

Cambridge AS & A Level · Economics 9708 · Notes

Economic growth

AS

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Read first: [Production possibility curves](#), [National income statistics](#), [Introduction to the circular flow of income](#)

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What you need to know

By the end of this topic you should be able to:

1. **Say what economic growth means:** an increase in an economy's real output (real GDP) over a period of time, and what **negative growth** and a **recession** are.
2. **Explain how growth is measured:** as the percentage change in real GDP from one period to the next, usually a year or a quarter, and what can make the measurement inaccurate.
3. **Tell growth in nominal GDP from growth in real GDP:** nominal GDP is measured at current prices, real GDP takes out the effect of price changes. Convert one into the other with a price index, and see why real GDP **per head** matters for living standards.
4. **Explain the causes of economic growth:** in the short run, rises in aggregate demand that put spare resources to work; in the long run, more or better factors of production that let the economy produce more.
5. **Explain the consequences of economic growth:** the benefits (higher incomes and living standards, more jobs, more tax revenue) and the costs (inflation, a worse current account, pollution and resource depletion, inequality), and weigh them up.

Understand it

What growth is, and what it is not

Economic growth is an increase in the **real** value of the goods and services an economy produces over time. It is measured by the change in **real GDP** (see National income statistics for GDP itself). If real GDP was \$400bn last year and is \$412bn this year, the economy grew by

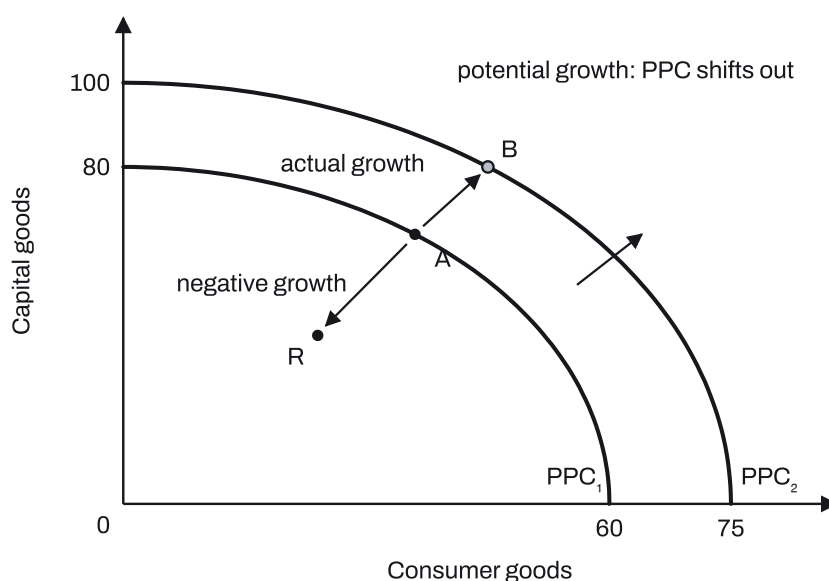
$$\frac{412 - 400}{400} \times 100 = 3\%.$$

The word "real" matters. If a country produces exactly the same goods as last year but every price is 10% higher, the money value of its output rises by 10%, yet nobody has anything more to consume. That is inflation, not growth.

Actual growth, potential growth and negative growth

There are two ideas of growth, and examiners reward answers that separate them.

- **Actual growth** is a rise in the output the economy **does** produce. It can happen by putting unemployed resources to work, moving from a point inside the production possibility curve towards it.
- **Potential growth** is a rise in what the economy **could** produce if all its resources were fully used: its **productive capacity**. It shifts the PPC outwards (and, in the AD/AS model, shifts the long-run aggregate supply curve to the right).
- **Negative economic growth** is a fall in real GDP. On a PPC it is a move from a point on the curve to a point inside it; a disaster that destroys resources would shift the whole curve inwards.
- A **recession** is usually defined as **two consecutive quarters of negative economic growth**, that is, real GDP falling in two three-month periods in a row.



Actual growth cannot go on for long without potential growth: once all resources are in use, output can only keep rising if the productive capacity rises too. That is why **sustained, long-run growth needs both**: more spending (AD) to buy the output and more capacity (LRAS) to produce it.

The diagram also shows the **opportunity cost of growth**. An economy that makes more capital goods today (a point higher up its PPC) gives up consumer goods now, but its PPC shifts out further in future. Growth through investment means less consumption today.

Measuring growth: nominal and real GDP

Nominal GDP (also called money GDP, or GDP at current prices) values each year's output at that year's prices. It rises if output rises **or** if prices rise. **Real GDP** (GDP at constant prices) values output at the prices of one **base year**, so it changes only when the quantity of output changes.

To convert, divide by a price index such as the GDP deflator or the consumer price index (base year = 100):

$$\text{real GDP} = \text{nominal GDP} \times \frac{\text{price index in base year}}{\text{price index in current year}}.$$

For example, nominal GDP rises from \$500bn to \$540bn while prices rise by 5% (the index goes from 100 to 105). In base-year prices, this year's GDP is $540 \times \frac{100}{105} = 514.29$, so real GDP grew by $\frac{514.29 - 500}{500} \times 100 = 2.86\%$ (2 d.p.).

A quicker estimate, good enough for most multiple-choice questions and data calculations:

$$\text{real growth} \approx \text{nominal growth} - \text{inflation rate}.$$

Here nominal growth is 8% and inflation 5%, so real growth is about 3%, close to the exact 2.86%. The rules that follow from this:

- If prices are **constant**, nominal and real GDP grow at the **same** rate.
- If prices are **rising**, nominal GDP grows **faster** than real GDP.
- If prices are **falling**, real GDP grows **faster** than nominal GDP. Nominal GDP can even stay the same while real GDP rises.
- Real GDP rises whenever nominal GDP grows faster than the price level.

Growth per head and living standards

Real GDP tells you how much an economy produces; **real GDP per head** (per capita) tells you how much there is for each person:

$$\text{real GDP per head} = \frac{\text{real GDP}}{\text{population}}.$$

If real GDP grows by 4% but the population grows by 3%, each person has only about 1% more: $\frac{1.04}{1.03} = 1.0097$, a rise of 0.97%. So higher output per head needs higher **productivity** (more output from each worker), not just more people. If money income rises while the population falls, income per head rises by **more** than either change alone: a 10% rise in income with a 10% fall in population gives $\frac{1.1}{0.9} = 1.222$, a rise of 22.2%.

How good is the measurement?

Growth figures are useful for judging an economy's performance and comparing it with others, but they can mislead:

- the **hidden (informal) economy**: output that is never recorded, such as cash-in-hand work, is left out, so GDP and its growth may be understated;
- the **price index** used may be inaccurate (for example, it may not reflect changes in quality), so real growth may be over- or understated;
- figures are **estimates** that are often revised later;
- growth in real GDP says nothing about **who** gets the extra output, about leisure time, or about damage to the environment.

Causes of economic growth

From the demand side (actual growth, mainly in the short run). Aggregate demand is $C + I + G + (X - M)$. If there are unused resources, a rise in any component makes firms produce more:

- higher **consumption**, for example from cuts in income tax, lower interest rates, rising real wages or rising confidence;
- higher **investment**, for example from lower interest rates or better expected profits;
- higher **government spending**;
- higher **net exports**, for example from rising incomes in trading partners or a lower exchange rate.

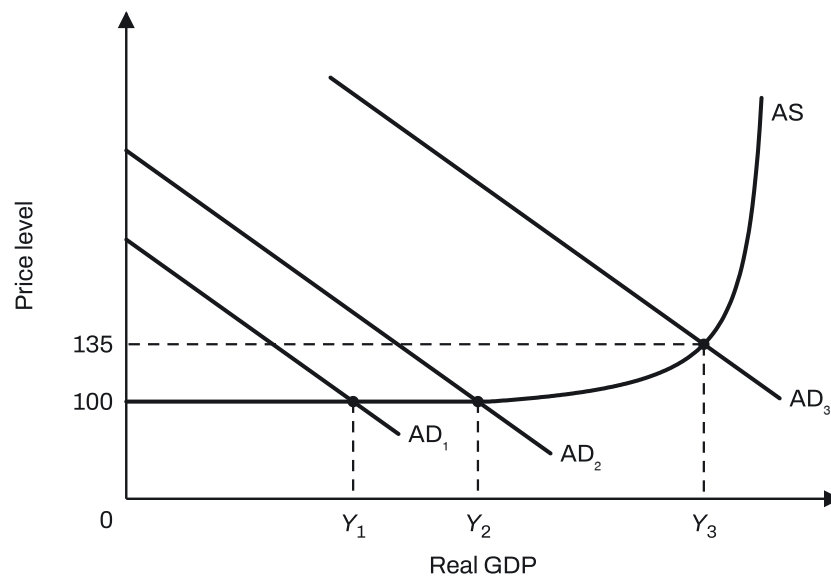
In circular-flow terms, when injections ($I + G + X$) are greater than leakages ($S + T + M$), national income rises.

From the supply side (potential growth, in the long run). Productive capacity rises when there are more or better factors of production:

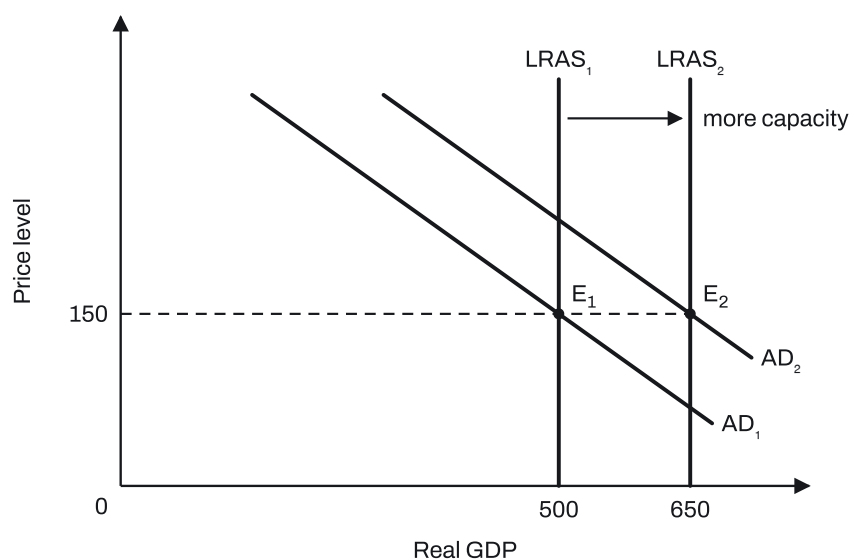
- **more labour**: a larger working population, for example through net immigration of workers or more people choosing to work;
- **better labour**: education and training raise the productivity of each worker;
- **more capital**: investment in machinery, factories and infrastructure (roads, power, broadband);
- **better technology**: research and development and new methods of production;
- **enterprise**: more new businesses and innovation;
- **better use of resources**: more mobile and flexible factors of production, or the discovery of new natural resources.

Some causes work on both sides. Investment adds to AD when it is spent and adds to capacity once the machines are working.

Internal or external? Data-response questions often ask whether growth came from inside or outside the country. **Internal** causes are domestic: consumer spending, domestic investment, government spending and policy. **External** causes come from abroad: stronger demand from trading partners, higher world prices for the country's exports (such as oil), foreign direct investment, or a global recovery.



The second diagram shows why growth from rising AD may or may not cause inflation. With plenty of spare capacity, extra spending raises output with little effect on prices. As the economy nears full capacity, resources become scarce, costs rise, and more of the extra spending turns into higher prices (demand-pull inflation).



The third diagram shows growth that lasts: productive capacity rises (LRAS shifts right) **and** demand rises to match (AD shifts right), so real GDP rises while the price level stays the same.

Consequences of economic growth

Benefits:

- **higher living standards:** more real output per head means people can buy more goods and services, and can afford better health care and education;
- **lower unemployment:** firms producing more need more workers;

- **better public finances:** incomes, spending and profits rise, so the government collects more tax at the same rates, and pays out less in unemployment benefits; the budget deficit shrinks, and the government can spend more on public services;
- **confidence:** firms expect more sales and invest more, which raises capacity for further growth.

Costs:

- **inflation:** if AD grows faster than capacity, demand-pull inflation follows;
- **a worse current account:** higher incomes are spent partly on imports, and firms may sell at home rather than export;
- **the environment:** more production means more pollution, congestion and use of non-renewable resources;
- **inequality:** the gains may go mainly to some groups (owners of capital, skilled workers, some regions);
- **opportunity cost:** investment needed for growth means less consumption now; people may also work longer hours and have less leisure.

Whether growth is good overall depends on **its source** (demand-led near full capacity is inflationary; supply-led is not), **its speed** (rapid growth is harder to sustain), **who gains**, and **what is produced** (growth that damages the environment may not be sustainable).

Key facts and formulas

There is no formula list in the 9708 exam, so every formula here is "Learn it".

Formula	Status
Growth rate = $\frac{\text{real GDP this period} - \text{real GDP last period}}{\text{real GDP last period}} \times 100$	Learn it
Real GDP = nominal GDP $\times \frac{\text{price index in base year}}{\text{price index in current year}}$	Learn it
Real growth $\approx$ nominal growth – inflation rate	Learn it
Exact: $1 + \text{real growth} = \frac{1 + \text{nominal growth}}{1 + \text{inflation}}$	Learn it
Real GDP per head = $\frac{\text{real GDP}}{\text{population}}$; growth per head $\approx$ real growth – population growth	Learn it
Recession: two consecutive quarters of negative economic growth	Learn it
$AD = C + I + G + (X - M)$	Learn it

Formula	Status
Actual growth: output rises (AD shifts right, move towards the PPC); potential growth: capacity rises (LRAS right, PPC out)	Learn it

How to do it

We tagged 30 questions for this topic (Paper 1 multiple choice and Paper 2 data response and essays, 2021–2025). 8 of them are Paper 2 questions whose parts cover several types, so the counts add up to 42.

Question type	Questions
Nominal vs real GDP: define, convert, calculate, per head	13
Consequences of growth: costs and benefits, "is growth always good?"	9
Causes of growth: explain, compare, link to AD/AS or the circular flow	9
Evaluate a policy (or route) to achieve growth or recovery	5
Negative growth and recession: define, identify, costs, likelihood	4
Describe or interpret growth data	2

1. Nominal vs real GDP: define, convert, calculate, per head (13 questions)

Mostly multiple choice (1 mark), plus 2-mark data-response parts.

- Decide what each figure is:** money (nominal, current prices) or real (constant prices), and whether you have levels or rates of change.
- For rates,** use real growth $\approx$ nominal growth – inflation. Nominal +10% with prices +5% means real GDP rose by about 5%.
- For levels,** divide by the price index as a decimal: nominal \$231bn with the index at 110 is $231 \div 1.10 = 210$ in base-year prices.
- For a table of years,** deflate every year, then compare neighbours. With nominal GDP 200 and 231 and the index 100 and 110, real GDP goes from 200 to 210, a rise of 5%.
- Check the options** against the rules: constant prices means equal nominal and real growth; falling prices mean real grows faster than nominal.

Variations you will meet:

- "Under which conditions does real GDP grow fastest?"** Pick the highest nominal growth combined with the lowest (or falling) price level: +2% nominal with –2% prices gives about +4% real.
- "Nominal and real grow at the same rate":** only when the price level does not change.
- A table of output and average price:** nominal output = output $\times$ price. If both rise, nominal output grows faster than real output.

- **Per head:** divide by population. A rise in income with a fall in population raises income per head by more than the sum of the two percentages ($\frac{1.1}{0.9}$ is a 22.2% rise, not 20%). A rise in real GDP with a faster rise in population means real GDP per head **falls**.
- **Living standards:** with a constant population, nominal GDP +5% and inflation 3% means real GDP per head rose about 2%, so living standards probably rose.
- **"Explain what is meant by real GDP"** (2 marks): GDP is the total value of goods and services produced in an economy in a year (1); real GDP is that value adjusted to remove the effect of price changes (inflation) (1).
- **Calculate real growth from data** (2 marks): show the working, for example $4.6\% - 1.3\% = 3.3\%$, and give the % sign.

2. Consequences of growth: costs and benefits, "is growth always good?" (9 questions)

Multiple choice, 6-mark data-response parts, 8-mark essay (a) parts and 12-mark essay (b) parts.

1. **Define economic growth** in one sentence (an increase in real GDP over time).
2. **Benefits side:** two or three developed chains, for example: growth → firms produce more → they hire more workers → unemployment falls → incomes rise → the same tax rates bring in more revenue → more money for schools and hospitals.
3. **Costs side:** two or three developed chains, for example: growth → incomes rise → spending on imports rises → the current account worsens; or AD grows faster than capacity → demand-pull inflation → exports less competitive.
4. **Judgement:** it depends on the source (AD or LRAS), the speed, the state of the economy (spare capacity or not) and who gains. Finish with a sentence that answers the question.

For a 6-mark part: up to 3 marks per side, 4 for analysis in total, 2 for evaluation (one kept for a justified conclusion). For an 8-mark essay part: 3 knowledge, 3 analysis, 2 evaluation. For a 12-mark part: 8 for knowledge and analysis (Level 3 needs both sides, explained) and 4 for evaluation; a one-sided answer gets no evaluation marks.

Variations you will meet:

- **"Is growth always beneficial / always desirable / always positive?"** The word "always" invites "no, because ..., unless ...".
- **"Will growth always cause inflation?"** Only if AD grows faster than capacity, or the economy is near full capacity. Growth from more capacity (LRAS shifting right) can happen with stable or even falling prices. Use the AD/AS diagrams above.
- **Multiple choice, "opportunity cost of growth":** the consumption given up so that resources can go into investment.
- **Multiple choice, "most likely" or "least likely" consequence:** a worse current account (more imports), pollution and congestion are likely; a **bigger** budget deficit is unlikely, because growth raises tax revenue and cuts benefit spending; lower demand-pull pressure is unlikely.

- **Effect of a recovery on employment and prices:** employment rises as AD rises; whether prices rise depends on how much spare capacity there is (where the economy is on the AS curve) and how fast the recovery is.

3. Causes of growth: explain, compare, link to AD/AS or the circular flow (9 questions)

Multiple choice, 4- and 6-mark data-response parts, and 8-mark essay (a) parts.

1. **Define growth**, then **name the cause** precisely (not "the economy improves" but "a cut in interest rates" or "more investment in training").
2. **Explain the chain** to higher real GDP: which component of AD rises, or which factor of production increases in quantity or quality, and why output rises as a result.
3. **Say whether it is actual or potential growth** and short or long run.
4. **Consider** (for the evaluation marks): how big and how lasting the effect is, what it depends on, and a one-line conclusion.

Variations you will meet:

- **"With the help of an AD/AS diagram, explain how a cut in interest rates causes growth":** label the axes **price level** and **real GDP**, draw AD shifting right and show the new equilibrium with higher real GDP. The chain: cheaper borrowing and less reward for saving → more consumption and investment → AD rises → real GDP rises.
- **"Explain the circular flow and whether it can explain growth":** injections greater than leakages raise national income; in an open economy exports are an injection and imports a leakage. It explains short-run growth in spending, not growth in capacity.
- **Internal against external causes ("how far"):** write about each **separately** and label them; marks are capped if the two are mixed up. External: exports, world prices, trading partners' growth, foreign investment. Internal: domestic consumption, investment, government policy. Then judge which mattered more, using the data.
- **"Which cause is more likely to generate long-term growth?":** investment and training raise capacity and last; a rise in consumption or a short-lived export boom raises AD only while it lasts.
- **"Consider how far their impact can be measured":** GDP figures miss the hidden economy, and many things change at once, so it is hard to tell how much growth one cause produced.
- **Multiple choice:** a change that raises the labour force **now** (immigration of skilled workers) causes growth in the short run; more students at university or a higher school-leaving age take workers out of the labour force for now. Higher output **per head** needs higher productivity, not just more workers.

4. Evaluate a policy (or route) to achieve growth or recovery (5 questions)

6-mark data-response parts and 12-mark essay (b) parts; occasionally multiple choice.

1. **Explain how the route raises growth:** which of AD or LRAS it shifts, through which chain.
2. **Explain its limits:** time lags, cost to the government, inflation risk, reliance on confidence, effects on imports and the exchange rate.

3. **Compare it with at least one alternative** (for a 12-mark "most effective" question this is required): demand-side policy (fiscal or monetary) raises AD quickly but may be inflationary and does little for capacity; supply-side policy raises capacity and is less inflationary but is slow and costly.
4. **Judge:** long-run growth needs both AD and LRAS to rise, so the best answer is often a combination; say which route suits which situation.

Variations you will meet:

- **Lower interest rates for a recovery:** works through borrowing, spending and a lower exchange rate; depends on how sensitive spending is to interest rates and on confidence.
- **Free trade or joining a trade area:** export-led growth and more competition against domestic firms losing sales and jobs to imports.
- **Growth led by domestic consumption:** raises AD, but may pull in imports and does not by itself raise capacity.
- **Multiple choice, "least likely to prevent a fall in growth":** something that reduces spending or capacity, such as tighter controls on bank lending.

5. Negative growth and recession: define, identify, costs, likelihood (4 questions)

1. **Define:** negative growth is a fall in real GDP (1) measured over a period such as a quarter or a year (1). A recession is two consecutive quarters of negative growth: say "GDP", "falls" and "two successive quarters".
2. **Identify from data:** find two quarters in a row in which real GDP (or its index) fell. The **most severe** recession is the biggest percentage fall; quote the figure.
3. **Costs:** higher unemployment (the main one), lower incomes and tax revenue, higher benefit spending, lower investment.

Variations you will meet:

- **An index of real GDP by quarter:** compare each quarter with the one before, not with the base year. Two falls in a row mean recession, even if the index is still near 100.
- **"Do higher interest rates make a recession inevitable?"** (6 marks): yes side, borrowing costs rise, spending and AD fall; no side, spending may not be sensitive to interest rates, and other components of AD (exports, government spending) may rise; then judge.

6. Describe or interpret growth data (2 questions)

Short data-response parts, 1–2 marks.

1. **Describe the overall trend**, not every change: "overall, the growth rate fell and fluctuated; it was negative from ... and positive again by ...".
2. **Use the data:** quote one or two figures with units and dates.
3. **Relationships:** say what you would expect (for example, sales of a normal good such as cars rise faster when real output grows faster), then check whether the data support it every year or only some years.

Worked examples

Example 1

In a country, nominal GDP rose from \$800bn in year 1 to \$874.8bn in year 2. Over the same period the GDP deflator rose from 100 to 108.

By how much did real GDP grow between year 1 and year 2?

- **A** 0.8%
- **B** 1.25%
- **C** 8.0%
- **D** 9.35%

[1]

Real GDP in year 2 at year-1 prices = $874.8 \times \frac{100}{108} = 810$. Growth = $\frac{810-800}{800} \times 100 = 1.25\%$. The answer is **B**. (1)

D is the nominal growth ($\frac{74.8}{800} = 9.35\%$) and C is the inflation rate. The shortcut $9.35 - 8 = 1.35\%$ is close to B, which confirms it.

Example 2

The table shows an index of real GDP for Country Z (first quarter of 2024 = 100). In 2025 its nominal GDP is forecast to grow by 5.4% and its consumer price index by 3.1%.

Quarter	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2025 Q1
Index of real GDP	100.0	100.6	100.2	99.7	99.9

(a) Using the table, identify when Country Z was in recession. Justify your answer. [2]

(b) Calculate the expected growth of Country Z's real GDP in 2025. [2]

(c) Assess the likely consequences for Country Z of a return to economic growth. [6]

(a) Country Z was in recession in the second half of 2024 (Q3 and Q4) (1), because real GDP fell in two consecutive quarters: from 100.6 to 100.2 (-0.40%) and then to 99.7 (-0.50%) (1).

(b) Real growth $\approx$ nominal growth – inflation = $5.4\% - 3.1\%$ (1) = 2.3% (1).

(c) As real GDP rises, firms produce more and need more workers, so unemployment falls (1). Households' incomes rise, so they can buy more goods and services and living standards improve (1). With more people in work, the government collects more income tax and pays less in benefits, so it has more to spend on services such as health care (1). (*Benefits: 3 marks.*)

However, rising incomes are partly spent on imports, so the current account may worsen (1). If demand grows faster than the economy's capacity, firms raise prices and demand-pull inflation may follow (1). (*Costs: analysis now capped at 4 in total.*)

With growth of only about 2.3% after a recession, Country Z still has unemployed workers and idle capacity, so the benefits are likely to outweigh the risk of inflation for now (1). Overall the consequences are likely to be mainly positive, as long as growth does not outrun capacity (1). (*Evaluation 2: 6/6.*)

Example 3

Explain how an increase in government spending on infrastructure can cause economic growth, and consider whether this growth is likely to be sustained. [8]

Diagram: the third diagram in "Understand it", axes labelled price level and real GDP, with AD and LRAS both shifting right.

Economic growth is an increase in an economy's real GDP over time (**1, AO1**). Government spending (G) is a component of aggregate demand, $AD = C + I + G + (X - M)$ (**1, AO1**). Infrastructure, such as roads, ports and power supplies, is part of the economy's capital, so it also affects how much the economy can produce (**1, AO1**).

In the short run, paying firms to build a new port raises G , so AD shifts right; the builders hire workers, whose extra income is spent in other firms, so real GDP rises (**1, AO2**). Once the port is working, goods move more cheaply and quickly, so firms' costs fall and each worker can produce more: productive capacity rises and LRAS shifts right, from $LRAS_1$ to $LRAS_2$ (**1, AO2**). With both AD and LRAS rising, real GDP can rise from 500 to 650 while the price level stays at 150, so the growth does not bring inflation (**1, AO2**).

The growth is likely to last only if the projects really raise capacity: a bridge nobody uses adds to AD while it is being built and then stops, and if the economy is already near full capacity the extra spending mostly raises prices (**1, AO3**). So infrastructure spending gives sustained growth when it is well chosen and financed without crowding out other spending, but a short-lived boom when it is not (**1, AO3**).

(Knowledge 3, analysis 3, evaluation 2: **8/8.**)

Example 4

Assess whether rapid economic growth is more likely to help or to harm a low-income country. [12]

Model answer (outline of each paragraph):

- Definitions.** Economic growth is a rise in real GDP over time; "rapid" means well above the country's usual rate, say 7–8% a year. A low-income country has low real GDP per head. (*Accurate knowledge.*)
- How it helps households.** Fast growth creates jobs in new factories and services, so people move out of low-paid farm work into better-paid work. Their real incomes rise faster than the population, so real GDP per head rises and families can afford more food, housing and schooling. (*Developed chain.*)

3. **How it helps the country as a whole.** A larger economy yields more tax even if rates stay the same, so the government can afford roads, clinics and schools. Better-educated, healthier workers are more productive, which raises capacity and supports further growth. (*Developed chain.*)
4. **How it may harm.** If spending grows faster than the country can produce, prices rise, and the poorest, who spend most of their income on food, lose most. Rising incomes pull in imported goods, so the current account can move into deficit and the currency may fall. Factories and traffic in fast-growing cities cause pollution and congestion, and forests or minerals may be used up. The first gains often go to owners of firms and to cities, so inequality between rich and poor, and between town and country, can widen. (*The other side, explained: both sides developed, Level 3, 7–8 of the 8.*)
5. **Evaluation.** The balance depends on **what drives the growth**: investment in capacity and skills can be rapid without much inflation, while a boom in credit or in one export commodity is fragile. It depends on **how widely it is shared**: growth that creates many jobs for low-skilled workers reduces poverty far more than growth in a mining enclave. And a low-income country usually has so much unused labour that the benefits of more output per head are large compared with the risks. (*Evaluation weighing the conditions.*)
6. **Conclusion.** Rapid growth is more likely to help than harm a low-income country, because raising very low incomes matters most, provided it rests on rising capacity and the government uses the extra revenue to spread the gains and limit pollution. (*Justified conclusion: full evaluation marks.*)

Common mistakes

- **Leaving out "real".** Growth is a rise in **real** GDP. Examiners reward definitions that mention real output and a time period; "GDP goes up" is not enough, because nominal GDP can rise from price increases alone.
- **Getting nominal and real the wrong way round.** In one Paper 1 question only a quarter of candidates saw that when both output and prices rise, nominal output grows **faster** than real output. Nominal = output × price.
- **Ignoring the inflation in a table.** Many candidates chose an answer that assumed prices were steady when the table showed inflation throughout. Deflate every year before comparing.
- **Forgetting population.** Growth per head can fall even when real GDP rises. When a question mentions population, divide by it.
- **Defining a recession by its symptoms.** Examiners asked for a definition and got "high unemployment and low investment". Say: real GDP falls for two consecutive quarters.
- **Writing only about short-run growth from AD.** When the question asks about **long-run** growth, examiners want potential growth from rising LRAS (more and better resources), and a recognition that AD must rise too for the output to be bought.
- **Not separating actual and potential growth.** Few candidates did; those who did, with a PPC or AD/AS diagram, scored more.
- **Labelling AD/AS diagrams like demand and supply.** Axes are **price level** and **real GDP** (or real output), curves **AD** and **AS**, never "price", "quantity", "D" and "S".
- **One-sided "is growth always good?" answers.** Candidates who listed benefits only, or costs only, could not reach the top level or gain evaluation marks.

- **Mixing internal and external causes.** When asked "how far were external factors responsible", keep the two sets of causes in separate paragraphs.

How to get the marks

- **"Explain what is meant by"** (2 marks): a precise definition with its key words ("real", "total value of goods and services", "over time"), then one more point such as how it is measured.
- **"Calculate"**: show the formula and the numbers, then the answer with its unit (% or \$bn). Round only at the end.
- **"Describe the trend"**: the overall direction over the whole period, plus a clear change within it; don't list every data point.
- **"Explain"** in an 8-mark (a) part is point-marked: up to 3 knowledge marks (definition, the causes named), 3 analysis marks (each cause's chain to real GDP), 2 evaluation marks (a judgement with a reason, then a conclusion). "With the help of a diagram" means the diagram itself earns a mark if the axes, curves and equilibrium are labelled.
- **"Consider", "assess", "to what extent"**: both sides, each a developed chain (point → because → so), then weigh them with "it depends on ..." (spare capacity, the source of growth, its speed, who gains) and a conclusion that answers the question in one sentence. One-sided answers get no evaluation marks.
- **6-mark data-response parts**: up to 3 marks a side, 4 for analysis in all, 2 for evaluation with 1 kept for a justified conclusion. Use the data (quote figures) and the country in the question.
- **12-mark (b) parts**: 8 marks for knowledge and analysis by level (Level 3 needs balanced, accurate and relevant explanation), 4 for evaluation. "Always" is an invitation to show when it is and isn't true.
- **Multiple choice**: write "real $\approx$ nominal – inflation" and "per head = total $\div$ population" in the margin, and test each option against them.

Quick check

1. Nominal GDP rose from \$450bn to \$486bn, and the price index rose from 100 to 104. Find real GDP in the second year at first-year prices, and the rate of economic growth (1 d.p.).
2. Real GDP grew by 6% and the population by 2%. By how much did real GDP per head change (1 d.p.)?
3. Say whether each mainly causes actual growth through higher AD, or potential growth through higher capacity: (a) a cut in interest rates; (b) a government training scheme; (c) rising demand from trading partners; (d) new investment in broadband networks.
4. A country's quarterly real growth rates were +0.4%, –0.1%, +0.2%, –0.3%, –0.2%. Was it in recession, and when?
5. Explain one reason why rapid economic growth may worsen a country's current account. [2]

Answers

1. Real GDP = $486 \times \frac{100}{104} = 467.3$, that is \$467.3bn. Growth = $\frac{467.3-450}{450} \times 100 = 3.8\%$ (the shortcut gives $8\% - 4\% = 4\%$).
2. $\frac{1.06}{1.02} = 1.0392$, so real GDP per head rose by **3.9%**, a little less than $6 - 2 = 4\%$.
3. (a) AD: actual growth. (b) Capacity: potential growth. (c) AD: actual growth (exports). (d) Both: investment spending raises AD now and capacity once the network is working.
4. Yes: the last two quarters (-0.3% then -0.2%) are two consecutive quarters of negative growth. The single fall of -0.1% is not a recession, because the next quarter grew.
5. As incomes rise, households spend more, and some of that spending is on imports (1), so imports rise faster than exports and the current account deficit grows (1).

Past questions to try

- **9708/13/M/J/23 Q18**: deflating a table of nominal GDP to find the year real GDP fell.
- **9708/12/F/M/25 Q19**: income per head when income rises and population falls.
- **9708/23/O/N/23 Q1**: negative growth, recession and a recovery, from a data response.
- **9708/22/M/J/24 Q4**: the circular flow and growth, then whether supply-side policy is best for long-run growth.