

3.5 Firms and production

Name: _____ Class: _____ Date: _____

Total: 17 marks

KEY WORDS economies of scale 规模经济 • productivity 生产率

• diseconomies of scale 规模不经济 • labour-intensive 劳动密集型 • capital-intensive 资本密集型

Objective

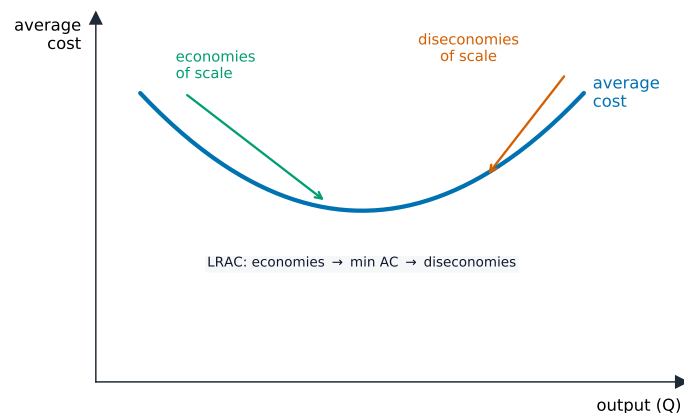
Build the skills to answer exam questions on **firms and production** 企业与生产 — **labour- and capital-intensive** 劳动密集型与资本密集型 production, **productivity** 生产率, and **economies and diseconomies of scale** 规模经济与规模不经济.

You must be able to:

- distinguish labour-intensive from capital-intensive production
- explain productivity and how to raise it
- explain economies and diseconomies of scale

1 Worked examples

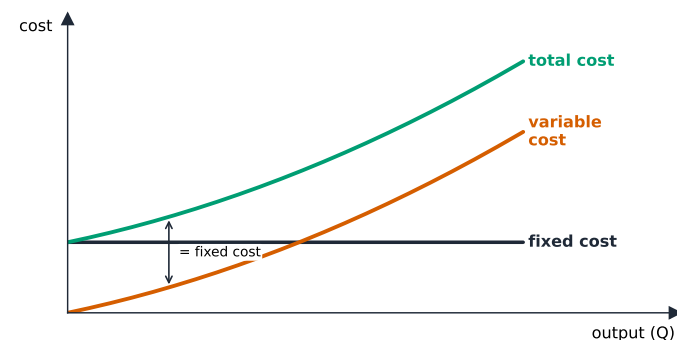
■ Production and scale



The cost per unit changes as a firm grows

- **Labour-intensive** 劳动密集型: mostly workers (hand-made crafts). **Capital-intensive** 资本密集型: mostly machines (a car factory).

- **Productivity** 生产率: output per worker/machine; raise it by training, better machines, good management.
- **Economies of scale** 规模经济: average cost falls as output rises (bulk buying, big machines). **Diseconomies** raise it if too big (hard to manage).



$$TC = FC + VC \quad \text{gap between TC and VC is FC}$$

The cost behind the scale decision: fixed plus variable cost, averaged over output

Answer shapes: K + App + An + Ev (a justified judgement, for discuss questions).

2 Practice

2.1 State the difference between labour-intensive and capital-intensive production. [2]

2.2 Define the term *productivity*. [2]

2.3 Define the term *economies of scale*. [2]

3 Exam-style questions

3.1 Economies of scale mean that, as a firm produces more, its: [1]

- A average cost per unit falls
- B average cost per unit rises
- C total cost falls
- D revenue falls

3.2 Explain two ways a firm could raise its productivity. [4]

3.3 Analyse why a firm's average cost may fall and then rise as it grows larger. [6]

Solutions

IGCSE Economics answers are marked by **level of response**: award **K** knowledge, **App** application, **An** analysis and **Ev** a justified judgement.

2.1 labour-intensive production uses mostly labour (many workers, few machines); capital-intensive uses mostly capital (many machines, few workers) (2 for a clear difference; 1 for a partial idea).

2.2 output per worker (or per machine) in a set time (2 for a clear definition; 1 for a partial idea).

2.3 the fall in average cost per unit as a firm increases its output (2 for a clear definition; 1 for a partial idea).

3.1 A. Economies of scale mean the average cost per unit falls.

3.2 [4] For **each** of two ways: K 1 + An 1 — *training*: skilled workers make more and fewer mistakes → output per worker rises; *better machines*: modern equipment does more in the same time → output per worker rises.

3.3 [6] K/App/An — as a firm grows, it gains **economies of scale**: it buys materials in bulk more cheaply, uses large efficient machines, and borrows cheaply → average cost per unit falls. But if it grows *too* large, **diseconomies of scale** set in: it is hard to manage, messages travel slowly, and workers feel less important → average cost per unit rises again → so there is a lowest-cost size.