

7.4 Private costs and benefits, externalities and social costs and benefits

Name: _____ Class: _____ Date: _____ Total: 26 marks

KEY WORDS externality 外部性 • private benefit 私人收益 • private cost 私人成本
• deadweight welfare loss 无谓损失 • social benefit 社会收益

Objective

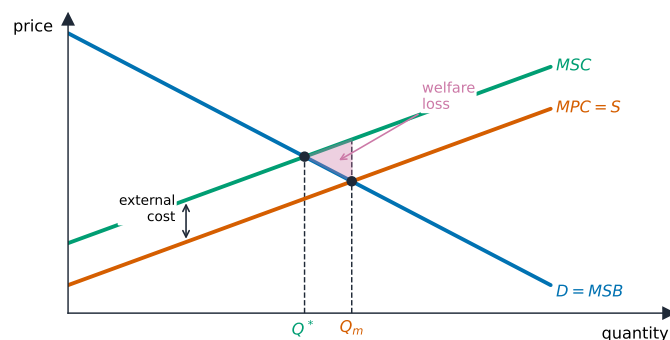
Build the skills to answer exam questions on **externalities and social costs and benefits** 外部性与社会成本收益 — **private, external and social** 私人、外部、社会 costs and benefits, **marginal analysis** 边际分析 (MPC, MSC, MPB, MSB), and **deadweight welfare loss** 无谓损失.

You must be able to:

- distinguish private, external and social costs and benefits
- draw the marginal externality diagram and identify the welfare loss
- analyse negative and positive externalities

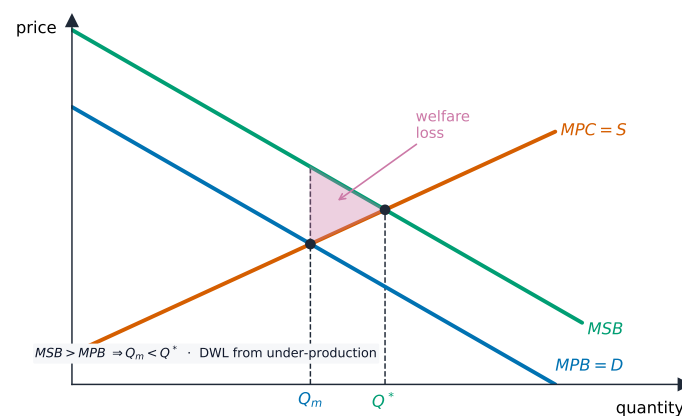
1 Worked examples

■ Marginal externality analysis



The social optimum is where $MSC = MSB$; the market produces where $MPC = MPB$

- **Social cost** 社会成本 = private cost + **external cost** 外部成本; **social benefit** = private benefit + external benefit.
- **Negative externality:** $MSC > MPC \rightarrow$ market makes **too much**. **Positive externality:** $MSB > MPB \rightarrow$ **too little**.
- The gap creates a **deadweight welfare loss** 无谓损失 (the triangle between the social and private curves).



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

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

2 Practice

2.1 Define the term *external cost*. [2]

2.2 State the relationship between marginal social benefit and marginal private benefit for a good with a positive externality. [1]

2.3 Define the term *deadweight welfare loss*. [2]

3 Exam-style questions

3.1 At the socially optimum level of output: [1]

- A

B

C

D
- A marginal private cost equals marginal private benefit

B marginal social cost equals marginal social benefit

C total cost equals total benefit

D marginal cost equals zero

3.2 Using a marginal diagram, explain why a good with a **positive externality** is under-produced by the free market. [8]

3.3 Discuss the best way for a government to deal with the negative externality from car use. [12]