

Ch-3 Elasticity of Demand

Good Morning Students.

This lesson is for class 10th for the subject of Economics. The topic for today is "Elasticity of Demand" which is covered in chapter 3 of your book of Economics.

This lesson is being submitted to you on 20.05.24 and the voice is of Mr. Lokesh Arora.

All the students now please open page number 66 of your book and listen carefully.

Law of Demand tells us that if the price increases demand falls but it does not tell us that if price increases how much demand would fall.

It is also observed that the impact of price change is not always the same. Sometimes a small change in price brings a large change in the demand and sometimes a large change in price does not bring any change in demand.

To determine the responsiveness of demand for any commodity in response to change in its own price, we will study the concept of Elasticity of demand.

Price Elasticity of Demand:-

Price elasticity of demand means the change in quantity demanded of a commodity in response to change in its price. In other words, it measures the degree of change of demand in response to changes in price. It indicates how consumers react to change

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in price. The greater the reaction, the larger will be the elasticity. The lesser the reaction, the smaller will be the elasticity.

For example, If the price of milk rises by 10% and demand falls by 30% and price of wheat rises by 10% and demand for wheat falls by 5%, the demand for milk is said to be more elastic and demand for wheat is less elastic.

Formula $E_d = \text{Elasticity of Demand}$

$$E_d = \frac{\text{Percentage Change in Demand for the good}}{\text{Percentage Change in Price of the good}}$$

Thus, elasticity of demand is the ratio between the percentage change in demand and percentage change in the price.

To obtain the percentage change in quantity demanded, we use the following formula.

$$\text{Percentage Change in Demand} = \frac{\text{Change in Quantity Demanded}}{\text{Original Quantity Demanded}} \times 100$$

Similarly

$$\text{Percentage Change in Price} = \frac{\text{Change in Price}}{\text{Original Price}} \times 100$$

$$E_d = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P} \times 100}$$

$$\longrightarrow E_d = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

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

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Where E_d = Price Elasticity of Demand

ΔQ = Change in Demand

ΔP = Change in Price

Q = Original Demand

P = Original Price

Numericals are not for Testing.

Degrees of Elasticity of Demand.

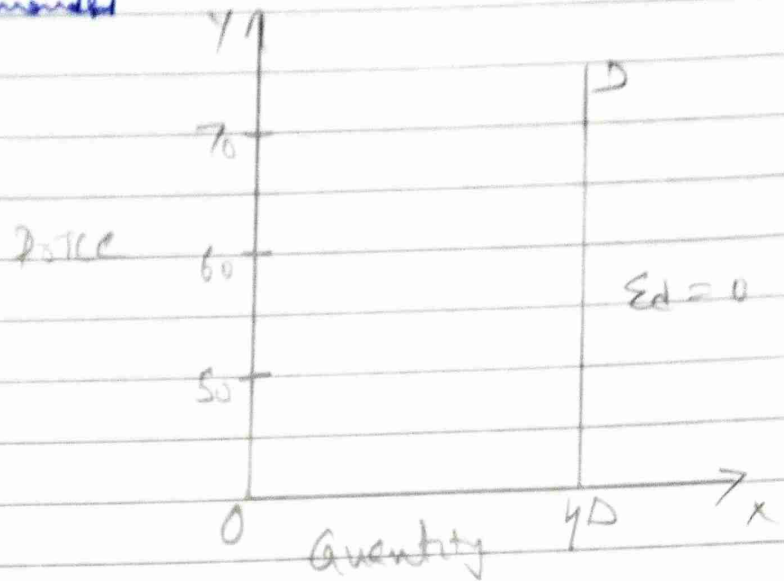
Elasticity of demand differs from commodity to commodity. A given change in price sometimes may lead to significant change in quantity demanded and sometimes brings only a ~~small~~ small change or even no change in quantity demanded. If the change in demand is significant, demand of the commodity is said to be elastic and if the change in demand is small or insignificant, demand of commodity is said to be inelastic. On this basis, there are five degrees of elasticity of demand, which are explained below:-

1. Perfectly Inelastic Demand

When quantity demanded does not change at all as a result of change in price of the commodity, demand of that commodity is said to be perfectly inelastic. If price increases or decreases, demand remains unchanged. Elasticity of demand is zero.

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Price	Quantity Demanded
50	4
60	4
70	4



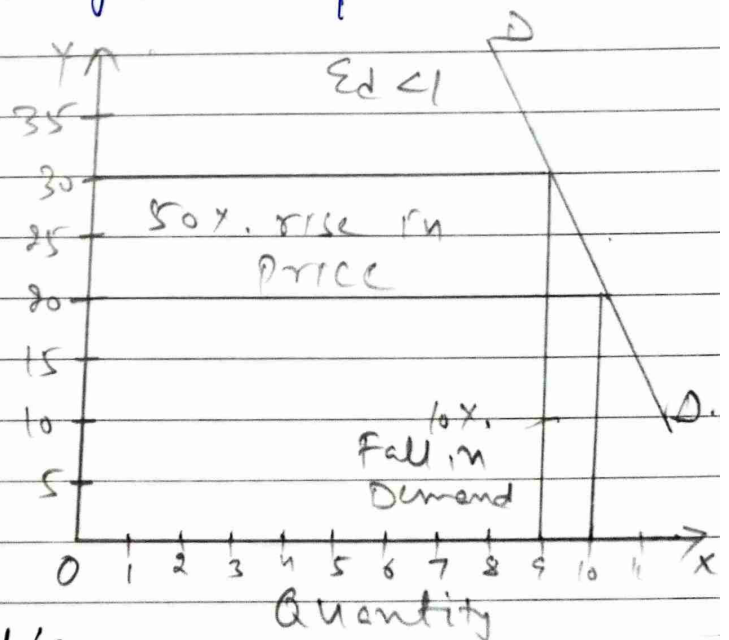
(2) Inelastic Demand:-

When a large change in price does not bring so much change in demand or brings a small change in demand, the demand is said to be inelastic. In this situation, percentage change in demand is lesser than percentage change in price.

So $E_d < 1$

Price	Demand
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20	10
30	9



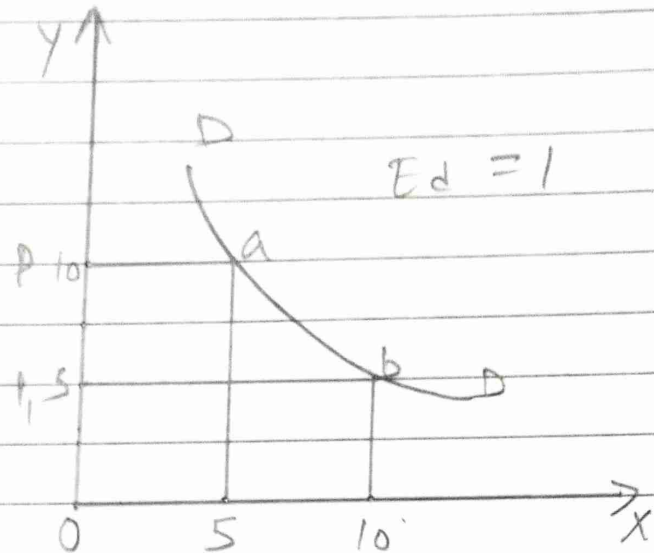
(3) Unit Elastic Demand:-

If percentage change in demand is equal to percentage change in price, Elasticity of demand is said to be unity. (4)

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In this type, demand curve takes the shape of rectangular hyperbole, Rectangular hyperbole is a curve under which all the rectangular areas are equal.

Price	Quantity
10	5
5	10

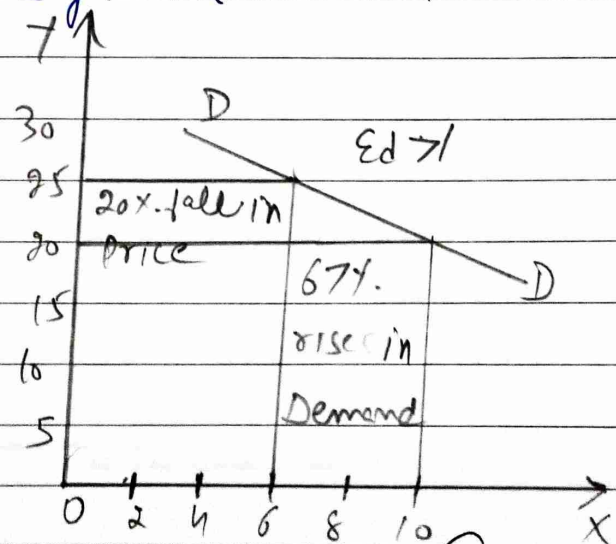


4. Elastic Demand :-

When a small change in price brings a large change in demand, the demand is said to be elastic. In this case, percentage change in demand is more than percentage change in price.

Elasticity of Demand is greater than 1
 $E_d > 1$

Price	Quantity Demand
25	6
20	10

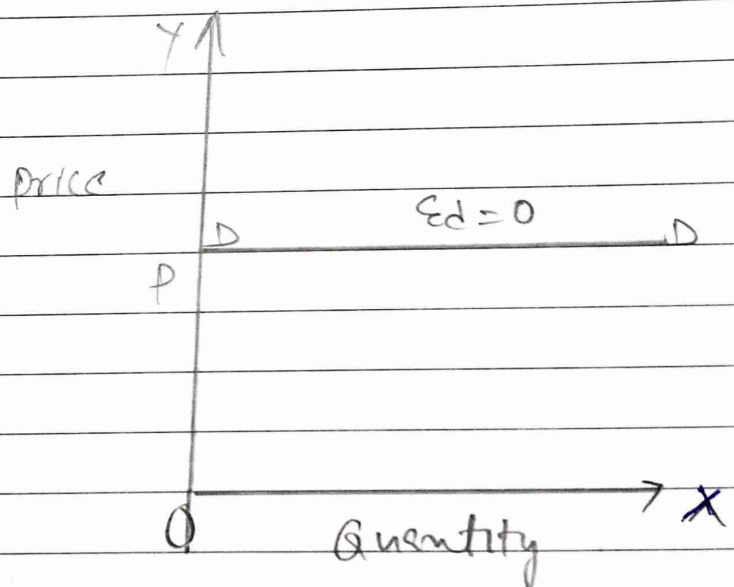


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(5) Perfectly Elastic Demand.

It is a situation in which a small change in price brings an infinite large change in quantity demanded. A small rise in price of the commodity reduces demand to zero. On the other hand, a small reduction in the price leads to infinitely large increase in demand.

In our real life, we do not have any such commodity which has perfectly elastic demand.



With this I am ending my topic here. Write the answers of following questions in your notebook.

- Ques 1. What is Perfectly Elastic Demand? Explain with the help of a diagram.
2. If percentage change in demand is more than percentage change in price, what kind of elasticity of demand is this? Explain.
3. Write the formula to find Elasticity of Demand.