Price elasticity of demand

2017-18

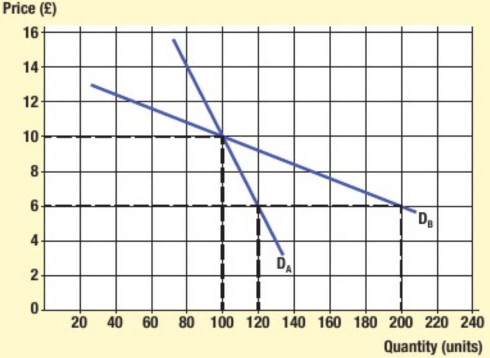
What is price elasticity of demand?

- Price elasticity: defines how *price changes* will affect the *demand* for a good
- Demand curve gives the relationship the price of a good and its demand
- **Price elastic demand**: relationship between the responsiveness of demand and a change in price

Price inelastic demand

- Price *inelastic* demand: change in demand is not as big as the change in price (e.g., petrol)

The effect of a price change on the demand for products A and B



Price elastic demand

- Price *elastic* demand: change in demand is greater than the change in price (most goods are price elastic demand)

Calculation of price elasticity of demand

- Calculation of price elasticity of demand:
  - Formula:

$$\text{Price elasticity of demand} = \frac{\text{\% change in quantity demanded}}{\text{\% change in price}}$$

  - In practice:

$$\text{\% change} = \frac{\text{Difference between the two numbers}}{\text{Original number}} \times 100$$

- *see* example page 36

Interpretation of numerical values of price elasticity of demand

- if price elasticity < 1: demand is **inelastic**
- if price elasticity > 1: demand is **elastic**
- Note: We consider the *absolute value* of price elasticity!

THE FACTORS INFLUENCING PRICE ELASTICITY OF DEMAND

Factors influencing price elasticity of demand: mainly *ease* with which customers can switch between products

- *Time*: Price elasticity of demand tends to fall the longer the time period considered (e.g., petrol may be elastic at short-run since people *have* to use cars, but in the long-run they may switch to other transportation, which will make it inelastic)
- *Competition for the same product*: In markets that have a lot of *perfect substitutes*, prices will be *highly elastic* (e.g., farmers)
- *Branding*: Branding reduces the price elasticity of demand for the product

THE FACTORS INFLUENCING PRICE ELASTICITY OF DEMAND

- *Proportion of income spent on a product*:
  - if proportion of income spent on product is *very small*: demand will be price *inelastic* (e.g., box of matches)
  - if proportion of income spent is *high*: demand will be price *elastic* (e.g., car)
- *Product types vs the product of an individual business*: While a demand for a good may be price inelastic (e.g., petrol), the same good may be characterized by high price elasticity when considering the demand at the individual suppliers (e.g., Esso, Shell)

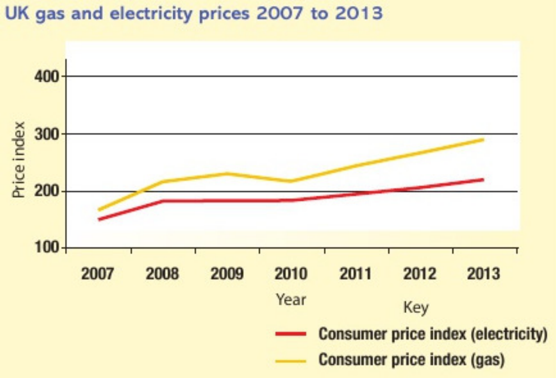
QUESTION

WHY NOT KEEP THE PRICES LOW SUCH THAT DEMAND WILL BE *price inelastic*?

- A *profit-maximizing* firm should continue raising price until demand is price elastic
- As long as the *profit-maximizing* level is not reached, raising prices will raise revenues

Price elasticity of demand and pricing

- Price elasticity of demand will determine the *price setting* of a business
- if demand is price inelastic: rising the prices will not significantly reduce the demand (e.g., UK gas and electricity has been continuously rising prices with no change in demand)
- if demand is price elastic: rising prices will affect the demand and this may then not be a good strategy
- however if demand is price elastic, a fall in prices will also have a (positive) effect on demand (e.g., Lidl, Aldi)


UK gas and electricity prices 2007 to 2013
400
300
200
100
Price index
2007
2008
2009
2010
2011
2012
2013
Year
Key
Consumer price index (electricity)
Consumer price index (gas)

Price elasticity of demand and total revenue

- Change of a particular price on total revenue

Price elasticity	Value of elasticity	Price change	Effect on TR
Inelastic	< 1	Decrease	Fall
Inelastic	< 1	Increase	Rise
Elastic	> 1	Decrease	Rise
Elastic	> 1	Increase	Fall

- If businesses know the value of price elasticity for their products, they can predict the effect on total revenue

Key terms

- **Price elastic demand**: a change in price results in a greater change in demand
- **Price elasticity of demand**: the responsiveness of demand to a change in price
- **Price inelastic demand**: a change in price results in a proportionately smaller change in demand