Price elasticity of demand

- **PED:** measures the responsiveness of quantity demanded following a change in price
  - PED < 1 - price inelastic
  - PED > 1 - price elastic
- Maximising total revenue at *unitary elasticity*
  - Cut price if elastic
  - Raise price if inelastic

FACTORS THAT AFFECT PED

- Number of close substitutes
  - many close substitutes → price elastic
    - e.g. manufactured goods → price elastic
    - primary commodities → price inelastic
- Addiction - price inelastic
  - e.g. $PED_{alcohol}$ is 0.25
- Degree of necessity
  - necessity good → price inelastic
  - luxury good → price elastic
- Proportion of income
  - ↑% → price elastic
- Time period following a price change
  - ↑ time → price elastic
  - e.g. petrol, energy
- Brand loyalty
  - e.g. Rolex → price inelastic, as more advertising and brand strength

LIMITATIONS OF PED

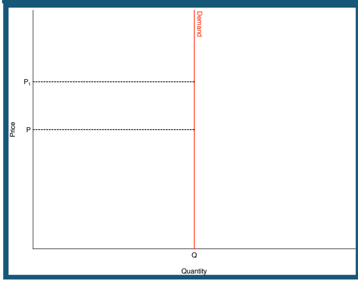
- Hard to calculate accurately
  - Assumes *ceteris paribus*, which isn't always the case
- Values vary over time
- Can vary based on income group and geographical location
  - ↑Y → price inelastic
  - ↓Y → price elastic

IMPACT OF PRICE CHANGE OF TOTAL REVENUE

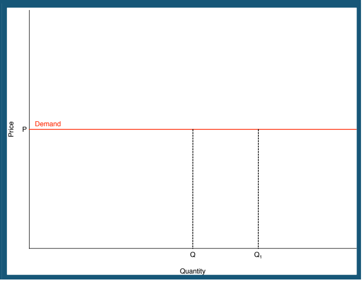
- If price inelastic, firm should ↑P → ↑TR
- If price elastic, firm should ↓P → ↑TR

$$PED = \%\Delta Q_d / \%\Delta P$$

PED = 0



PED = ∞



PED varies along demand curve, with TR_{max} at PED = 1