

### Elastic Demand



# Elasticity of Demand

How sensitive quantity demanded is to price changes

### Inelastic Demand



# Calculating Elasticity

Percent Change =

$$\frac{\text{New} - \text{Old}}{\text{Old}} \times 100$$

Step 1: Calculate the percentage change in the quantity demanded.

Step 2: Calculate the percentage change in the price.

Step 3: Divide the percentage change in the quantity demanded by the percentage change in the price.

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# Calculating Elasticity

If the price of chocolate rises from \$2 per bar to \$2.50, the quantity demanded falls from 20,000 to 10,000 bars.

Step 1:

$$(10,000 - 20,000) / 20,000 \times 100 = -50\%$$

- Economists generally ignore the negative.

Step 2:

$$(\$2.50 - 2) / \$2 \times 100 = 25\%$$

Step 3:

$$\underline{50\%} / 25\% = 2$$

# Elastic Demand

Consumers are very sensitive to the price.

Consumers respond to a price increase with a relatively large decrease in quantity demanded.

The slope for elastic demand is flatter. A perfectly elastic demand curve would be horizontal.

Elasticity is  $> 1$

Quantity demanded changes by a larger % than the price.

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# Elastic Demand

What makes demand more elastic?

● The good is a luxury.	Cashmere sweaters
● There are many close substitutes.	Dasani brand water
● A large share of income is needed to buy the product.	Yachts
● There is a long time to research options.	Plastic surgery
● The customer pays the bill	Backpacks

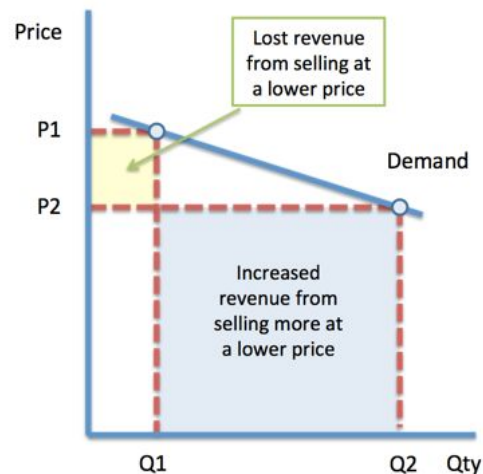
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# Elastic Demand

## Elastic Demand ( $P_{ed} > 1$ )

If the co-efficient of price elasticity of demand  $> 1$ , then demand is said to be price elastic i.e. highly responsive to a change in price

- If demand for a product is price elastic, a supplier stands to gain extra revenue if they reduce their prices.
- The change in quantity demanded will be proportionately higher than the reduction in price. This is shown in the diagram opposite.



Economists and businesses use elasticity of demand to predict the effect of price changes.

Total Revenue = price x quantity

When demand is elastic, a rise in price makes total revenue decrease.

But a drop in price, makes total revenue increase.

# Inelastic Demand

Consumers are not sensitive to the price.

Consumers respond to a price increase with a relatively small decrease in quantity demanded.

The slope for elastic demand is more vertical. A perfectly inelastic demand curve would be vertical.

Elasticity is  $< 1$

Quantity demanded changes by a smaller % than the price.

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# Inelastic Demand

What makes demand more inelastic?

● The good is a necessity.	Open heart surgery
● There are few close substitutes.	Drinking water
● A small share of income is needed to buy the product.	Bubble gum
● There is a short time to research options.	Emergency room visit
● Someone else pays the bill	Health care covered by insurance

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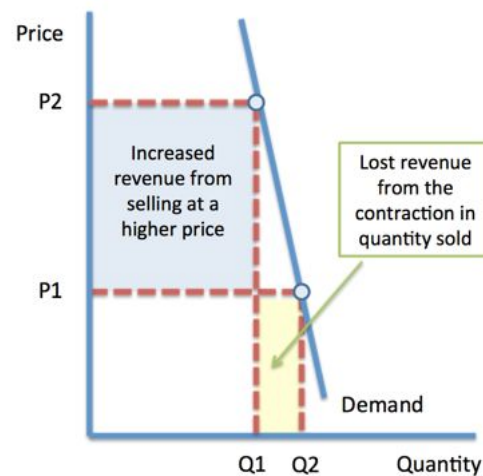


# Inelastic Demand

## Inelastic Demand ( $P_{ed} < 1$ )

If the co-efficient of price elasticity of demand  $< 1$ , then demand is said to be price inelastic i.e. unresponsive to a change in price

- Following a change in price, the total revenue earned by the producing firm will depend on the PED for its product
- If the coefficient of PED is  $< 1$ , a rise in market price (e.g. from  $P_1$  to  $P_2$ ) will lead to an increase in total revenue



When demand is inelastic, a rise in price makes total revenue increase.

But a drop in price, makes total revenue decrease.

# Unit-elastic Demand

Consumers are moderately sensitive to the price.

Example: soft drinks

The slope for elastic demand is about 45 degrees.

Elasticity = 1

Quantity demanded changes at the same % as price.

A price increase or decrease has no change on total revenue.

