Exercise walk-through

Efficiency and market failure ▪ 7.3

eXercise

You must be able to

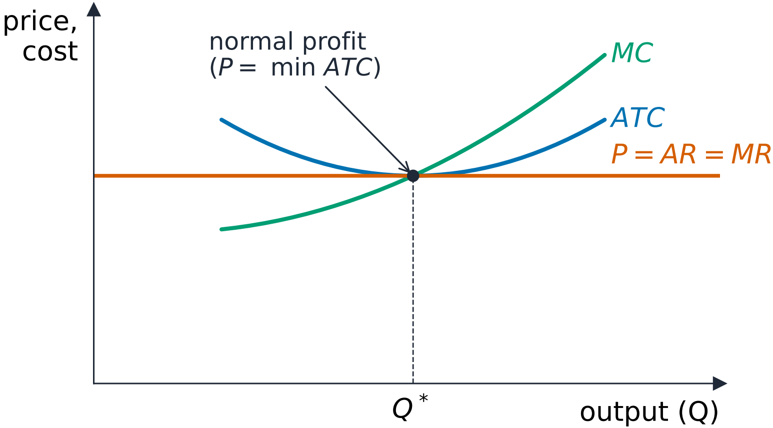
- define the types of efficiency
- explain Pareto optimality
- analyse the causes of market failure

Method — Types of efficiency

- **Productive efficiency 生产效率**: lowest possible cost (at the bottom of ATC).
- **Allocative efficiency 配置效率**: where **price = marginal cost** (making what people most want).
- **Dynamic efficiency 动态效率**: improving over time through innovation.
- **Pareto optimality 帕累托最优**: no one can gain without someone losing.
- **Market failure causes:** monopoly power, externalities, public goods, information failure, factor immobility.

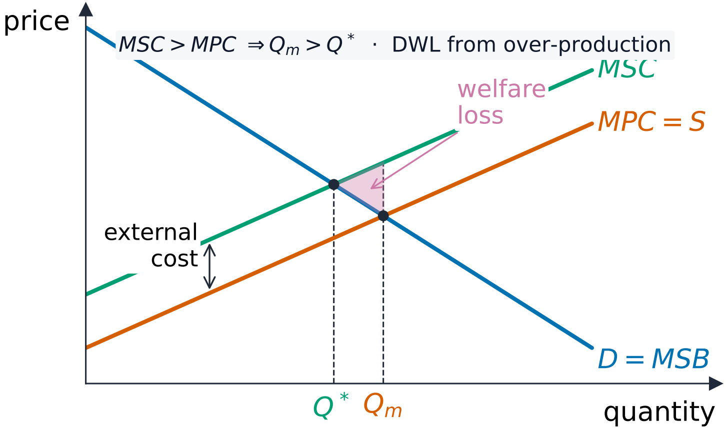
Answer shapes: AO1 + AO2 + AO3 (analysis) + AO4 (a supported judgement *in context*).

Method — Types of efficiency



A perfectly competitive firm is productively and allocatively efficient

Method — Types of efficiency



With a negative externality, MSC is above MPC, so the market over-produces

Practice 2.1 ▪ 2 marks

Define the term *allocative efficiency*.

Solution 2.1

Method: Types of efficiency

Worked steps

producing the combination of goods that people most want, where price equals marginal cost (2 for a clear definition; 1 for a partial idea).

Practice 2.2 ▪ 1 mark

State the condition for productive efficiency.

Solution 2.2

Method: Types of efficiency

Worked steps

producing at the lowest possible average cost (at the minimum of the ATC curve) (1).

Practice 2.3 ▪ 2 marks

State two causes of market failure.

Solution 2.3

Method: Types of efficiency

Worked steps

any two of: monopoly power; externalities; public goods; information failure; factor immobility $(1 + 1)$.

Exam-style 3.1 ▪ 1 mark

Allocative efficiency is achieved where:

A average cost is at its minimum

B price equals marginal cost

C marginal revenue equals zero

D supernormal profit is maximised

Solution 3.1

Method: Types of efficiency

A average cost is at its minimum

B price equals marginal cost ✓

C marginal revenue equals zero

D supernormal profit is maximised

Worked steps

B. Allocative efficiency is where price equals marginal cost.

Exam-style 3.2 ▪ 6 marks

Explain the difference between productive and allocative efficiency.

Solution 3.2

Method: Types of efficiency

Worked steps

[6] AO1 2 + AO3 up to 4 — productive efficiency means making goods at the lowest possible cost (minimum ATC), using the fewest resources; allocative efficiency means producing the goods consumers most want, at the point where price equals marginal cost → one is about *how* cheaply goods are made, the other about *which* goods are made.

Exam-style 3.3 ▪ 12 marks

Discuss whether a free market can ever achieve an efficient allocation of resources.

Solution 3.3

Method: Types of efficiency

Worked steps

[12] AO1/AO2/AO3 up to 8 + AO4 up to 4. **For:** perfect competition delivers both productive and allocative efficiency, and the price mechanism guides resources well. **Against:** real markets have monopoly power, externalities, public goods and information failure, so they fail to reach the social optimum. Judgement: a free market can be efficient under ideal (perfect-competition) conditions, but real-world failures usually require government intervention — it depends on the market.