

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname *StemUp Model Solution*

Forename(s)

Candidate signature

I declare this is my own work.

INTERNATIONAL AS ECONOMICS

Unit 2 The National Economy in a Global Environment

Monday 8 January 2024 07:00 GMT Time allowed: 1 hour 45 minutes

Materials

For this paper you must have:

- the Source Booklet, provided as an insert (enclosed)
- a calculator, which you are expected to use where appropriate.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do **not** write outside the box around each page or on blank pages.
- Do **not** write in the Source Booklet.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a bilingual dictionary for this exam.
- You may **not** use an English dictionary.

For Examiner's Use

Question

Mark

1–15

16

17

18

19

20

21

TOTAL



J A N 2 4 E C O 2 0 1

Section AAnswer **all** questions in the spaces provided.Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown.



If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.

**0 1**

Which one of the following is most likely to be part of an expansionary monetary policy?

[1 mark]**A** Increasing quantitative easing**B** Increasing the base rate of interest**C** Reducing government spending**D** Reducing the rate of income tax**0 2**

A government reduces indirect taxes on a wide range of products.

Which one of the following is the most likely effect of this?

[1 mark]**A** Aggregate demand decreases**B** National income decreases**C** Short-run aggregate supply increases**D** The budget surplus increases

0 3

Table 1 shows a country's real gross domestic product (GDP) between 2019 and 2023 in € billion.

Table 1

	Real GDP (€ billion)
2019	260.0
2020	254.8
2021	272.1
2022	286.2
2023	288.5

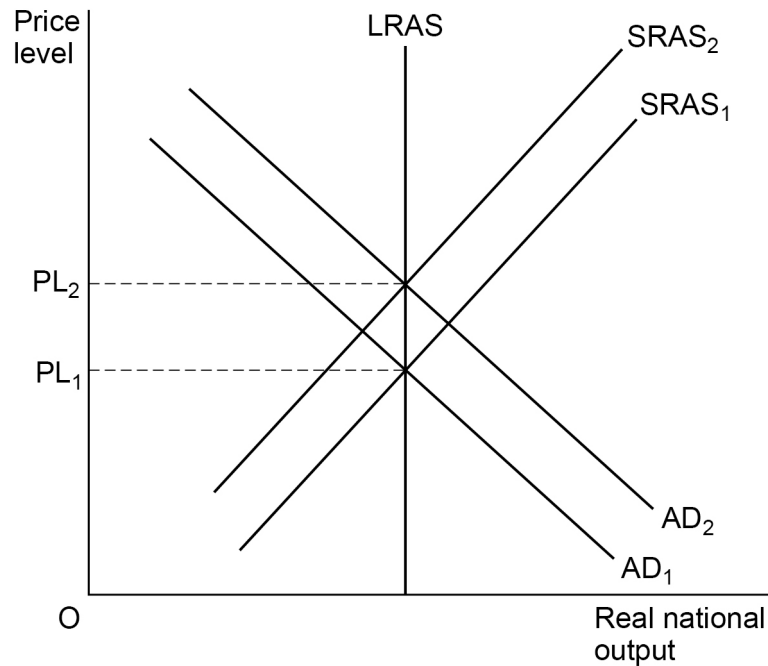
At the end of 2018, the country was at its full employment level of national income. Between 2018 and 2019 the country grew at its trend rate of 3% growth per annum.

During which period was the country most likely to experience a positive output gap?

[1 mark]**A** Between 2019 and 2020☐**B** Between 2020 and 2021☐**C** Between 2021 and 2022☒**D** Between 2022 and 2023☐**Turn over for the next question****Turn over ►**

0 4

Figure 1 shows a long-run aggregate supply (LRAS) curve, an initial aggregate demand (AD_1) curve and an initial short-run aggregate supply ($SRAS_1$) curve.

Figure 1

All other things being equal, which one of the following is most likely to cause the price level to rise from PL_1 to PL_2 ?

[1 mark]

- A** Increased exports and higher prices for factors of production
- B** Increased government spending and higher investment
- C** Increased income tax and more workers leaving the country
- D** Increased world oil prices and a higher value of imports

☒
☐
☐
☐

0 5

Which one of the following best defines disinflation?

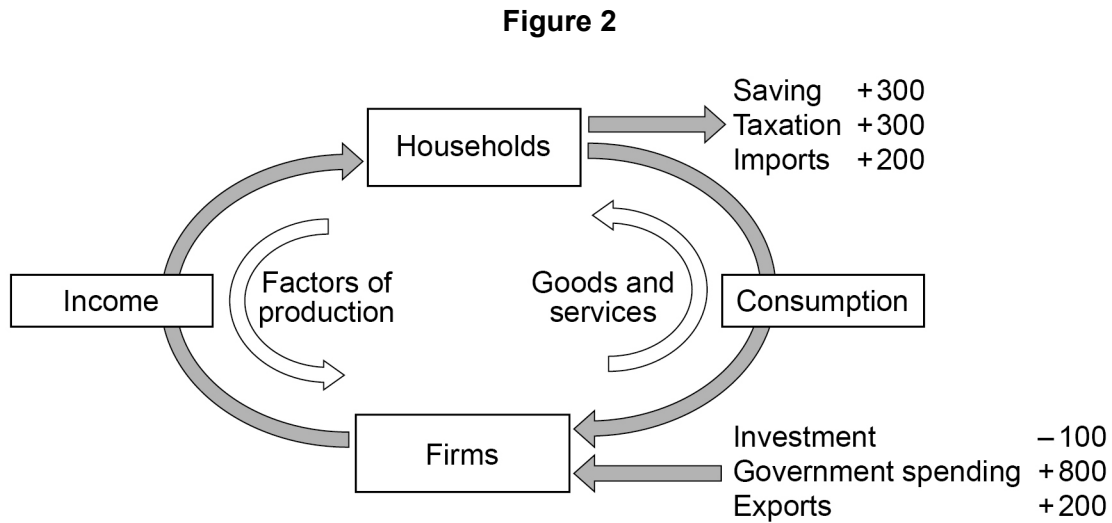
[1 mark]

- A** On average, prices of goods and services are not rising or falling.
- B** The average price level in the economy is falling.
- C** The price level is rising but the rate of increase is falling.
- D** The prices of some goods and services are falling.

☐
☐
☒
☐


0 6

Figure 2 shows the withdrawals from and injections into a country's circular flow of income in 2023, in £ million.



All other things being equal, in 2023 the country must have seen

[1 mark]

- A** a positive figure for short-run economic growth.
- B** a reduction in the government's budget deficit.
- C** an improved balance of payments on current account.
- D** an increase in long-run economic growth.

☒☐☐☐

0 7

An index is set up to measure productivity growth in the economy.

What will determine the weight given to each industry in the index?

[1 mark]

- A** The average price level in each industry in the base year
- B** The growth target set by the government for each industry
- C** The productivity of each industry in the base year
- D** The relative importance of each industry to the economy

☐☐☐☒

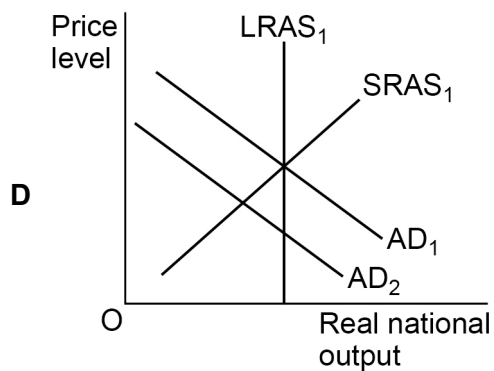
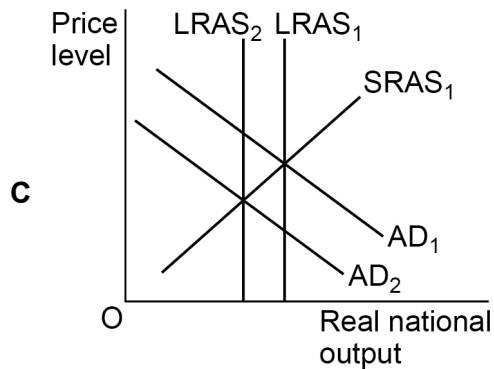
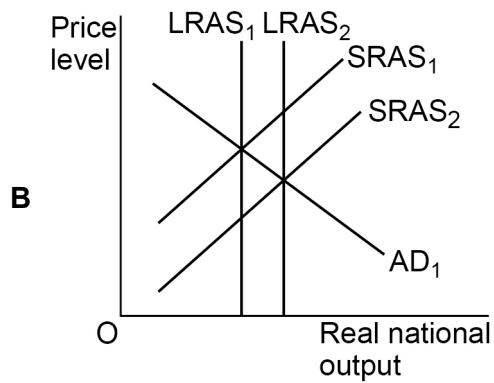
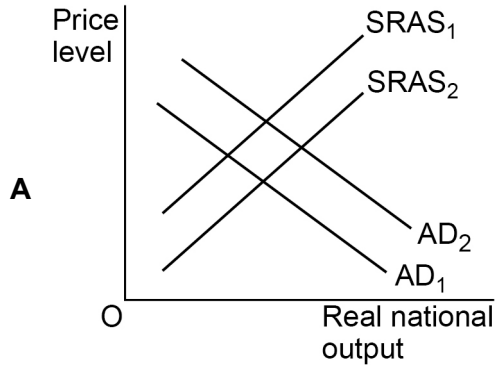
Turn over ►



0 8

The diagrams below show an economy's initial aggregate demand (AD_1), short-run aggregate supply ($SRAS_1$) and long-run aggregate supply ($LRAS_1$) curves.

Which one of the following diagrams shows that a successful supply-side policy has reduced the price level?

[1 mark]

0 9

Table 2 shows the income tax paid by people with different incomes in four countries.

Which country has a proportional tax system?

[1 mark]

Table 2

Country	Tax paid on income of \$15 000	Tax paid on income of \$25 000	Tax paid on income of \$35 000
A	150	2500	3500
B	1500	2750	4200
C	2100	3500	4900
D	2250	3500	4550

☐☐☒☐

1 0

Table 3 shows a country's balance of payments on current account and nominal GDP for the period 2019 to 2023. All figures are in ¥ billions.

Table 3

	2019	2020	2021	2022	2023
Balance of payments on current account	135.6	140.1	62.6	-146.3	-135.2
Nominal GDP	3013.3	3258.2	3971.9	4405.2	4022.9

It can be concluded from **Table 3** that the balance of payments on current account as a percentage of nominal GDP

[1 mark]

A deteriorated every year from 2020 to 2023.

☒

B improved between 2021 and 2022.

☐

C improved between 2022 and 2023.

☐

D recorded the highest surplus in 2020.

☐

Turn over ►



1 1

Which one of the following combinations in **Table 4** is most likely to show a government's macroeconomic objectives?

[1 mark]**Table 4**

	Balance of payments on current account	Inflation	Unemployment	
A	Growing surplus	Negative	Low	☐
B	Growing surplus	Zero	Zero	☐
C	Stable	Low and stable	Low	☒
D	Stable	Zero	Rising	☐

1 2

Which one of the following is a formula that can be used to calculate the multiplier?

[1 mark]

A $\frac{1}{(1 - \text{marginal propensity to consume})}$ ☒

B $\frac{1}{(1 - \text{marginal propensity to import})}$ ☐

C $\frac{1}{(\text{marginal propensity to consume})}$ ☐

D $\frac{1}{(\text{marginal propensity to import})}$ ☐



1 3

Which one of the following is most likely to cause cost-push inflation in an economy?

[1 mark]**A** A decrease in average world commodity prices☐**B** Aggregate demand rising faster than aggregate supply☐**C** An increase in productivity compared to the world average☐**D** The country's exchange rate depreciating☒**1 4****Table 5** shows government spending on health care, and the value of a price index in 2022.**Table 5**

Year	Government spending on health care (\$ millions)	Price index
2022	300	110
2023	396	

Government spending on health care was the same in real terms in both years.

What was the value of the price index in 2023?

[1 mark]**A** 130.3☐**B** 143.0☐**C** 145.2☒**D** 206.0☐**Turn over for the next question****Turn over ►**

1 5

A country with a high level of exports and imports has experienced a fall in its exchange rate.

Which one of the following groups in the country is most likely to benefit from this?

[1 mark]

A Firms that buy services from other countries

☐

B Firms that compete with imported goods and services

☒

C People who are travelling abroad for a holiday

☐

D People who buy goods that were made abroad

☐**15**

Section B

Look at the Source Booklet and answer **all** questions in the spaces provided.

Do **not** write in the Source Booklet.

1 6 . 1 Define 'unemployment rate' (**Extract B**, line 11).

[3 marks]

The unemployment rate is the percentage of the labour force (those of working age who are willing and able to work) who are out of work but actively looking for a job, ie number unemployed $\div$ labour force $\times$ 100.

1 6 . 2 Define 'normal capacity level of output' (**Extract C**, line 7).

[3 marks]

The normal capacity level of output is the maximum level of real national output that an economy can sustain in the long run, given the quantity and quality of its factors of production, ie its long-run equilibrium output shown by the position of the LRAS curve.

6

Turn over for the next question

Turn over ►



1 7

Extract A shows data on the annual percentage change in real GDP and the percentage of income received by the poorest 10% of households in Georgia and Thailand.

You are advised to show your working for the calculations below.

1 7 . 1

Use **Extract A (i)** to calculate Georgia's mean annual percentage change in real GDP for the five years shown.

Give your answer to **one** decimal place.

[3 marks]

Mean = sum of annual % changes ÷ number of years

= (4.8 + 4.8 + 5.0 + (-6.8) + 10.4) ÷ 5

= 18.2 ÷ 5 = 3.64%

Answer = 3.6% (to 1 decimal place)

1 7 . 2

Use **Extract A (ii)** to calculate the difference between the median percentage of income received by the poorest 10% of households in Georgia and the median percentage of income received by the poorest 10% of households in Thailand, for the five years shown.

[3 marks]

Georgia: put the 5 values in order, median = 3rd value = 2.6%

Thailand, values in order: 3.0, 3.0, 3.2, 3.2, 3.3, so median = 3.2%

Difference = 3.2% - 2.6% = 0.6

Answer = 0.6 percentage points (Thailand's median is higher)



1 8

Extract B (line 16) states: 'Economic growth can help to reduce income inequality.'

1 8

. 1

Explain how economic growth can help to reduce income inequality.

[6 marks]

Economic growth is an increase in a country's real GDP over time, ie an increase in the volume of goods and services produced. Income inequality refers to an unequal distribution of income between households, eg the poorest 10% receiving a small share of total income.

If real GDP grows faster than the population, average real income per head rises. Growth increases aggregate demand for goods and services, and since labour is a derived demand firms need to employ more workers. This creates job opportunities for the unemployed, who are often among the poorest households, so they move from low benefit incomes to wage incomes. Tighter labour markets also push up wages for low-paid workers, so the income of the poorest rises relative to the rest and inequality falls.

Growth also raises tax revenue, because incomes, spending and profits rise, while spending on unemployment benefits falls. This makes it easier for the government to fund welfare benefits that raise the incomes of poorer households, and to spend more on education and health care. Better education and health for people on low incomes improve their skills and productivity,

Extra space *allowing them to get better paid jobs and earn a higher income in the future.*

Higher revenue can also fund infrastructure such as transport links to poorer regions. This reduces geographical immobility of labour, so workers in deprived areas can reach jobs, reducing regional unemployment and income inequality.

Turn over ►

1 8 . 2

To what extent do the data suggest that economic growth reduces income inequality?

Use the data in **Extract A** to help support your answer.

[6 marks]

The data give some support. Both Georgia and Thailand had positive real GDP growth in four of the five years, and over the period the share of income received by the poorest 10% of households rose by 0.4 percentage points (17.4%) in Georgia, from 2.3% to 2.7%, and by 0.2 percentage points (6.7%) in Thailand, from 3.0% to 3.2%. Between 2017 and 2019 both countries grew every year and the share rose from 2.3% to 2.6% in Georgia and from 3.0% to 3.3% in Thailand. In 2020 real GDP fell in both countries and Thailand's share fell from 3.3% to 3.2%, suggesting a positive correlation between growth and a fairer distribution.

However, the evidence is not consistent. Thailand's growth slowed from 4.2% in 2018 to 2.2% in 2019, yet the share of the poorest 10% rose by 0.3 percentage points (10%). Georgia had its fastest growth, 10.4%, in 2021, yet the share stayed at 2.7%, and in both countries the share was unchanged in 2021 even though both returned to growth. Georgia's share even rose slightly in 2020 when its GDP fell by 6.8%. The data only cover five years, and the last two are distorted by the pandemic; inequality is long term, so effects of growth may

Extra space come after a time lag. Only the share of the poorest 10% is shown, not other groups or measures such as the Gini coefficient.

Overall the data suggest growth plays some part in reducing income inequality, but only to a limited extent, since other factors such as tax and welfare policies also matter.

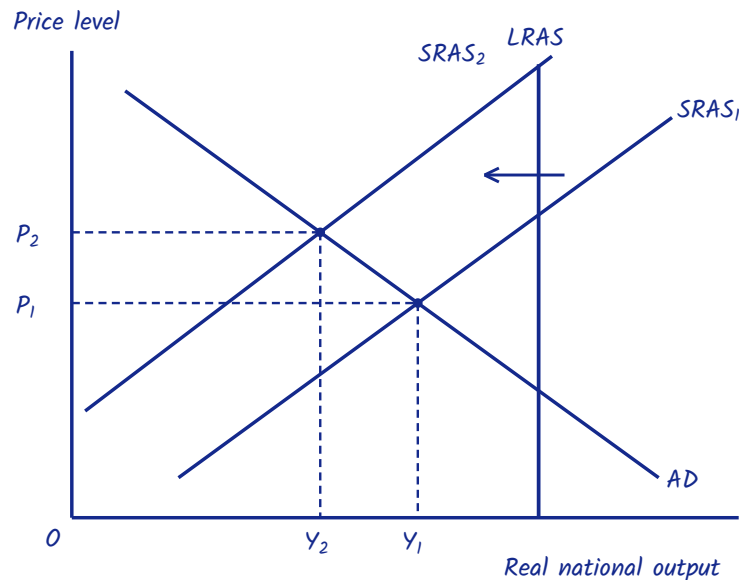


1 9

Extract C (lines 13–14) states: ‘Thailand’s investment in education has improved firms’ productivity. This has helped to protect the country from the impact of global economic shocks’.

With the help of a diagram, explain the impact of a negative supply-side shock on the macroeconomy.

[9 marks]



A negative supply-side shock is a sudden, unexpected event that raises firms' costs of production or reduces the availability of inputs, eg a sharp rise in world oil and energy prices, supply chain shortages or a natural disaster. Higher unit costs mean firms are only willing to supply each level of real output at a higher price, so short-run aggregate supply falls, shifting from $SRAS_1$ to $SRAS_2$.

At the original price level P_1 there is now excess demand, so the price level rises to P_2 : cost-push inflation. Higher prices reduce real incomes and wealth, and make exports less competitive, so there is a contraction along AD and real national output falls from Y_1 to Y_2 . Short-run economic growth is negative and the economy moves

Extra space further below its normal capacity level of output shown by $LRAS$, creating a negative output gap.

As output falls, firms need fewer workers because labour is a derived demand, so unemployment and underemployment of factors of production rise. Falling incomes reduce consumption, and the multiplier effect makes the final fall in national income

Turn over ►



larger than the initial fall. The economy faces stagflation, with both higher inflation and lower output. Higher domestic prices reduce international competitiveness, so exports fall and imports rise, worsening the current account. A country like Thailand, whose education spending has raised productivity, can offset higher costs, so its SRAS falls by less and the shock does less harm.

9

2 0

Extract B (lines 5–6) states: ‘Georgia has clear rules to limit government spending and control the national debt.’

Analyse the relationship between government spending and the national debt.

[12 marks]

Government spending is spending by the public sector on goods and services, such as health, education and infrastructure, plus transfer payments such as welfare benefits and interest on debt. The national debt is the total accumulated amount the government owes as a result of past borrowing. The two are linked by the budget balance: if government spending exceeds tax revenue in a year there is a budget deficit, which must be financed by borrowing, usually by selling government bonds, and each year's deficit adds to the national debt.

Therefore, other things being equal, higher government spending increases the budget deficit (or reduces a surplus) and so raises the national debt. This is why, as Extract B states, Georgia has clear rules to limit government spending: by keeping spending in line with revenue, it limits deficits and controls the debt. Expansionary fiscal policy, eg higher spending in a recession, is associated with a rising deficit and debt.

Spending also changes for cyclical and structural reasons. In a recession, automatic stabilisers mean welfare spending on the unemployed rises while tax revenue falls, so



the cyclical deficit and the debt rise even without a policy change. Structural factors such as an ageing population or, as Extracts B and C suggest, a lack of investment in education and health, which leaves people in low-skilled jobs or unemployed, raise welfare spending permanently and add to the debt year after year.

The relationship also works the other way: the national debt affects government spending. Bonds must be repaid with interest, so a larger debt means higher debt interest payments, which are part of government spending. If interest rates rise, or lenders demand a higher return because the debt is high, interest costs rise further.

This puts pressure on the government to cut spending on public services, or the
Extra space extra interest adds to the deficit, so the debt grows even faster, a vicious circle.

However, the link is not straightforward. Extract B indicates that spending on public services and infrastructure can increase the economy's normal capacity level of output. Spending on education, health and infrastructure raises productivity, so LRAS shifts right and real GDP grows. Through the multiplier, higher spending also raises national income in the short run. Higher incomes raise tax revenue and reduce welfare spending, so in the long run the budget deficit may fall and the debt may even fall as a percentage of GDP. Whether higher spending raises the national debt therefore depends on what the money is spent on, how large the multiplier is, the state of the economy and whether it generates enough future growth.



2 1

Extract C (line 18) states that investment in education and training ‘improves incomes, health, productivity and economic growth.’

Use the extracts and your knowledge of economics to assess the impact of investment in education and training on economic growth.

[20 marks]

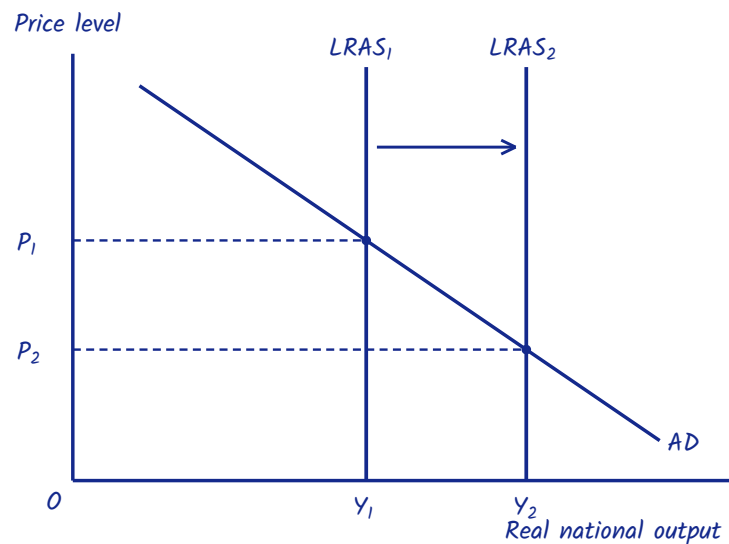
Investment in education and training is spending on improving the knowledge, skills, abilities and experience of the population, ie its human capital. Economic growth is an increase in real GDP: short-run growth is an increase in actual output, using spare capacity, while long-run growth is an increase in the economy's productive potential, its normal capacity level of output, shown by a rightward shift of LRAS.

In the short run, investment in education and training is an injection into the circular flow. Government spending on schools, teachers and training programmes, and spending by firms on training, increases aggregate demand ($AD = C + I + G + X - M$). Through the multiplier process, the incomes of teachers and construction workers are spent, creating further rounds of spending, so real output rises by more than the initial spending, provided there is spare capacity.

The main impact, however, is on the supply side. Markets tend to underprovide education and training because it has positive externalities and individuals may lack information about its benefits or cannot afford it, so government investment as a supply-side policy corrects this market failure. Extract C indicates that it increases human capital and so the economy's maximum capacity. Better educated, more skilled workers have higher labour productivity, producing more output per hour. As shown in the diagram, this shifts LRAS right from $LRAS_1$ to $LRAS_2$, so normal capacity output rises from Y_1 to Y_2 and the price level falls from P_1 to P_2 . Growth is therefore non-inflationary and sustainable, as Extract B and Extract C suggest when they link education to growth and lower inflation.

Higher productivity lowers unit labour costs and allows firms to produce higher-value products, which improves international competitiveness, raising exports and further





boosting AD. Firms also save on training costs when they recruit staff who already have skills, allowing them to expand output. Extract B indicates that better education makes it easier for workers to adapt to new technology and the skills needed in a modern economy, which encourages firms, including multinationals, to invest. Extract C states that Thailand's investment in education has improved firms' productivity and helped protect it from global economic shocks.

Education and training also improve incomes and health, as Extract C states.

Higher-skilled workers earn higher wages, so poverty falls and consumption rises, and groups that have had unequal access to education and employment (Extracts B and C) can join the labour force, reducing unemployment and increasing the quantity as well as the quality of labour. Higher incomes raise tax revenue and reduce welfare spending, giving governments more resources for further investment, so a virtuous circle of growth can develop.

However, the impact on growth may be limited. First, there are long time lags.

Investment in school-age children may take ten to fifteen years before students enter the labour force, so there is little effect on long-run growth in the short term, although training of existing workers works faster.

Second, its effectiveness depends on quality and access. If teachers are poorly

Turn over ►



Extra space *trained, or access is unequal, as Extract B suggests with rural or poorer groups missing out, much of the spending will not raise skills. Government failure due to information failure may mean the government funds courses that do not match the skills firms need, so productivity does not rise and graduates remain unemployed or underemployed.*

Third, there is an opportunity cost. Spending on education may be at the expense of health or infrastructure, which may also be important for growth. If it is financed by borrowing, it increases the budget deficit and the national debt, which could lead to higher interest rates or future taxes, reducing private investment and consumption and so reducing growth. Georgia's rules limiting government spending (Extract B) may restrict how much it can invest.

Fourth, skilled workers need capital to work with. If a country has a poor quality capital stock or a lack of infrastructure, better educated workers will not be much more productive. Extract C also discusses the risk of a brain drain: workers with high levels of education and training may leave the country if wages are low by international standards, so the country bears the cost while other economies gain the benefit.

Finally, economic growth also depends on other factors, such as world economic conditions, demand for exports, population trends, investment in physical capital and natural resources. A global recession or pandemic, as in 2020 when real GDP fell in both Georgia and Thailand, can outweigh the benefits of a more skilled workforce.

In conclusion, investment in education and training is likely to have a significant positive impact on economic growth, mainly by raising productivity and shifting LRAS to the right, allowing sustained, non-inflationary growth and greater competitiveness, as Thailand's experience suggests. Its impact on short-run growth through AD is relatively small. The size of the long-run impact depends most on the quality of and access to the education provided, whether skilled workers stay in the country, and



whether there is complementary investment in capital and infrastructure. It is therefore a necessary but not sufficient condition for long-run growth, and works best as part of a wider set of supply-side policies.

END OF QUESTIONS



There are no questions printed on this page

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**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



Question number	Additional page, if required. Write the question numbers in the left-hand margin.
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