Exercise walk-through

Methods and effects of government intervention in markets ▪ 3.2

eXercise

You must be able to

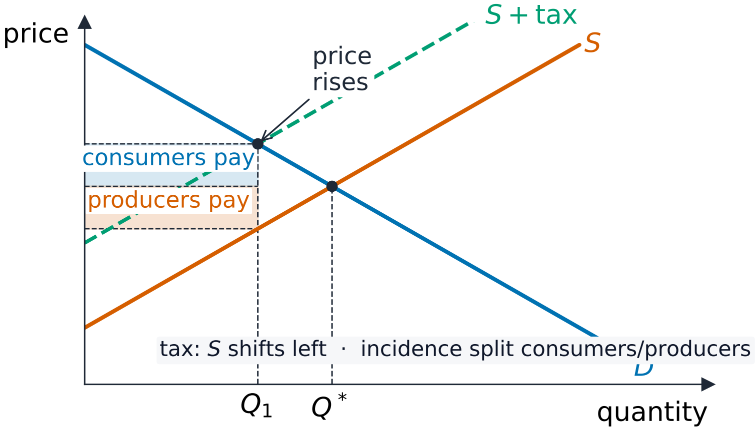
- draw the effect of an indirect tax and a subsidy
- explain maximum/minimum prices and the **incidence of a tax 税收归宿**
- analyse government failure

Method — Taxes, subsidies and price controls

- **Indirect tax 间接税**: shifts supply **left** → higher price, lower quantity (used on demerit goods).
- **Subsidy 补贴**: shifts supply **right** → lower price, higher quantity (used on merit goods).
- **Max price** (below equilibrium) → **shortage**; **min price** (above equilibrium) → **surplus**.
- **Tax incidence:** if demand is inelastic, consumers pay most of the tax.
- **Government failure 政府失灵**: intervention makes resource use worse (e.g. a black market).

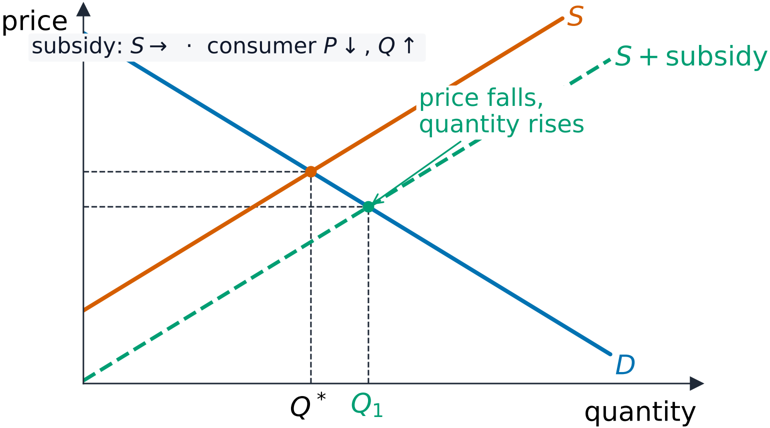
Answer shapes: an **Explain [up to 8]** answer should use a labelled diagram (AO3); **Discuss [12]** adds a judgement (AO4).

Method — Taxes, subsidies and price controls



An indirect tax shifts supply up, raising price and cutting quantity

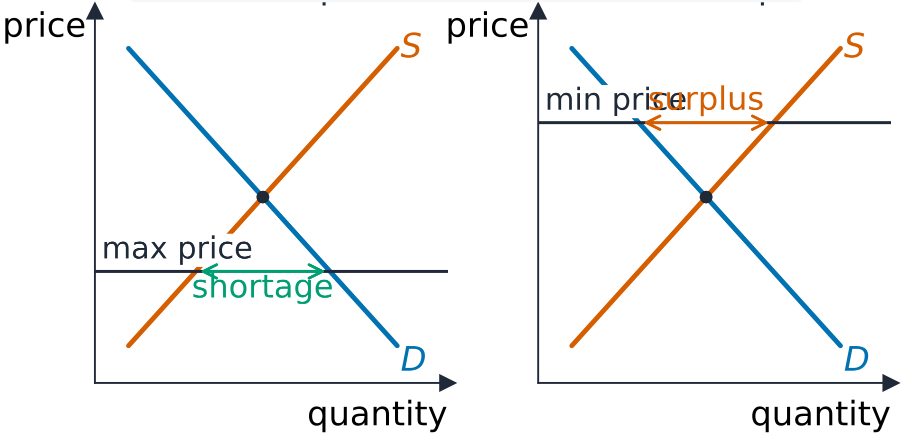
Method — Taxes, subsidies and price controls



A subsidy shifts supply down by the subsidy per unit, lowering price and raising quantity

Method — Taxes, subsidies and price controls

max price → shortage · min price → surplus



Practice 2.1 ▪ 2 marks

Define the term *indirect tax*.

Solution 2.1

Worked steps

a tax on spending that raises a firm's costs and so shifts the supply curve to the left (2 for a clear definition; 1 for a partial idea).

Practice 2.2 ▪ 1 mark

State the effect of a **maximum price** set below the equilibrium price.

Solution 2.2

Method: Taxes, subsidies and price controls

Worked steps

a shortage (excess demand), because quantity demanded exceeds quantity supplied (1).

Practice 2.3 ▪ 1 mark

State who bears most of an indirect tax when demand is **inelastic**.

Solution 2.3

Method: Taxes, subsidies and price controls

Worked steps

consumers bear most of the tax (1).

Exam-style 3.1 ▪ 1 mark

A government subsidy to producers will:

- **A** shift supply left, raising the price
- **B** shift supply right, lowering the price
- **C** shift demand right, raising the price
- **D** have no effect on price

Solution 3.1

Method: Taxes, subsidies and price controls

A shift supply left, raising the price

B shift supply right, lowering the price ✓

C shift demand right, raising the price

D have no effect on price

Worked steps

B. A subsidy shifts supply right and lowers the price.

Exam-style 3.2 ▪ 8 marks

Using a diagram, explain how an indirect tax on a demerit good affects its price and quantity.

Solution 3.2

Method: Taxes, subsidies and price controls

Worked steps

[8] AO1 1 + **AO3 diagram up to 4** (supply shifts up to $S +$ tax, new higher price, lower quantity) + AO2/AO3 up to 3 — the tax raises producers' costs → supply shifts left → price rises and quantity falls → consumption of the demerit good falls; the burden splits by elasticity.

Exam-style 3.3 ▪ 12 marks

Discuss whether an indirect tax is the best way for a government to reduce consumption of a demerit good.

Solution 3.3

Method: Taxes, subsidies and price controls

Worked steps

[12] AO1/AO2/AO3 up to 8 + AO4 up to 4. **For tax:** cuts consumption, raises revenue, internalises the external cost. **Against:** if demand is inelastic (addiction), consumption falls little; it is regressive, and a black market may form. **Alternatives:** regulation, education, advertising bans. Judgement: a tax helps but works best combined with information and regulation — its success depends on the PED of the good.