

Elasticity of demand

- ✓ The elasticity of demand is defined as the rate of change in quantity demanded for a given change in price.
- ✓ It is primarily related to extension or contraction of demand for a fall or rise in price.
- ✓ Hence, this is called price elasticity of demand.
- ✓ But there are other factors which influence elasticity of demand and accordingly we have three types of elasticity of demand.
 - a) price elasticity of demand
 - b) income elasticity of demand and
 - c) cross elasticity of demand

Price elasticity of demand

- ✓ Price elasticity of demand is the ratio of proportionate change in the quantity demanded of a given commodity to a given proportionate change in its price.

$$E = \frac{\text{Proportionate change in quantity}}{\text{Relative change in price}}$$

where E = Elasticity of demand

- ✓ The term 'E' gives the coefficient of price elasticity of demand.
- ✓ If E is greater than one, the demand is said to be elastic.
- ✓ If E is less than one, the demand is said to be inelastic and if E is equal to one, the demand is unitary.
- ✓ The terms elastic and inelastic are only relative terms. Based on the elasticity we have five types of demand.

Types of Price Elasticity of Demand

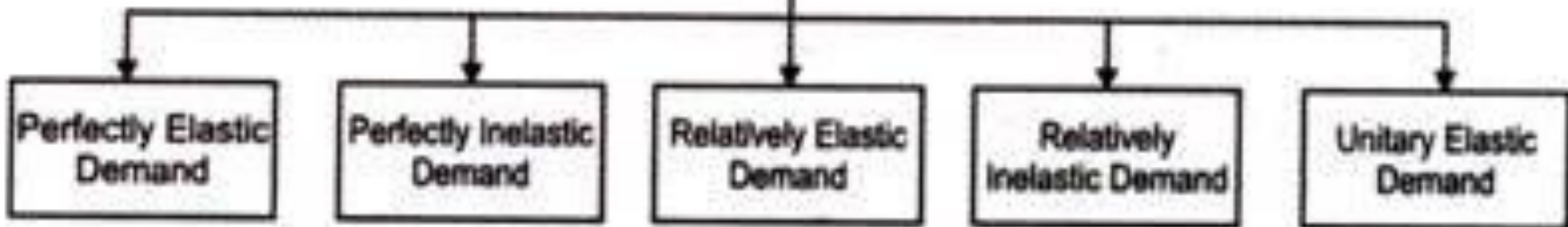
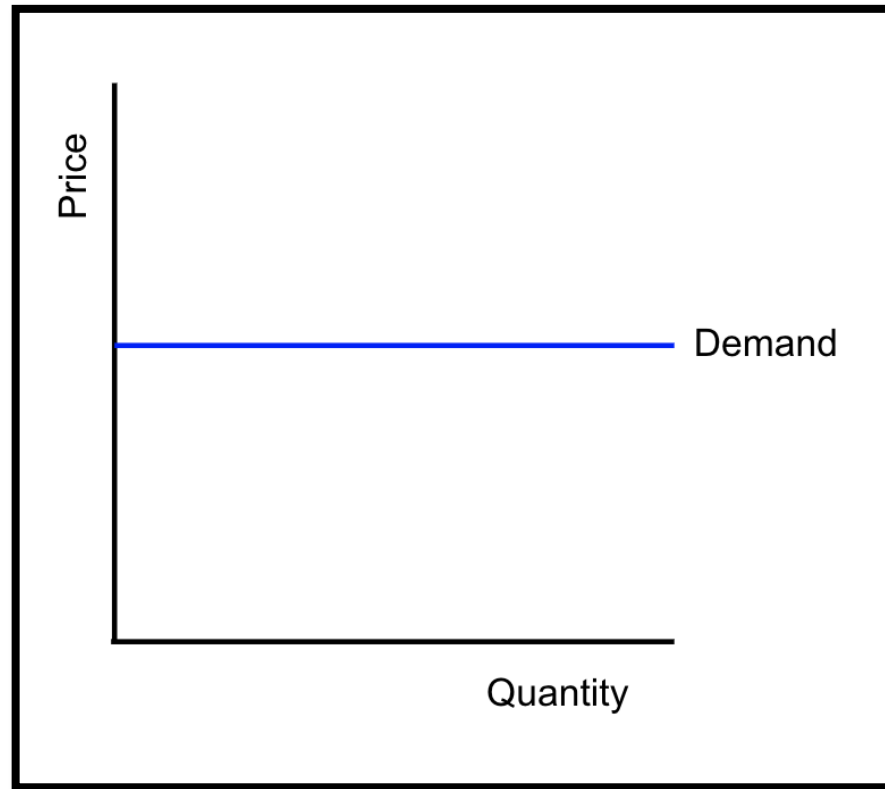


Figure-1: Different Types of Price Elasticity of Demand

Perfectly or infinitely elastic demand

- ✓ When a small change in price of a good causes more than a proportionate change (in both ways) in the quantity it is called **perfectly or infinitely elastic demand**.
- ✓ **A perfectly (or infinitely) elastic demand curve** refers to the extreme case in which the quantity demanded (Qd) increases by an infinite amount in response to any decrease in price at all. Similarly, quantity demanded drops to zero for any increase in the price.
- ✓ The demand curve will be a horizontal line, parallel to the X- axis in the graph.

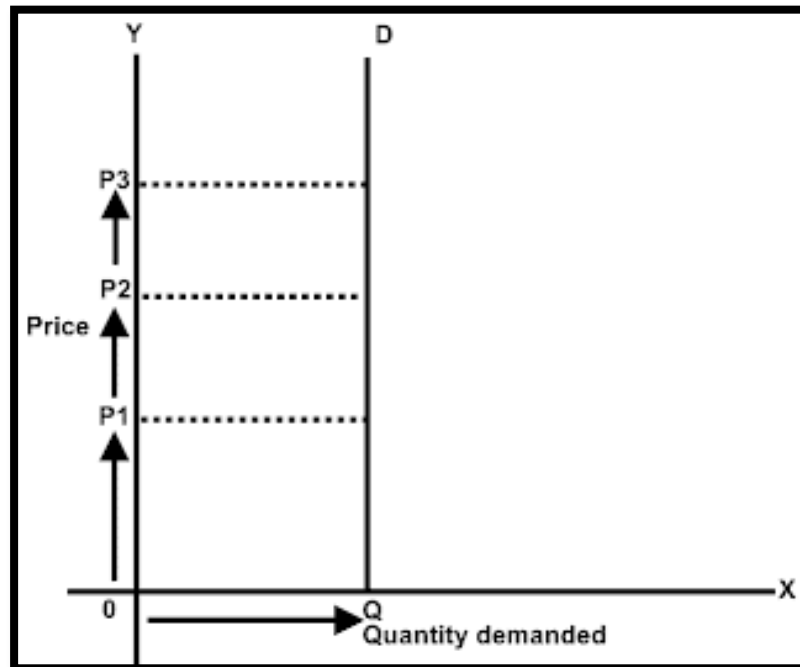


- This shows a perfectly elastic demand curve. The horizontal line shows that an infinite quantity will be demanded at a specific price. The quantity demanded is extremely responsive to price changes, moving from zero for prices close to P to infinite when prices reach P .

- **Say, for example**, if the price of cruises to the Caribbean decreased, everyone would buy tickets (i.e., **quantity demanded would increase to infinity**), or when the price of cruises to the Caribbean increased, not a single person would be on the boat (i.e., **quantity demanded would decrease to zero**). Perfectly elastic demand is an “all or nothing” thing!

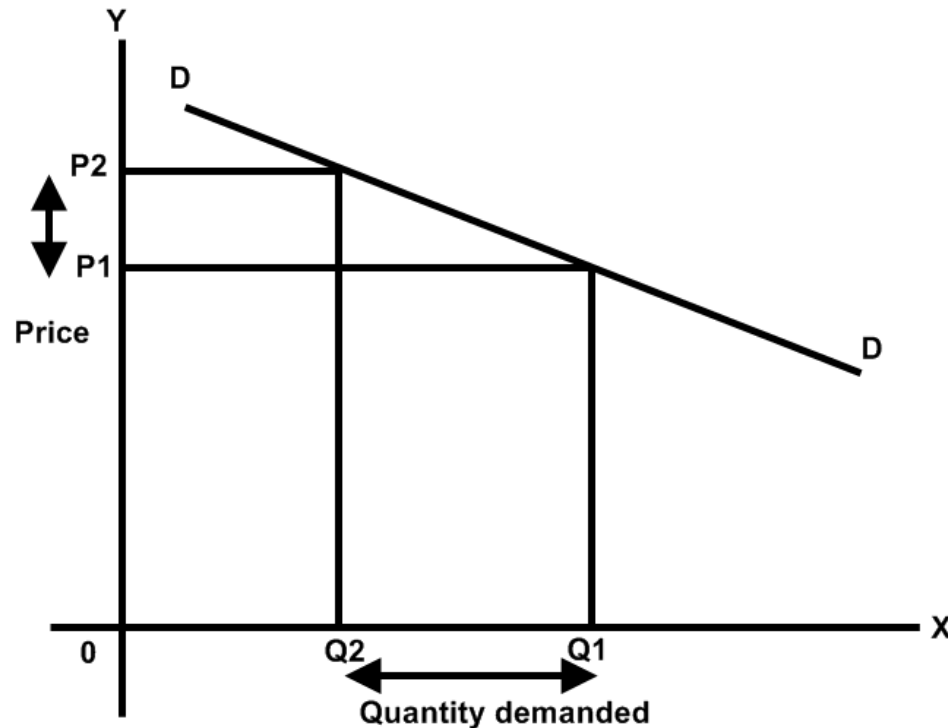
Perfectly inelastic demand

- ✓ When a change in price causes no change in quantity, it is called perfectly inelastic demand.
- ✓ The demand curve will be a vertical line.



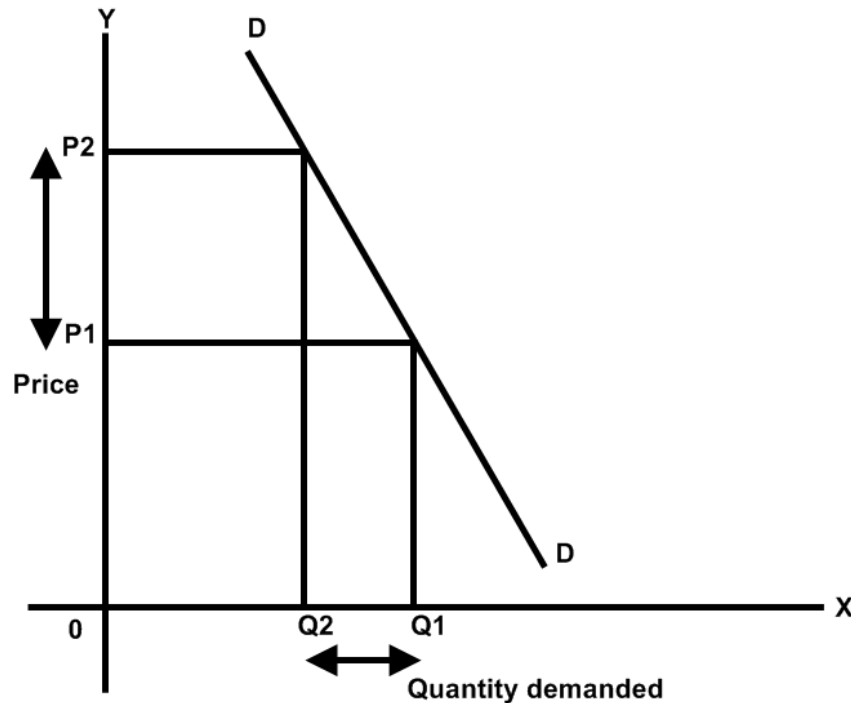
Relatively elastic demand

- ✓ When a small change in price causes a big change in quantity, it is called **relatively elastic demand**.
- ✓ The coefficient of elasticity is more than one. The demand curve is a downward sloping curve.



Relatively inelastic demand

- ✓ When a larger change in price causes a smaller change in quantity, it is called **relatively inelastic demand**.
- ✓ The coefficient of elasticity is less than one. The demand curve will be steeper than the normal relatively elastic demand curve.



Unit elasticity of demand

- ✓ When a change in price causes an exact change in quantity demanded of a commodity, it is called **unit elasticity of demand**.
- ✓ The coefficient of **elasticity is equal to one**. The demand curve slopes more or less uniformly.
- ✓ We generally come across the above types of demand but the perfectly inelastic and unitary elastic demand curves are rare.

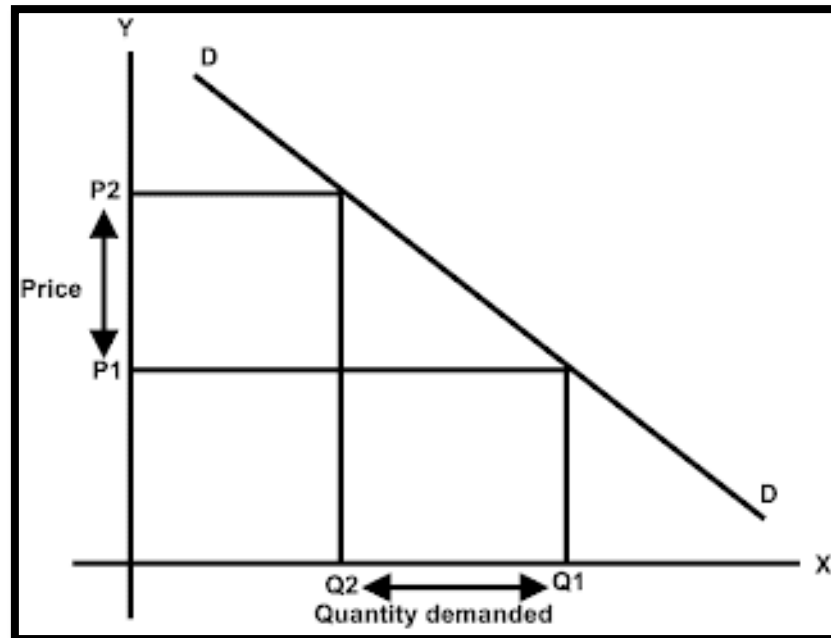


Table-4: Price Elasticity of Demand

Numerical Value	Type of Price Elasticity	Description
$e_p = \infty$	Perfectly elastic demand	There is a greater change in demand in response to percentage or smaller change in the price. For example, the demand for a product decreases or completely stops, with a little change in its price and vice versa.
$e_p = 0$	Perfectly inelastic demand	Consumers do not respond to the demand for a product with increase or decreases in its price. This implies that the demand remains the same with change in the price.
$e_p > 1$	Relatively elastic demand	The percentage change in the quantity demanded of a product is greater than percentage change in its price. In such a case, consumers generally switch to new brands when the price of a particular brand increases. However, some consumers are loyal to the same brand.
$e_p < 1$	Relatively inelastic demand	The change in the demand of a product is less than that of change in its price.
$e_p = 1$	Unitary elastic demand	The change in the demand and change in the price of a product is same.

- <https://www.youtube.com/watch?v=lztUC9ZNM7Q>