

Production, productivity and business costs

Pearson Edexcel · International GCSE · Economics

Pearson Edexcel International GCSE in Economics (4EC1), specification Issue 3, February 2026. This topic covers spec sections 1.2.1–1.2.3 in full: production (three rows), productivity and division of labour (four rows) and business costs, revenues and profit (three rows). Worked numbers are original and re-derived below.

Must-know for this topic:

Family	Relationship
productivity	output $\div$ input; $8 \rightarrow 10$ items per worker-hour is +25%
revenue	$TR = P \times Q$; $AR = TR/Q$; $MR = \Delta TR/\Delta Q$ (here $70 - Q$)
costs	$TC = TFC + TVC$; $ATC = TC/Q$; $AVC = TVC/Q$; profit = $TR - TC$
scale	LRAC falls (economies), flattens (efficient point), rises (diseconomies)

Production

The **factors of production** are LAND (natural resources), LABOUR (human effort), CAPITAL (man-made aids to production) and ENTERPRISE (the risk-taking organiser) (1.2.1a). The economy's sectors (1.2.1b): PRIMARY (extracting: farming, fishing, mining), SECONDARY (manufacturing and construction) and TERTIARY (services). Their importance CHANGES over time (1.2.1c): as economies develop, employment and output shift from primary to secondary to tertiary – developed economies are service-dominated; the deindustrialisation of old manufacturing regions is the same shift seen from the other side.

Productivity and division of labour

Productivity is output per unit of input (1.2.2a) – for labour, items per worker-hour. Productivity rises 25% when output per worker-hour goes from 8 to 10: $\frac{10-8}{8} \times 100 = 25\%$. Factors affecting productivity (1.2.2b): LAND – fertiliser, drainage, irrigation, land reclamation; LABOUR – quality of labour through education and training (human capital) and the impact of migration; CAPITAL – more capital and technological advances. The **division of labour** is specialisation, with each worker repeating one task in the production process (1.2.2c). Advantages (1.2.2d): workers become quick at their task (higher productivity), less time is lost switching tasks, and training is cheaper per task. Disadvantages: the work becomes boring (low morale, high staff turnover), workers' skills narrow, and interdependence means one hold-up stops the whole line – and over-standardised output risks unemployment if

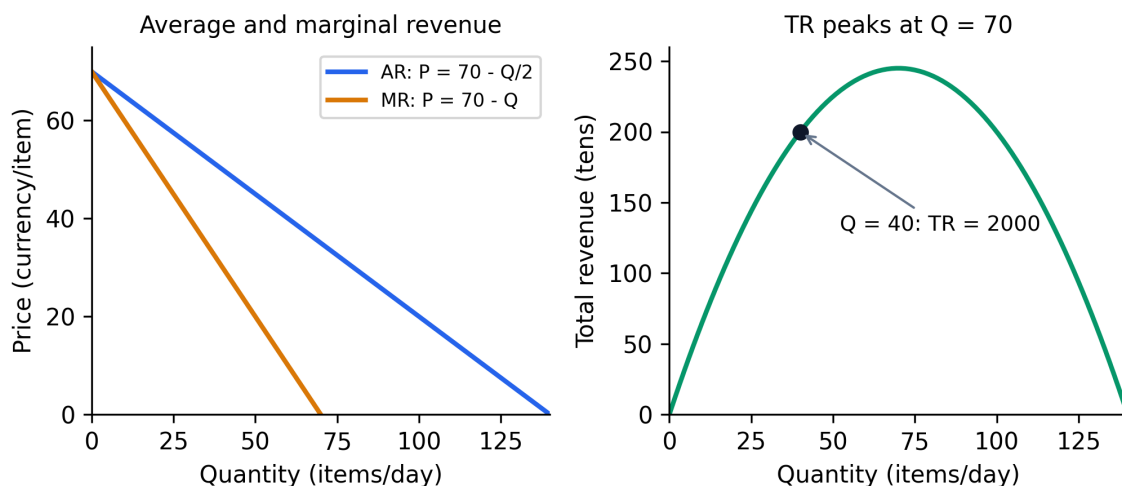
that one product's demand falls.

Business costs, revenues and profit

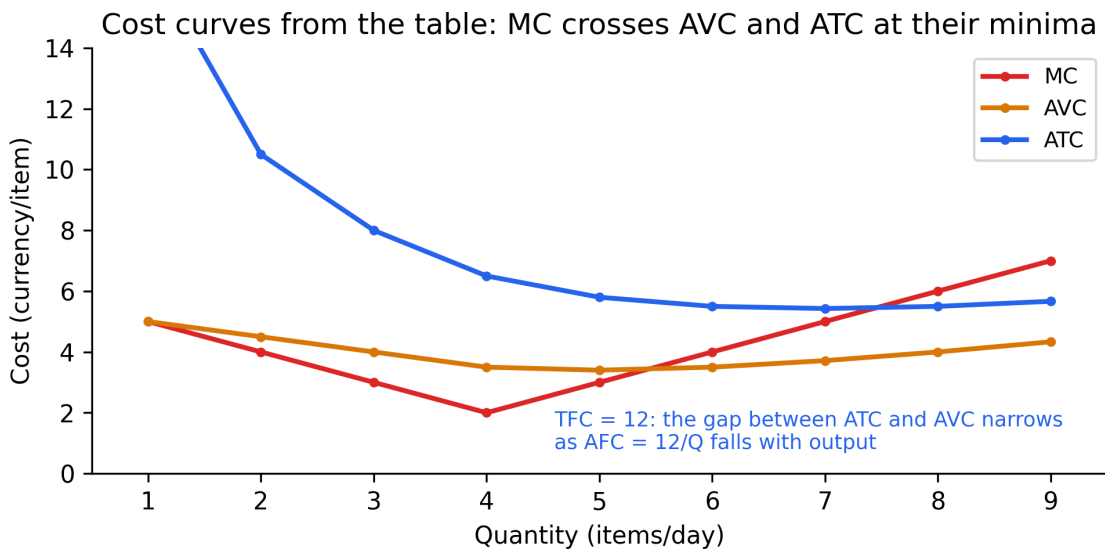
Revenue (1.2.3a): $TR = P \times Q$; $AR = TR/Q$ (the demand curve – $AR\ P = 70 - Q/2$); $MR = \Delta TR/\Delta Q$ (here $70 - Q$); at $Q = 40$ with price 50, $TR = 2000$; TR peaks at 2450 where $Q = 70$.

Costs (1.2.3a): the original table with $TFC = 12$ and $TVC = 5, 9, 12, 14, 17, 21, 26, 32, 39$ for $Q = 1 \dots 9$ gives $MC = 5, 4, 3, 2, 3, 4, 5, 6, 7$ (falling then rising – specialisation first, diminishing returns later); $AVC = TVC/Q$ with minimum 3.4 at $Q = 5$; $ATC = TC/Q$ with minimum 5.43 at $Q = 7$. ATC and AVC converge as output grows because $AFC = 12/Q$ shrinks. $PROFIT = TR - TC$.

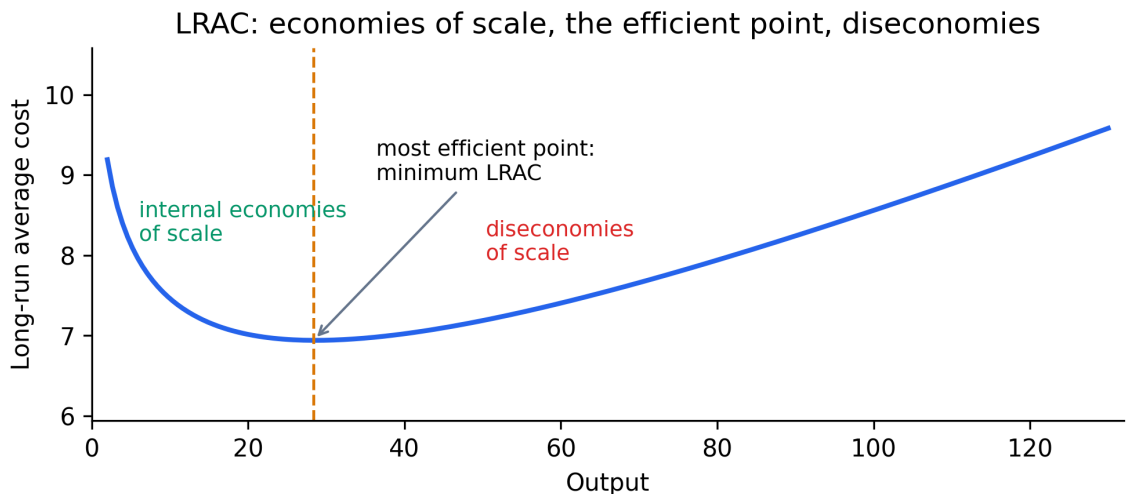
Economies of scale are falling long-run average costs as output grows (1.2.3b). **INTERNAL** economies (inside the firm): purchasing (bulk buying), marketing (advertising spread over more units), technical (larger machines), financial (cheaper borrowing), managerial (specialist managers), risk bearing (a wider product range). **EXTERNAL** economies (industry-wide): skilled labour in the area, infrastructure, access to suppliers, similar businesses clustering. **Diseconomies of scale** are rising $LRAC$ (1.2.3c): bureaucracy, communication problems, lack of control, and the distance between top management and workers at the bottom. The $LRAC$ diagram (1.2.3c) shows internal economies as the falling section, the **MOST EFFICIENT POINT** at minimum $LRAC$, and diseconomies on the rising section.



Original model: $AR\ P = 70 - Q/2$ with $MR\ P = 70 - Q$; $TR(40) = 2000$ and the TR maximum at $Q = 70$.



Original data: TFC 12; MC crosses AVC at its minimum (3.4) and ATC at its minimum (5.43).



Original curve: internal economies, the most efficient point, diseconomies.

Checklist

- The four factors of production (1.2.1a).
- The three sectors and how their importance shifts with development (1.2.1b–c).
- Productivity definition with the 25% calculation; its factors by land, labour and capital (1.2.2a–b).
- Division of labour with advantages and disadvantages for workers and businesses (1.2.2c–d).

- TR, AR, MR with the shared model's numbers (1.2.3a).
- TFC, TVC, TC, AVC, ATC and the table's minima; profit = TR – TC (1.2.3a).
- Economies of scale: the six internal and four external types; the four diseconomies; the LRAC diagram with the most efficient point (1.2.3b–c).

Boundary notes: Paper 1 data questions reward the table arithmetic above – ATC to 2 decimal places where needed. The six internal economies are a learned list (purchasing, marketing, technical, financial, managerial, risk bearing). All worked numbers are original.