ELASTICITY OF DEMAND

Demand

Price Elastic

Consumption can be postponed

***Comforts / Luxuries* of Life (*Non-Essential / Luxury* Commodities)**

Price Inelastic

Consumption *cannot* be postponed

***Necessities* of Life e.g. Food, Clothing, Shelter (*Necessary / Essential* Commodities)**

- An elasticity measures the *sensitivity* of one variable to another.

Types of Elasticities of Demand:

1. **Price Elasticity of Demand.**
2. **Income Elasticity of Demand.**
3. **Cross Elasticity of Demand.**

1. **Price Elasticity of Demand (E_d):** It measures the *sensitivity* of quantity demanded to price changes. $\mathbf{E_d}$ is the *percentage change* in *quantity demanded* of the commodity divided by the *percentage change* in its *price*.

$$\mathbf{E_d = [\%(\Delta Q_d) / \%(\Delta P_x)] \mid (c.p.)}$$

$$\mathbf{= [(\Delta Q_d / Q_d) / (\Delta P_x / P_x)] = [(\Delta Q_d / \Delta P_x) (P_x / Q_d)]}$$

- Price elasticity of demand is always a *negative* number.

Determinants of Price Elasticity of Demand

1. **Availability of Substitutes:** Those products, which have *few* close substitutes, tend to have *low* price elasticity (or, demand is *inelastic*). However, the products, which have *many* good substitutes, tend to have *high* price elasticity (or, demand is *elastic*).

2. **Time Period:** Over a *short* time period, a commodity or product has *fewer* alternatives (substitutes) as compared to over a *long* time period. Therefore, over a *short* time period, price elasticity will be *low* (*inelastic* demand). However, over a *long* time period, price elasticity will be *high* (*elastic* demand).

3. **Proportion of Income Spent on the Commodity:** Demand tends to be *inelastic* for those commodities, that account for a *large* proportion of consumer's total expenditure. e.g. A major increase in price of ***sugar*** will have a major impact on a consumer's expenditure.

4. **Habit Formation:** Some products are consumed more due to the *habit* of consumers, such as cigarettes and alcohol. The demands for such products are *inelastic*.

Applications of Price Elasticity of Demand

$\mathbf{E_d}$ plays an important role in the *pricing decisions* of (a) *business organizations*, and (b) *government*, who *regulates* prices. It also helps in judging the effect of *devaluation*, or *depreciation of currency* on a country's *export* earnings.

Types of Price Elasticity of Demand:

1. **Perfectly Elastic demand:** $E_d = -\infty$, or $|E_d| = +\infty$

2. **Perfectly Inelastic demand:** $E_d = 0$

3. **Elastic demand:** $E_d < -1$, or $|E_d| > 1$
   (e.g. $E_d = -2, -3, -10, -100, -1000\ldots$)

4. **Inelastic demand:** $E_d > -1$, or $|E_d| < 1$
   (e.g. $E_d = -(1/2), -(1/3), -(1/10), -(1/100), -(1/1000)\ldots$)

5. **Unitary Elastic demand:** $E_d = -1$, or $|E_d| = 1$