



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2024

Centre Number

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Candidate Number

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Economics

StemUp Model Solution

Assessment Unit AS 2

assessing

Managing the National Economy



[SEC21]

SEC21

MONDAY 20 MAY, MORNING

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page. Answer **all** questions in Sections **A** and **B**, and **one** question in Section **C**.

You are permitted to use a calculator in this paper.

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

INFORMATION FOR CANDIDATES

The total mark for this paper is 80.

- Section A: 25 Marks
- Section B: 35 Marks
- Section C: 20 Marks

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question. This paper is accompanied by a Case Study Booklet.

ADVICE TO CANDIDATES

You are advised to take account of the marks for each part question in allocating the available examination time. In questions involving calculations, you are advised to show your workings.

Quality of written communication will be assessed in Questions **5(b)**, **6(b)**, **(c)** and **(d)**, **7** and **8**.

Quantitative skills will be assessed where appropriate.

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Section A

Answer all questions

- 1 Even though UK unemployment is at its lowest since 1974 there are still people out of work. Emma recently left her job as an investment analyst as she wanted to spend more days each week working from home. She has four interviews lined up and is confident she will be back in employment before the end of the month. In contrast, Karim lost his job as a clothes shop manager six months ago, and is increasingly despondent about finding a job in retailing. This sector has lost half a million jobs in three years as consumers move away from high street shopping.

With reference to the statement above, explain the difference between structural and frictional unemployment. [4]

Frictional unemployment is short-term unemployment when workers are between jobs and searching for a new one, even though vacancies exist.

Emma is frictionally unemployed: she left voluntarily, has four interviews lined up and expects to be back in work within the month.

Structural unemployment is long-term unemployment caused by a change in the structure of the economy, so workers' skills no longer match the jobs available. Karim is structurally unemployed: retailing has lost half a million jobs in three years as consumers leave the high street, so demand for his skills has permanently fallen and he has been out of work for six months.

So frictional unemployment is temporary, whereas structural unemployment lasts longer and may need retraining.



- 2 The table below shows the injections and withdrawals into and out of an open economy with a government.

Injection/withdrawal	£ billion
Exports	160
Government spending	80
Imports	140
Investment	60
Savings	75
Taxation	

- (a) Explain what is meant by injections and withdrawals in the circular flow of income model. [2]

Injections are flows of money into the circular flow of income from outside

the household-firm loop, e.g. investment, government spending, exports.

Withdrawals are flows of income out of the circular flow that are not

spent on domestic output, e.g. savings, taxation, imports.

- (b) Assuming the economy is in equilibrium, calculate the value of taxation. [2]

In equilibrium, injections = withdrawals: $I + G + X = S + T + M$

Injections = $60 + 80 + 160 = £300$ billion

Withdrawals = $75 + 140 + T = £215$ billion + T

$300 = 215 + T$, so taxation = $£85$ billion

[Turn over]



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3 The table below shows selected economic data for a country.

Year	Gross Domestic Product (£ billion)	Population (millions)	Retail Price Index
2021	4600	84.2	140
2022	4750	84.8	147

- (a) Using the information in the table above, calculate nominal Gross Domestic Product (GDP) per capita for 2022. [2]

$$\text{Nominal GDP per capita} = \text{nominal GDP} \div \text{population}$$

$$= £4\,750\,000 \text{ million} \div 84.8 \text{ million}$$

$$= £56\,014.15 \text{ per person in 2022}$$

- (b) Using the information in the table above, calculate GDP per capita for 2022 in 2021 prices. [3]

$$\text{Real GDP per capita} = \text{nominal GDP per capita} \times (\text{RPI 2021} \div \text{RPI 2022})$$

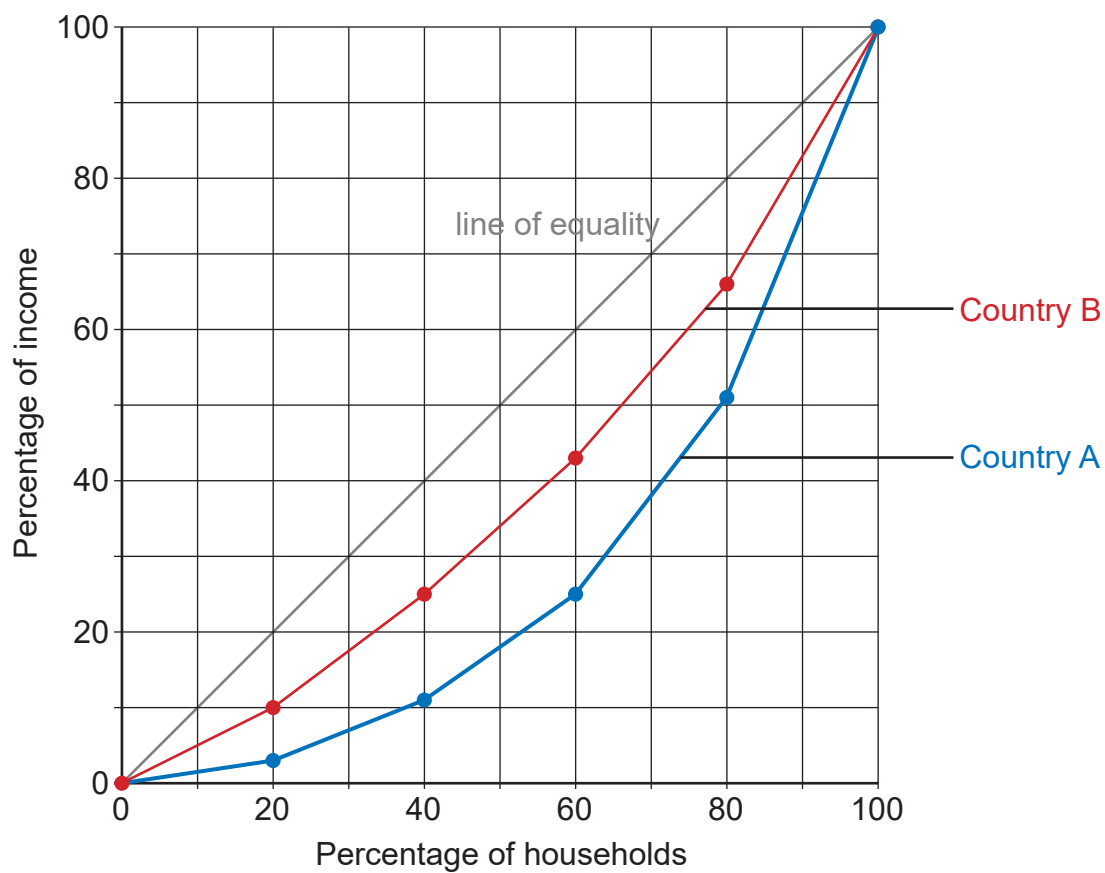
$$= £56\,014.15 \times 140 \div 147$$

$$= £53\,346.81 \text{ per person (2022, in 2021 prices)}$$

[Turn over]



- 4 The Lorenz curves below show the distribution of income for country A and country B.



With reference to the data in the diagram opposite, explain how the distribution of income varies between Country A and Country B. [4]

Country B has a more equal distribution of income than Country A, as its Lorenz curve lies closer to the line of equality, so the gap between its curve and the line of equality (its Gini coefficient) is smaller.

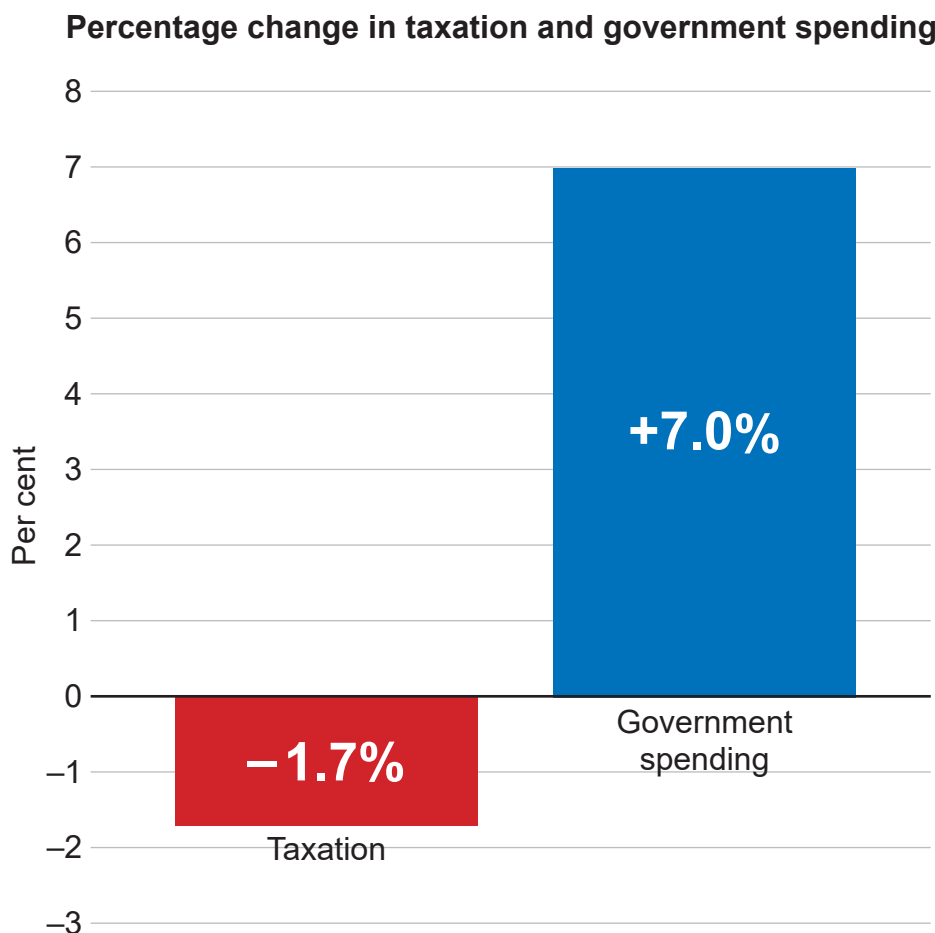
At the bottom, the poorest 20% of households receive 10% of income in Country B but only about 3% in Country A, and the poorest 60% receive about 43% of income in B compared with only 25% in A.

At the top, the richest 20% of households receive 34% of income in Country B (100% minus 66%) compared with 49% in Country A (100% minus 51%), so income is far more concentrated among the rich in Country A.

[Turn over]



- 5 The chart below shows the percentage change in tax and government spending in an economy between 2022 and 2023. Government spending in 2022 was £340 billion.



- (a) Using the information above, calculate the total value of government spending in 2023. [2]

$$\text{Government spending 2023} = £340 \text{ billion} \times 1.07$$

$$= £363.8 \text{ billion}$$



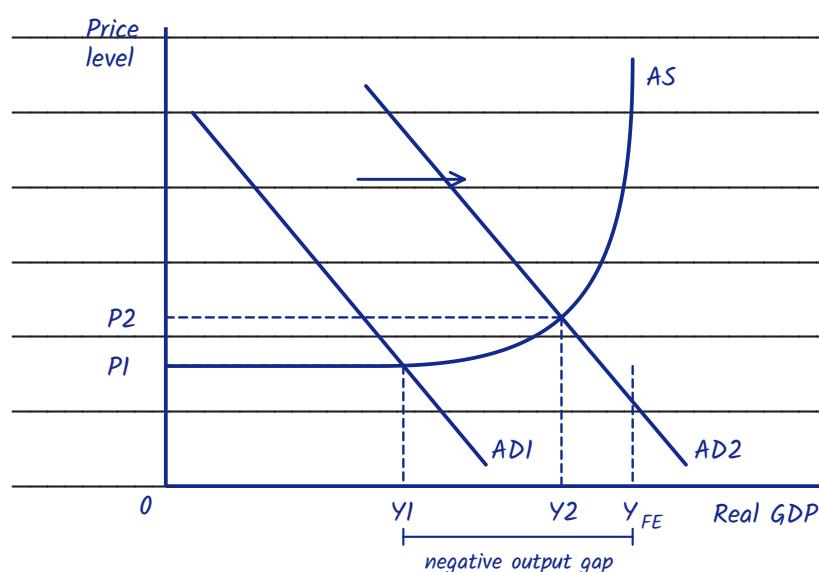
- (b) With the aid of an appropriate diagram, explain what Keynesian economists believe would be the likely impact of this change in taxation and government spending on an economy with a significant negative output gap. [6]

Quality of written communication will be assessed in this question.

A negative output gap means actual real GDP is below potential output, so there is spare capacity and unemployment: AD1 gives output Y_1 , well below full employment output Y_{FE} .

Keynesians argue that the economy may not self-correct, so expansionary fiscal policy is needed. Government spending rose by 7% (£340bn to £363.8bn), e.g. public sector pay, directly raising G , a component of $AD = C + I + G + (X - M)$. Taxes fell by 1.7%: lower income tax raises disposable income, so consumption (C) rises, and lower corporation tax may raise investment (I). AD shifts right from AD1 to AD2, and the multiplier effect amplifies this as extra spending becomes others' income.

As the diagram shows, with lots of spare capacity AS is fairly flat, so real GDP rises strongly from Y_1 to Y_2 with only a small rise in the price level (P_1 to P_2). Unemployment falls and the output gap narrows.



[Turn over]



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Section B (Case Study)

Answer all questions

Read the information in the Case Study Booklet and answer the questions below.

- 6 (a) With reference to **Fig. 1**, compare the trends in the PPI and CPI measures of inflation. [5]

Both measures followed a similar overall pattern: low or falling inflation in 2019 to 2020, then a sharp rise from early 2021 to March 2022. However, PPI inflation was far more volatile than CPI inflation, with deeper falls and much steeper rises.

In March 2019 both were close to 2% (CPI about 1.9%, PPI about 2.4%). CPI then stayed fairly stable at around 1.5% to 2%, while PPI fell and became negative from August 2019, recovering only briefly to about 0% in December 2019.

During the COVID crisis PPI fell to a low of -4.7% in March 2020 and stayed negative until October 2020, whereas CPI never became negative, falling to a low of about 0.3% in July 2020.

From late 2020 both rose, but PPI rose much faster, with its steepest rise between February and May 2021 (about 3% to almost 10%), reaching 19.3% by March 2022. CPI rose more steadily from February 2021 to about 7% in March 2022.

Overall, CPI inflation roughly trebled while PPI inflation ended at around seven times its starting rate. PPI tends to lead CPI, as higher input costs are passed on to consumers with a lag, suggesting CPI would keep rising.

[Turn over]



- (b) In paragraph 2, Mark Robins states that “inflation is bad for some, but worse for others”.

With reference to the methods used in constructing the CPI, explain why some groups of people experience different rates of inflation than others. [6]

Quality of written communication will be assessed in this question.

The CPI is a weighted price index. Each month the ONS records the prices of a representative 'basket' of around 730 goods and services bought by households, collected from many shops and regions. Each item is given a weight based on its share of total household spending (from the Living Costs and Food Survey), so items that take a larger share of spending, such as food and energy, have a bigger effect on the index. Price changes are multiplied by their weights and combined into one figure relative to a base year of 100.

This means the CPI measures the inflation experienced by the 'average' household. In reality every household has its own spending pattern, so its personal inflation rate will differ from the CPI whenever its spending weights differ from the CPI weights and prices are rising at different rates.

Low-income households spend a much larger proportion of their income on essentials such as food and energy. In 2022 these were the prices rising fastest: electricity rose by over 50%, margarine by over 20%, and the cheapest bag of rice rose from 45p to £2 a kilo (a 344% rise).

Meanwhile prices of items such as personal computers, bought more by richer households, fell. As a result, the ONS calculated that the poorest



10% faced an inflation rate of 10.9% compared with only 7.9% for the richest 10% (paragraph 2), so the poorest suffered a bigger fall in real income.

There are also regional differences. The price of heating oil rose by 113.9% compared with 95.5% for gas, and 68% of Northern Ireland households use oil compared with a UK average of only 4%. Because the CPI weights reflect UK-wide spending, oil has only a small weight, so the CPI understates the inflation faced by many households in Northern Ireland.

Similarly, other groups such as pensioners, who spend more of their income on heating and food, or households without a car, who are unaffected by fuel prices, will have different inflation rates. This is why Mark Robins says that "inflation is bad for some, but worse for others".

[Turn over



- (c) With the assistance of an appropriate diagram, analyse the reasons for the rise in the UK rate of inflation between January 2021 and April 2022 (Paragraph 3).

[9]

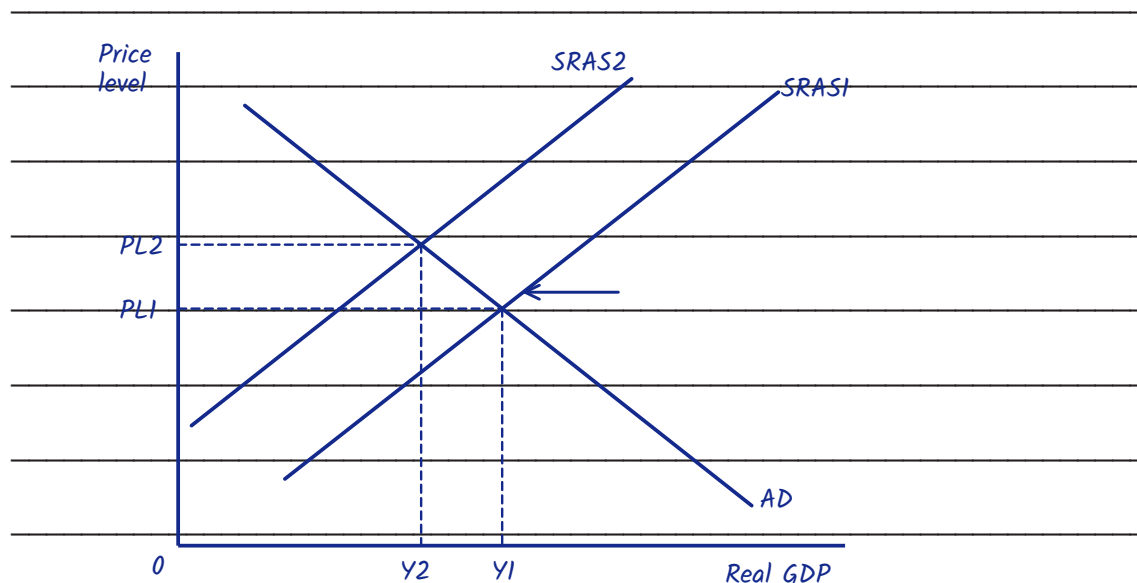
Quality of written communication will be assessed in this question.

Between January 2021 and April 2022 CPI inflation rose from under 1% to 7% by March 2022, five percentage points above the 2% target. The main cause was cost-push inflation: a sustained rise in the general price level caused by increases in firms' costs of production, which reduce short-run aggregate supply (SRAS).

Firstly, the war in Ukraine reduced the world supply of oil, gas and agricultural commodities such as wheat and sunflower oil. As demand for these goods is price inelastic, a fall in supply causes a large rise in price: gas rose by 95.5% and heating oil by 113.9%. Energy is an input into almost all production and transport, so costs rose across the whole economy, and food producers faced higher costs for wheat and oils (margarine rose by over 20%). These rising input costs are shown by PPI inflation reaching 19.3% by March 2022 (Fig. 1), and firms passed them on to consumers through higher prices.

Secondly, Brexit and the COVID pandemic reduced the size of the labour force, so in May 2022 there were more vacancies than unemployed workers for the first time. Employers competed for scarce workers by raising wages. Since wages are often firms' largest cost, unit labour costs rose and were passed on in higher prices, with the risk of a wage-price spiral as workers demand higher pay to protect their real incomes.





Thirdly, from 1 April 2022 VAT on hotels, restaurants and hospitality rose from the temporary 5% back to 20%. An indirect tax is a cost to the firm, so supply in these sectors shifts left and businesses pass much of the tax on to consumers, directly raising prices.

As the diagram shows, all of these cost increases shift SRAS to the left, from SRAS1 to SRAS2. At the original price level there is now excess demand, so the price level rises from PL1 to PL2 while real output falls from Y1 to Y2. This combination of rising prices and falling output (stagflation) is typical of cost-push inflation. The fall in the labour force may also shift LRAS to the left, reducing potential output.

Demand-side factors may have added to this: as the economy reopened after lockdowns, consumers spent savings built up during the pandemic, increasing AD and adding some demand-pull pressure. However, the evidence

[Turn over



suggests supply shocks were the dominant cause, since PPI rose much faster than CPI and the largest price rises were in energy and food.



- (d) Critically examine the view that the Bank of England should not raise interest rates to control the high rate of inflation. [15]

Quality of written communication will be assessed in this question.

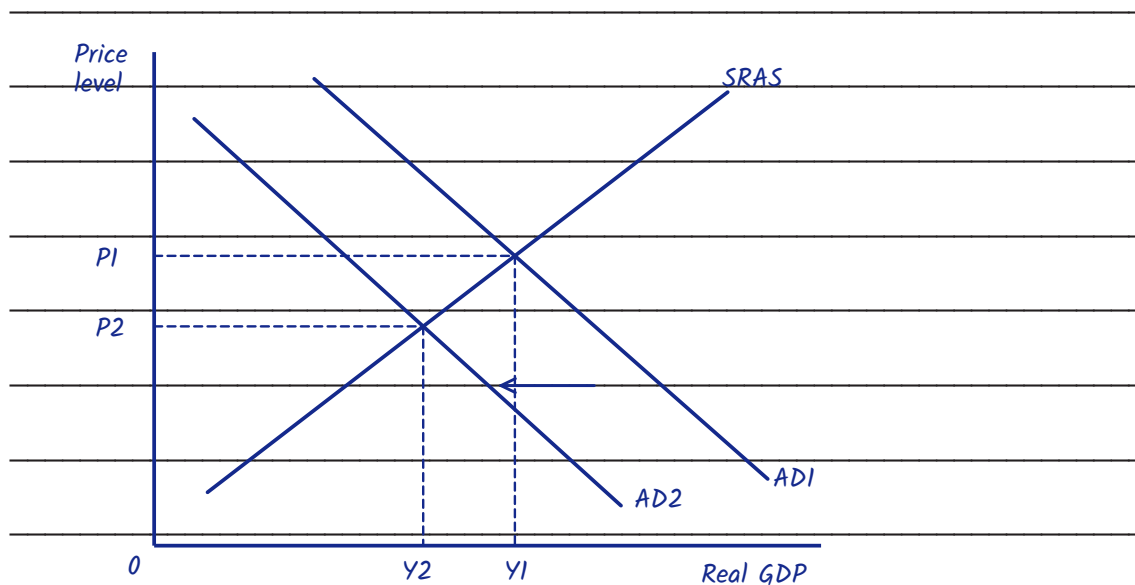
The Bank of England's Monetary Policy Committee is responsible for meeting the government's CPI inflation target of 2% (plus or minus 1%); if inflation is outside 1% to 3% the Governor must write a letter to the Chancellor explaining why. Its main tool is Bank Rate. With CPI inflation at 7% in March 2022, five percentage points above target, conventional doctrine suggests raising interest rates.

A rise in interest rates works through several transmission mechanisms. Borrowing becomes more expensive and saving more rewarding, so consumers cut spending on credit-financed goods such as cars and houses, and households with variable-rate mortgages face higher repayments, reducing disposable income and consumption (C). Firms face higher borrowing costs, so fewer investment projects are profitable and investment (I) falls. Higher rates also attract hot money inflows, so the pound appreciates: imports such as energy and food become cheaper, directly reducing inflation, while exports become less competitive, so $(X - M)$ falls. As C, I and net exports fall, AD shifts left from AD1 to AD2 and the price level falls from P1 to P2, as the diagram shows.

Raising rates also protects the Bank's credibility. With vacancies exceeding unemployment, there is a risk of a wage-price spiral: if the Bank does nothing, workers and firms may expect high inflation to persist and build it

[Turn over]





into wage claims and prices. A rise in rates signals commitment to the 2% target, anchoring inflation expectations and preventing second-round effects.

However, there are strong arguments against raising rates. Firstly, as Janet Schwarz argues, the inflation is mainly cost-push, caused by the war in Ukraine raising oil, gas and food prices, labour shortages and the VAT rise (paragraph 3). Interest rates work on demand, so they cannot increase the world supply of gas or the size of the labour force. As the diagram shows, reducing AD lowers inflation only by reducing real output further ($Y1$ to $Y2$), when SRAS has already shifted left.

Secondly, the economy is already weakening: falling real wages and declining consumer confidence are already reducing spending. Raising rates would cut AD further, increasing unemployment and possibly causing a



recession, so the Bank would be trading off price stability against economic growth and low unemployment. Higher mortgage and loan repayments could also "drive millions into hardship", hitting indebted low-income households who already face inflation of 10.9%.

Thirdly, there are time lags: interest rate changes take around 18 months to 2 years to have their full effect. Much of the current inflation reflects one-off shocks such as the energy price spike and the VAT change, which will drop out of the annual rate within a year. By the time higher rates take effect, inflation may already be falling, so the policy could cause an unnecessarily deep downturn.

Alternative policies may be more appropriate, such as targeted fiscal support with energy bills for poorer households, or supply-side policies to increase the labour force, e.g. training and childcare support, which tackle the causes of cost-push inflation without reducing output.

Overall, whether the Bank should raise rates depends on the cause and persistence of the inflation. If it were purely a temporary supply shock, raising rates would cause unemployment for little benefit, which supports the view. However, with a tight labour market and rising wages, there is a real danger that inflation becomes embedded in expectations, and the Bank's credibility is at stake. It also depends on the size of the rise: modest, gradual increases could signal commitment while limiting the risk of recession. On balance, the view that the Bank should not raise rates at

[Turn over



all is too strong: some increase is justified to prevent second-round effects, but interest rates alone cannot cure cost-push inflation and should be combined with targeted fiscal and supply-side measures.



Section C

Answer **either** question 7 **or** question 8

Quality of written communication will be assessed in these questions.

- 7 Between January and September 2022, the pound fell in value by 14% against the US Dollar. There was concern that this showed the increasing weakness of the UK economy. However, the Centre for the Study of International Trade welcomed the news, stating, "For too long the pound has been overvalued. This fall will reduce the price of exports which can only benefit the UK economy."

Evaluate the extent to which a fall in the value of the pound would help the UK government achieve its economic objectives.

[20]

or

- 8 In September 2022, the then Chancellor of the Exchequer, Kwasi Kwarteng, proposed cutting a range of taxes. He declared that this would boost the UK's rate of economic growth. However, others claimed it would only promote inequality. They argued that the best way to stimulate economic growth was through government investment in infrastructure and the labour force.

Critically examine the claim that tax cuts are the best way to increase the rate of economic growth.

[20]

Sources:

Adapted from "Kwarteng scraps top 45% rate of income tax and cuts stamp duty" by Philip Inman and Rowena Mason, 23 September 2022. © The Guardian

Adapted from "The pound: Why is it falling?" by Tom Edgington, 26 September 2022 © BBC News

[Turn over]



Write the number of the question you have chosen in the box below:

8

Economic growth is an increase in real GDP over time. Short-run (actual) growth is an increase in real output using spare capacity, while long-run (potential) growth is an increase in the productive capacity of the economy, shown by a rightward shift of LRAS or an outward shift of the PPF. Since the pandemic the UK has grown by only around 0.6% a year, well below its long-term trend of about 2%, which is why Kwasi Kwarteng proposed tax cuts in September 2022.

Tax cuts can boost growth through aggregate demand. A cut in income tax or National Insurance raises households' disposable income, so consumption rises, while a cut in corporation tax raises firms' post-tax profits, giving them more funds and incentive to invest. As C and I are components of AD , AD shifts right from AD_1 to AD_2 , and through the multiplier effect real GDP rises by more than the initial tax cut. Keynesian economists argue this is effective when there is a negative output gap, as output rises with little inflation.

However, Classical economists argue that LRAS is vertical at full employment, so in the long run a boost to AD only raises the price level: in the diagram, AD_1 to AD_2 with $LRAS_1$ raises prices from P_1 to P_3 with no extra output. In 2022 the UK had low unemployment, more vacancies than unemployed workers and inflation at a 40-year high, so there was little spare capacity.

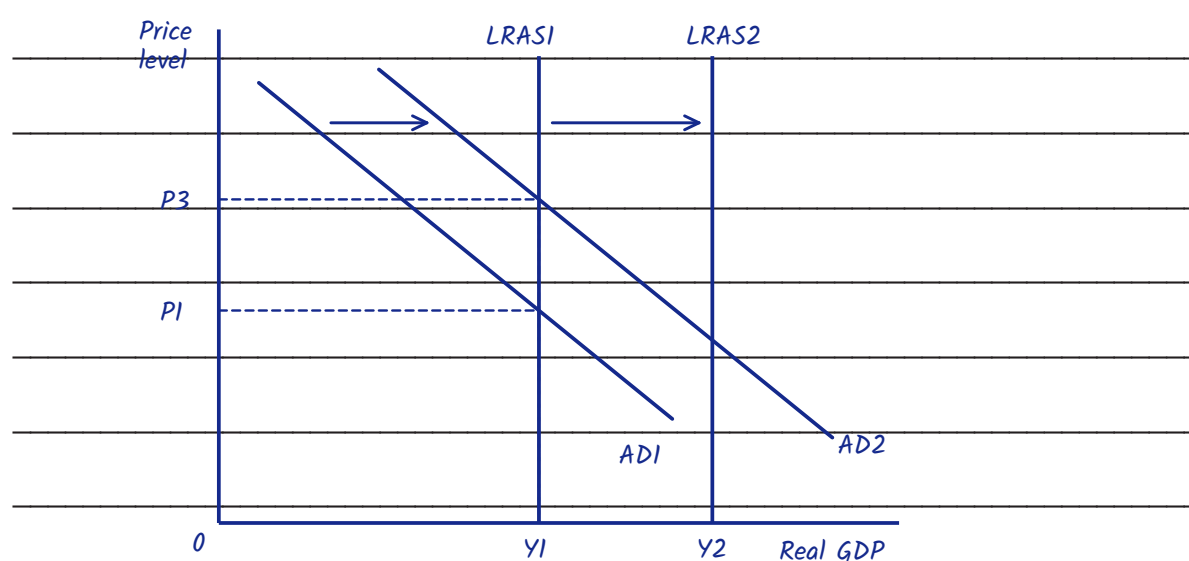
Demand-side tax cuts would mainly be inflationary and could lead the Bank of England to raise interest rates further, offsetting the boost to AD . Indeed,



after the September 2022 mini-budget gilt yields and mortgage rates rose sharply.

Tax cuts can also act as a supply-side policy by improving incentives. Lower income tax increases the reward from working, encouraging people to work longer hours, enter the labour force or seek promotion, increasing labour supply.

Cutting the top 45% rate may encourage entrepreneurship and attract skilled workers. Lower corporation tax raises the return on investment, encouraging firms and foreign multinationals to invest in capital and R&D, raising productivity. As the diagram shows, this shifts LRAS right from LRAS1 to LRAS2, so real output can rise from Y_1 to Y_2 without inflation (price level stays at P_1).

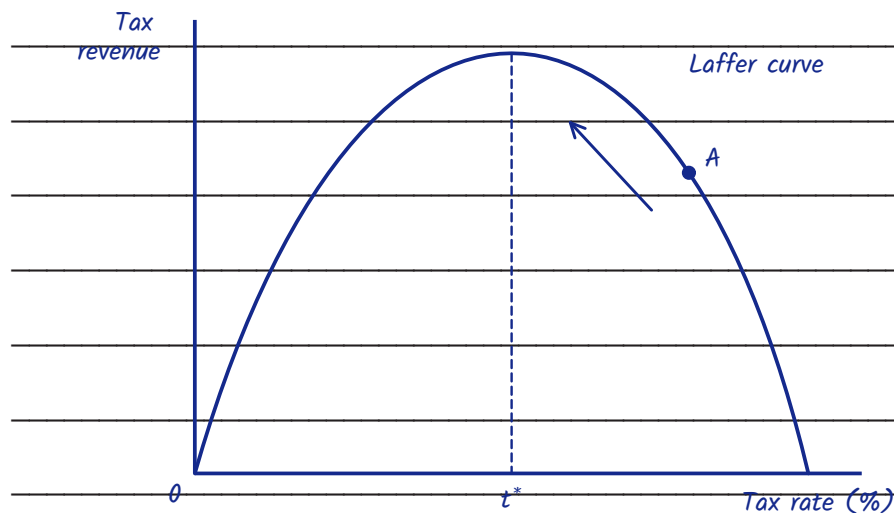


Supporters also use the Laffer curve: if the tax rate is above the revenue-maximising rate t^* (point A), cutting it raises tax revenue because the tax base grows. However, empirical evidence that tax cuts raise work effort is

[Turn over



weak. A higher net wage makes work more rewarding (substitution effect) but lets people reach a target income in fewer hours (income effect), so labour supply may barely change. Most evidence suggests UK tax rates are below t^* , so tax cuts reduce revenue.



Tax cuts weighted towards the highest earners, such as abolishing the 45% rate, benefit the rich most and increase income inequality, as critics in the extract claimed. Richer households also have a lower marginal propensity to consume, so the multiplier effect on AD is smaller than if tax cuts were targeted at lower-income groups.

Tax cuts also reduce government revenue. Unless funded by spending cuts, they increase the budget deficit and national debt. The unfunded tax cuts of 2022 caused a loss of confidence: the pound fell and borrowing costs rose, which could crowd out private investment. If instead public spending is cut, less money for education, health and infrastructure could reduce long-run



growth, especially after a decade of austerity and the pressures of the pandemic and cost of living crisis.

Many economists argue that government investment in infrastructure and the labour force is a better way to increase growth. Spending on transport, broadband and energy networks raises AD in the short run, with a larger multiplier than tax cuts because all of it is spent directly, and increases productive capacity in the long run. Investment in education, training and apprenticeships increases human capital, raising labour productivity and helping solve the labour shortages seen in 2022. Other supply-side policies, such as reducing regulation, R&D support and childcare to raise participation, could also shift LRAS right. However, these policies take years to have an effect, also cost money, and risk government failure if projects are poorly chosen.

In conclusion, whether tax cuts are the best way to increase growth depends on the state of the economy, the type of tax cut and how it is funded.

Targeted cuts, such as investment allowances for firms or lower taxes for low-paid workers, could boost both AD and LRAS. However, in 2022, with little spare capacity, high inflation and rising interest rates, large unfunded tax cuts for high earners were more likely to cause inflation, higher borrowing and greater inequality than sustained growth. Therefore tax cuts are not the best way: government investment in infrastructure and human capital is more likely to raise the UK's long-run growth rate sustainably, even though its effects take longer.

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Question Number	Marks
Section A	
1	
2	
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Section B	
6	
Section c	
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8	
Total Marks	

Examiner Number

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Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2024

Economics

Assessment Unit AS 2
assessing

Managing the National Economy

[SEC21]

MONDAY 20 MAY, MORNING

CASE STUDY BOOKLET

**For use with
Section B**

The following article was written in August 2022.

Inflation at highest rate for forty years

In spring 2022 UK inflation reached levels not seen for 40 years. **Fig. 1** below shows the sharp increases which occurred in both the Consumer Price Index (CPI) and the Producer Price Index (PPI) measures of inflation. The PPI is an alternative measure of inflation which focuses on costs of inputs for production such as raw materials and fuels. By March 2022 CPI inflation had increased to 7%, which was five percentage points above the government's inflation target.

1

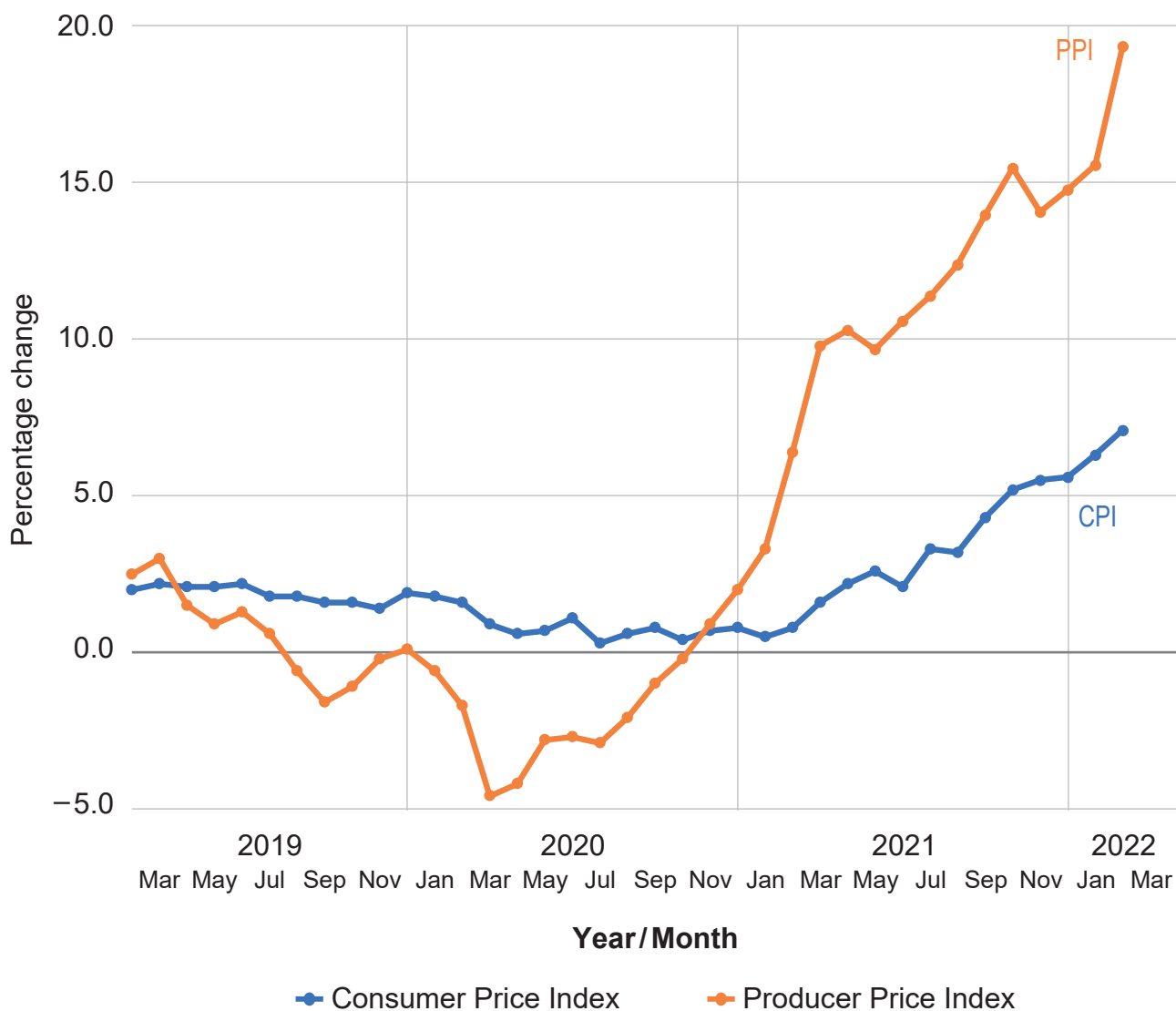


Fig. 1 CPI and PPI inflation

Although this rise in CPI was dramatic, there were even larger changes in the prices of individual items. The price of margarine rose by over 20% and electricity by over 50%. Falls in the price of some goods, such as personal computers and chocolate, failed to compensate for rises in the price of essential goods and services which hit the poorest hardest. The Office of National Statistics (ONS) calculated that the poorest 10% of the population faced an inflation rate of 10.9%, whilst for the richest 10% it was just 7.9%. Food writer Jack Monroe highlighted this damaging impact. She gave the example of her local supermarket where the cheapest bag of rice increased from 45p a kilo to £2 a kilo. If a lasagne ready meal priced at £7.50 had increased at the same rate as the rice, it would have cost £33.33. Differences also existed between regions. The price of gas rose by 95.5%, whilst central heating oil rose by 113.9%. Oil is used by 68% of Northern Ireland households compared to a UK average of only 4%. These differentials led economist Mark Robins to state that “inflation is bad for some, but worse for others”.

2

The rise in inflation has been caused by a range of factors. The war in Ukraine led to a fall in the supply of a variety of goods including oil, gas, and agricultural products such as wheat and sunflower oil. Another issue was labour supply. A combination of Brexit and the COVID pandemic led to a fall in the size of the labour force. In May 2022, there were more UK job vacancies than unemployed workers for the first time since records began, leaving employers scrambling to find workers. There were also factors impacting specific sectors. For example, from 1 April 2022, VAT on hotels, restaurants and hospitality was raised from a temporary rate of 5% (applied during the COVID pandemic) back to the standard rate of 20%.

3

The Bank of England was criticised for allowing this rise in inflation to happen. Several MPs and commentators called for increases in interest rates to bring inflation under control. Others were more sceptical of increasing interest rates. Economist Janet Schwarz argued: “Raising interest rates will achieve little. Falling real wages and declining consumer confidence are going to impact the economy. Raising interest rates will simply drive millions into hardship and the economy into recession, and will not impact the main causes of the current inflation.”

4

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Sources:

Text....."Adapted from The route back to 2% inflation – speech by Michael Saunders. © Bank of England, 09 May 2022.

Adapted from Monetary Policy Report - May 2022. © Bank of England 05 May 2022

Adapted from ONS Inflation and Price Indices

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Fig.1....."Adapted from Consumer price inflation, UK: March 2022. Office for National Statistics, 13 April 2022

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