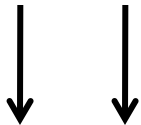


# ELASTICITY OF DEMAND

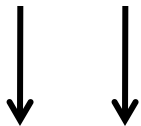
Demand

```
graph TD; Demand[Demand] --> Elastic[Price Elastic]; Demand --> Inelastic[Price Inelastic]; Elastic --> ElasticText[Consumption can be postponed]; ElasticText --> ElasticCommodities["Comforts / Luxuries of Life (Non-Essential / Luxury Commodities)"]; Inelastic --> InelasticText["Consumption cannot be postponed"]; InelasticText --> InelasticCommodities["Necessities of Life e.g. Food, Clothing, Shelter (Necessary / Essential Commodities)"];
```

**Price Elastic**

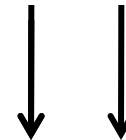


**Consumption can be postponed**

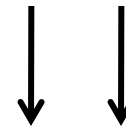


***Comforts / Luxuries of Life (Non-Essential / Luxury Commodities)***

**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.  $E_d$  is the percentage change in quantity demanded of the commodity divided by the percentage change in its price.

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

$$= [ (\Delta Q_d / Q_d) / (\Delta P_x / P_x) ] = [ (\Delta Q_d / \Delta P_x) (P_x / Q_d) ]$$

- 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**

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