Production, productivity and business costs

Edexcel IGCSE Economics 4EC1 sections 1.2.1-1.2.3 full package

Topic 4 at a glance

> From **factors of production** to the cost of each unit.

- 4EC1 spec sections 1.2.1 to 1.2.3.
- Data questions reward the table arithmetic.

Four factors of production

> Land, labour, capital, enterprise.

- Each factor earns a reward.
- Enterprise organises the other three.

Three sectors, shifting

As economies develop, work moves from primary to secondary to tertiary.

- Developed economies are service-dominated.
- Deindustrialisation is the same shift.

Productivity

1. **Before** 8 items per worker-hour
2. **After** 10 items per worker-hour
3. **Change** $(10 - 8) \div 8 \times 100 = 25\%$

Decision

Productivity rose by 25%.

Raising productivity

> Better land, better-trained labour, more and newer capital.

- Human capital: education and training.
- Migration also changes the quality of labour.

Division of labour

Advantages	Disadvantages
workers get quick	boring: low morale
no time lost switching	narrow skills
cheaper training	one hold-up stops all

Average and marginal revenue

> Revenue peaks where marginal revenue reaches zero.

- $\mathrm{TR} = \mathrm{P} \times \mathrm{Q}$; $\mathrm{AR} = \mathrm{TR} \div \mathrm{Q}$; $\mathrm{MR} = \Delta\mathrm{TR} \div \Delta\mathrm{Q}$.
- AR is the demand curve.

Worked: average total cost

1. **Total cost** $TC = 12 + 26 = 38$ at $Q = 7$
2. **ATC** $38 \div 7 = 5.43$
3. **AVC** $26 \div 7 = 3.71$

Decision

At Q = 7, ATC is 5.43, its minimum.

The cost curves

> MC falls, then rises; it crosses each average at its lowest point.

- MC cuts AVC and ATC at their minimum points.
- ATC and AVC converge as AFC shrinks.

Internal economies of scale

Economy	Why average cost falls
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, and diseconomies

External economies
skilled labour nearby
infrastructure
suppliers, clustering

Diseconomies
bureaucracy
communication problems
distance from workers

The LRAC curve

> Minimum LRAC is the most efficient scale.

- Label the most efficient point.
- Falling: economies. Rising: diseconomies.

Data response: BYD

> Average cost falls from $25,000 to$20,000 a car: **economies of scale**.

- Sales 3.0 million (2023) to 4.3 million (2024): about +43%.
- Average cost = total cost ÷ output.

Data response: is bigger always better?

Large firms
lower average cost
afford research
cheaper borrowing

But not always
diseconomies past a size
small firms are flexible
small markets

Check yourself

Question	Answer
Productivity 8 $\rightarrow$ 10 per hour?	$+25\%$
ATC at Q $= 7$ (TC 38)?	5.43
Name two internal economies.	purchasing, technical
One diseconomy of scale?	communication problems