Demand, supply, equilibrium and elasticity

Edexcel IGCSE Economics 4EC1 sections 1.1.3-1.1.4 full package

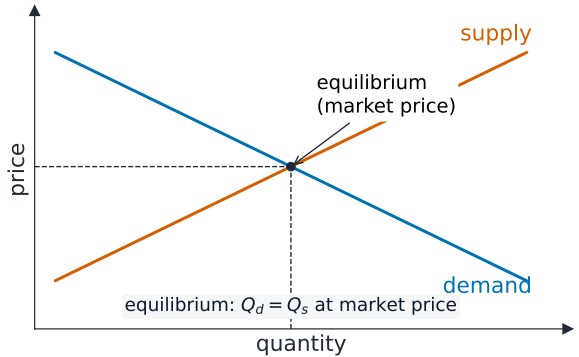
Demand, supply, equilibrium and elasticity

- explain demand and supply, and the difference between a movement along a curve and a shift;
- find the equilibrium price and show the effect of shifts on a diagram;
- explain **excess demand** and **excess supply** and how **market forces** remove them;

Demand, supply, equilibrium and elasticity (2)

- calculate and interpret **price elasticity of demand**, **price elasticity of supply** and **income elasticity of demand**;
- explain why elasticity matters to firms and the government.

Figure: Demand, supply, equilibrium and elasticity



- Demand slopes down; supply slopes up.
- Where they cross sets the market price.

Demand, supply and market equilibrium

- **advertising** can shift demand to the right;
- **income**: higher incomes raise demand for most goods;
- **fashion and tastes**: a viral video can double demand for a snack in a week;

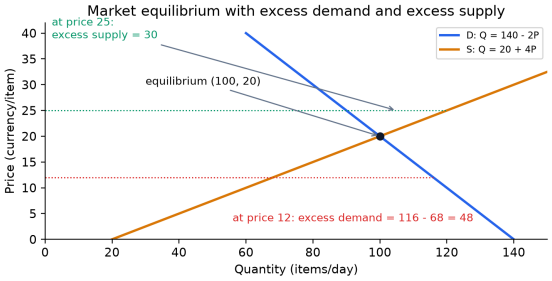
Demand, supply and market equilibrium (2)

- the price of **substitutes** : if coffee gets dearer, demand for tea shifts right;
- the price of **complements** : if petrol gets dearer, demand for large cars shifts left;
- **demographic changes** : with fewer babies born, the number of kindergartens in China fell by about 15,000 in 2023 alone.

Demand, supply and market equilibrium (3)

- **costs of production**: dearer wages, materials or energy shift supply left;
- **technology**: the price of solar panels fell by about 90% between 2010 and 2020 as new technology cut costs;
- **indirect taxes** shift supply left; **subsidies** shift it right;
- **natural factors**: weather, disease and disasters, such as bird flu on egg farms.

Figure: Demand, supply and market equilibrium



- At a price of 12 there is a shortage of 48; at 25 there is a surplus of 30. **Market forces** push the price back to 20.
- Match each part of the diagram to the text.

Elasticity

- the number of close **substitutes**: one brand of cola has many, so its demand is elastic;
- whether the good is a **necessity**: rice, medicine and electricity are **inelastic**;
- the **share of income** spent on it: salt is cheap, so a price rise barely matters;

$$PED = \frac{\%\text{ change in quantity demanded}}{\%\text{ change in price}}$$

Elasticity (2)

- **time**: in the long run people find **substitutes**, so demand becomes more elastic.
- how easily **factors of production** can move into making the good;
- whether firms hold **stocks** of finished goods;

$$PES = \frac{\%\text{ change in quantity supplied}}{\%\text{ change in price}}$$

Elasticity (3)

- whether they have **spare capacity** : idle machines and workers;
- **time**: supply becomes more elastic in the long run.
- **YED above 1**: a **luxury** , such as foreign holidays. Demand grows faster than income.

$$YED = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in income}}$$

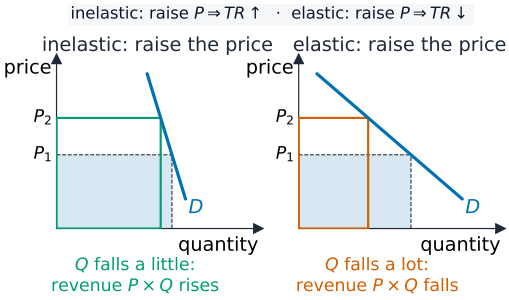
Elasticity (4)

- **YED between 0 and 1**: a **normal necessity**, such as bread or toothpaste.
- **YED equal to 1**: unit income elasticity.
- **YED below 0**: an **inferior good** , bought less as people get richer. China's instant-noodle sales fell from about 46 billion packs in 2013 to about 38.5 billion in 2016 as incomes rose and people ate out more.

Elasticity (5)

- **Government**: taxes on goods with **inelastic** demand, such as tobacco and petrol, raise reliable revenue because sales fall only a little. To cut consumption, a tax works better on elastic goods. When Mexico taxed sugary drinks by 1 peso a litre in 2014, about a 10% price rise, purchases fell by about 6% in the first year: a PED of about -0.6.
- **Firms**: a firm with inelastic demand can raise prices and earn more revenue. Firms selling luxuries expect sales to boom when incomes rise and fall sharply in a recession; sellers of inferior goods may do better in hard times.

Figure: Elasticity



- The same price rise raises revenue when demand is **inelastic**, but lowers it when demand is elastic.
- Match each part of the diagram to the text.

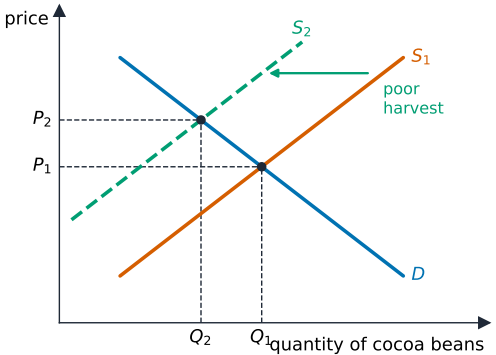
Data-response practice

- (a) Identify **one** factor that shifted the supply of cocoa beans in the extract. [1]
- (b) Draw a demand and supply diagram to show the effect of the poor harvest on the market for cocoa beans. [4]
- (c) Calculate the **price elasticity of demand** for the chocolate bars. [2]

Data-response practice (2)

- (d) Calculate the change in the chocolate maker's weekly **total revenue**, and explain the result. [3]
- (e) Explain **two** reasons why the supply of cocoa beans is price **inelastic**. [4]
- (f) Evaluate whether the chocolate maker should raise the price of its bars again. [9]

Figure: Data-response practice



- A poor harvest shifts supply left.
- The price rises; the quantity falls.

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Common errors

- Writing "demand rises" when only the price falls. A change in the good's own price moves along the curve; it does not shift it.
- Leaving out "willing **and able**" in the definitions of demand and supply.
- Dividing the wrong way: PED is % change in quantity ÷ % change in price, not the other way round.

Common errors (2)

- Calling a PED of -0.4 "elastic". Between 0 and -1 is **inelastic**.
- Saying an **inferior good** is a low-quality good. It is a good bought less as incomes rise.
- Drawing a shift without labelling the new curve, the new price and the new quantity.

Key terms

- **Demand / supply**: the quantity buyers / sellers are willing and able to buy / sell at each price over a period.
- **Equilibrium price**: the price where quantity demanded equals quantity supplied.
- **Excess demand / excess supply**: a shortage / surplus at a price below / above equilibrium.

Key terms (2)

- **PED**: % change in quantity demanded ÷ % change in price.
- **PES**: % change in quantity supplied ÷ % change in price.
- **YED**: % change in quantity demanded ÷ % change in income.
- **Inferior good**: a good with negative YED.

Check yourself

- 1.
- Give two factors that would shift the demand curve for bubble tea to the right. 2.
- Explain the effect of a new tax on cigarettes on their supply curve, equilibrium price and quantity. 3.
- On the phone-case market, find the shortage or surplus at a price of 15. 4.