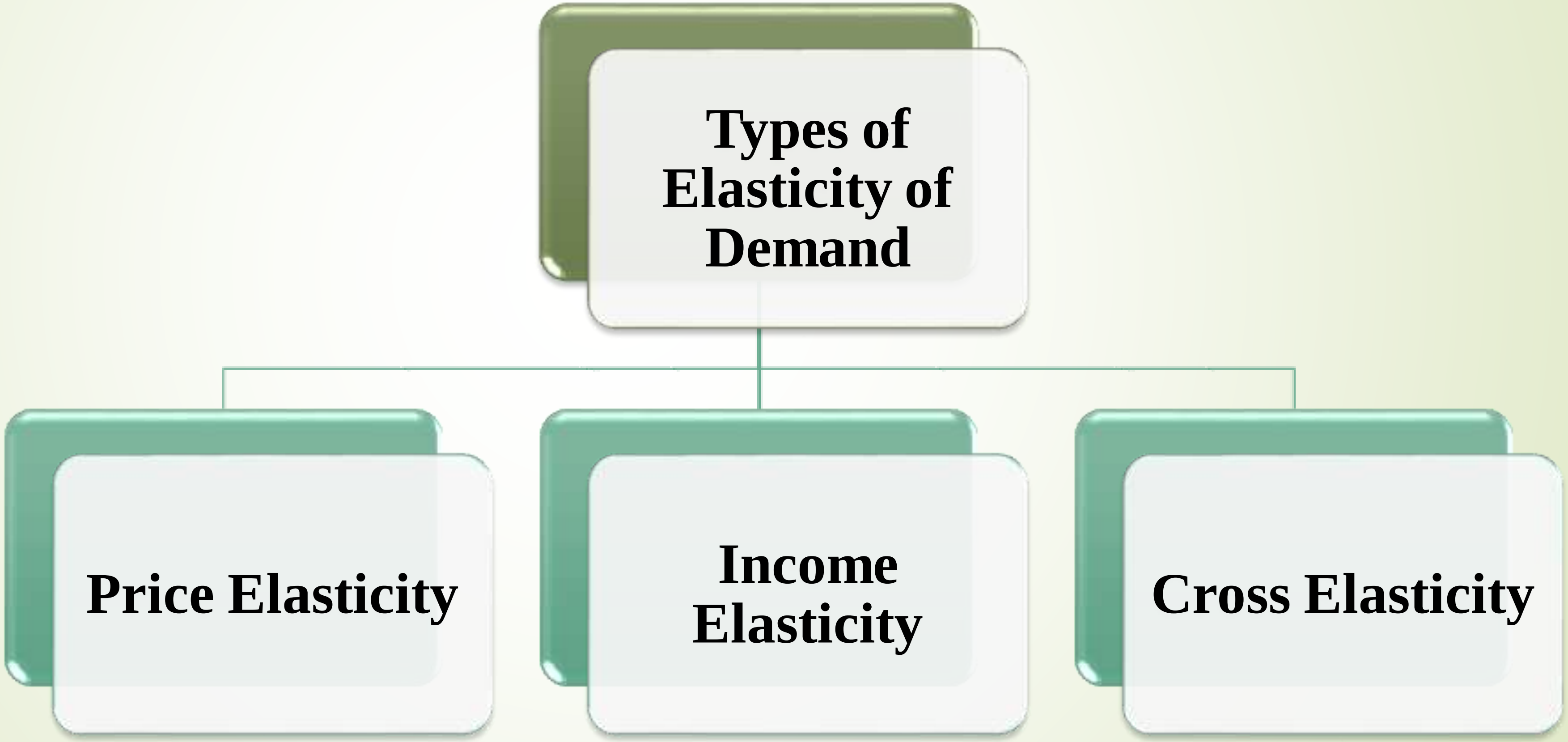


Elasticity of demand

- It is defined as the responsiveness of the quantity demanded of good to the change in price, income, and price of related good.

$$E_D = \frac{\%\ \text{Change in quantity demanded}}{\%\ \text{Change in}\ \textit{any one of the}\ \text{determinant of demand}}$$

Type of Elasticity of Demand



Price Elasticity of Demand

- Price Elasticity of Demand expresses response of quantity demanded of a commodity to changes in its price.

$$E_P = \frac{\text{\% change in demand}}{\text{\% change in demand}}$$

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

- Where:

ΔQ= Change in quantity

ΔP= Change in price

Q=Original quantity

P=Original price

Degrees of Price Elasticity-

1. **Perfectly Elastic Demand-**

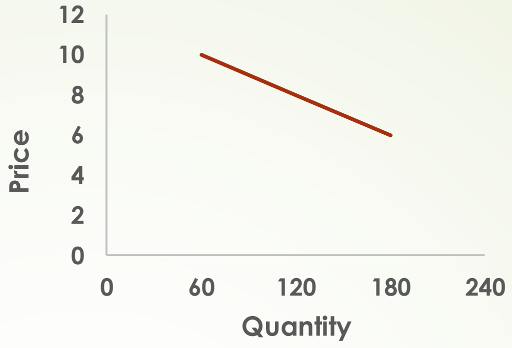
$E=\infty$

2. **Perfectly Inelastic Demand-**

$E=0$

3. Unitary Elastic Demand

E=1



4. Highly Elastic or Relative Elastic Demand

E>1

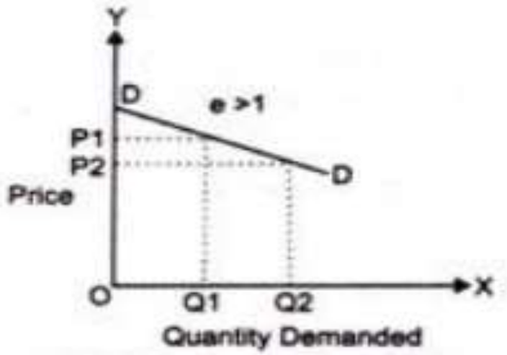


Figure-4: Relatively Elastic Demand

5. Inelastic Demand

E<1

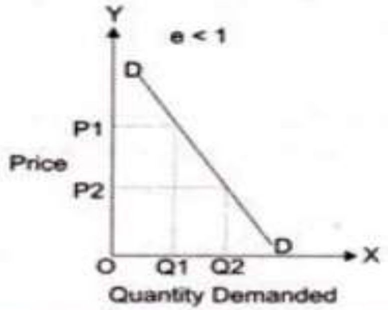


Figure-5: Relatively Inelastic Demand

Income Elasticity of Demand-

- **The degree of responsiveness of demand for a product to the change in income of a consumer is known as income elasticity.**

$$E_Y = \frac{\%\ Change\ in\ quantity\ demanded}{\%\ Change\ in\ income\ of\ consumer}$$

1. Income elasticity more than 1,it is **luxury goods or a superior goods.**

   E>1

2. Income elasticity less than 1, a **necessity good** or a **necessary good** is a type of **normal good**

   E<1 - Essential goods

3. Income elasticity is 0 , **that an increase in income does not change the quantity demanded of the good.**

   E=0

4. Income elasticity is negative **is associated with inferior goods** .

   E<0

5. Income elasticity is more than 0 [Postive Income Elasticity]

   E>0 Normal goods

6. Income elasticity is equal to 1

   E=1 Semi Luxury

Cross Elasticity of Demand

- **A change in price of one article causes a change in demand of another article.**

$$E_c = \frac{Proportionate\ change\ in\ purchase\ of\ commodity}{Proportionate\ change\ in\ price\ of\ commodity}$$

1. When cross elasticity is more than 0 (Substitute goods)

$$\boxed{E_c > 0}$$

2. When cross elasticity is less than 0 (Complimentary goods)

$$\boxed{E_c < 0}$$

3. When cross elasticity is equal to 0 (Unrelated goods)

$$\boxed{E_c = 0}$$

References

- **Koutsoyiannis, A Modem Microeconomics, 2nd Edition, Macmillan Publication, Landon.**
- **Salvatore, S., Managerial Economics, Mc Graw Hill Publications.**
- ***Dwivedi D N, Managerial Economics, Vikas Publishing House Pvt. Ltd, 2006***