Exercise walk-through

Reasons for government intervention in markets ▪ 3.1

eXercise

You must be able to

- define market failure and externalities (private, external and social cost/benefit)
- draw the externality diagram and identify the welfare loss
- explain the other sources of market failure

Method — Externalities and market failure

A negative externality: the market produces Q_m, above the social optimum Q^*; the triangle is the welfare loss

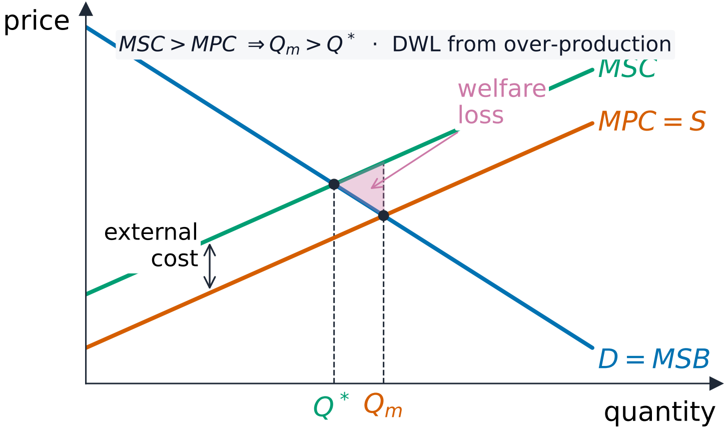
- **Negative externality 负外部性**: **social cost 社会成本** $>$ **private cost 私人成本** $\rightarrow$ market makes **too much**.
- **Positive externality 正外部性**: social benefit $>$ private benefit $\rightarrow$ market makes **too little**.

A positive externality: the market under-produces, below the social optimum Q^*

- Other failures: **public goods** (free-rider), **merit/demerit goods** (information failure), **monopoly power**, **asymmetric information 信息不对称**.

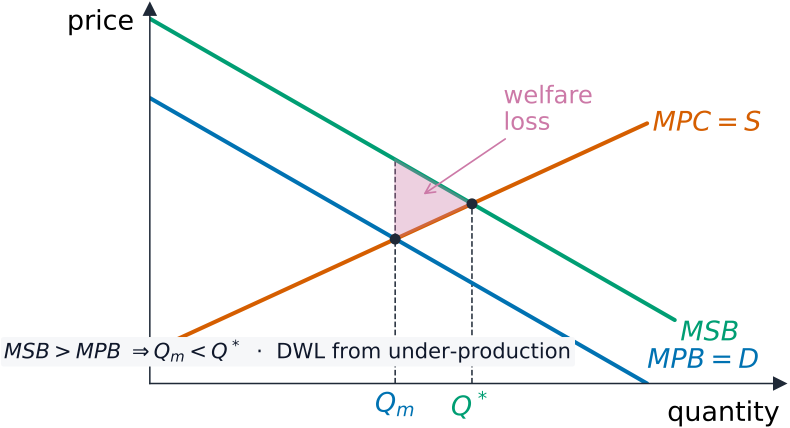
Answer shapes: an **Explain [up to 8]** answer should use a labelled externality diagram (AO3); **Discuss [12]** adds a judgement (AO4).

Method — Externalities and market failure



Social cost (MSC) is above private cost (MPC), so the market over-produces

Method — Externalities and market failure



Social benefit (MSB) is above private benefit (MPB), so the market under-produces at Q_m

Practice 2.1 ▪ 2 marks

Define the term *negative externality*.

Solution 2.1

Method: Externalities and market failure

Worked steps

a cost imposed on a third party who is not the buyer or the seller (2 for a clear definition; 1 for a partial idea).

Practice 2.2 ▪ 1 mark

State the relationship between social cost and private cost when there is a negative externality.

Solution 2.2

Method: Externalities and market failure

Worked steps

social cost is greater than private cost (1).

Practice 2.3 ▪ 2 marks

State two sources of market failure other than externalities.

Solution 2.3

Method: Externalities and market failure

Worked steps

any two of: public goods (free-rider problem); merit/demerit goods (information failure); monopoly power; asymmetric information; inequality $(1 + 1)$.

Exam-style 3.1 ▪ 1 mark

A negative externality of production means that:

A marginal social cost is below marginal private cost

B marginal social cost is above marginal private cost

C marginal social benefit is above marginal private benefit

D the good is under-produced

Solution 3.1

Method: Externalities and market failure

A marginal social cost is below marginal private cost

B marginal social cost is above marginal private cost ✓

C marginal social benefit is above marginal private benefit

D the good is under-produced

Worked steps

B. A negative externality means marginal social cost is above marginal private cost.

Exam-style 3.2 ▪ 8 marks

Using a diagram, explain why a good with a negative externality is over-produced by a free market.

Solution 3.2

Method: Externalities and market failure

Worked steps

[8] AO1 1 + **AO3 diagram up to 4** (MPC, MSC above it, Q_m where MPC = MPB, Q^* where MSC = MSB, welfare-loss triangle) + AO2/AO3 up to 3 — the market produces where private cost meets private benefit (Q_m), but the true social cost is higher, so the optimum Q^* is lower $\rightarrow$ the market over-produces and there is a welfare loss.

Exam-style 3.3 ▪ 12 marks

Discuss whether externalities are the most serious cause of market failure.

Solution 3.3

Method: Externalities and market failure

Worked steps

[12] AO1/AO2/AO3 up to 8 + AO4 up to 4. **For:** externalities (pollution, congestion) impose large costs on third parties and are widespread. **Against:** public goods cause *complete* market failure (none supplied), and monopoly or information failures can be just as damaging. Judgement: the most serious failure depends on the market — externalities matter hugely for the environment, but public-good and information failures dominate elsewhere.