



Oxford Cambridge and RSA

Friday 8 October 2021 – Afternoon

A Level Economics

H460/02 Macroeconomics

Time allowed: 2 hours

You can use:

- a scientific or graphical calculator



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

--	--	--	--	--

Candidate number

--	--	--	--

First name(s)

Last name

StemUp Model Solution

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Answer **all** the questions in Section A, **one** question in Section B and **one** question in Section C.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.

INFORMATION

- The total mark for this paper is **80**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **28** pages.

ADVICE

- Read each question carefully before you start your answer.

2

SECTION A

Read the following stimulus material and answer **all** parts of question 1 which follow in this section.

Are we moving towards a cashless society?

- Recent years have seen a change in both the amount consumers spend and how they make their payments. How much consumers spend is influenced by a variety of factors. These include changes in income and changes in confidence. During an economic boom, consumer expenditure is likely to be high. Indeed, an economic boom is often consumer-led. In contrast, consumer expenditure can fall to a low level during a recession. Fig. 1 shows how consumer expenditure can vary as income changes.
- 5

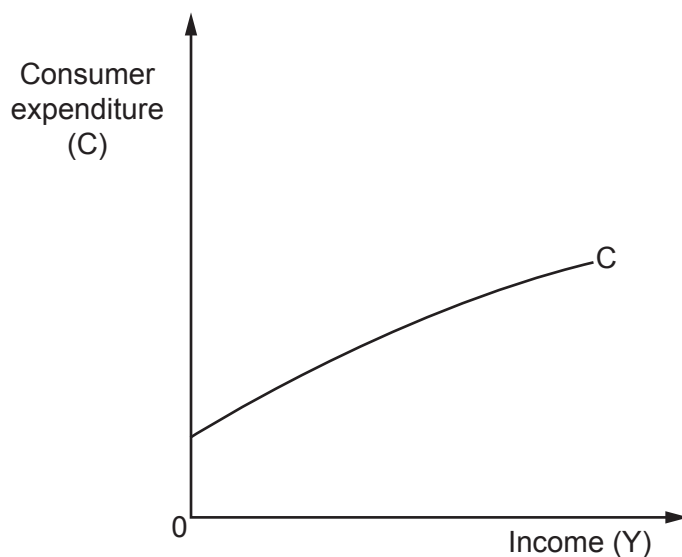


Fig. 1 The relationship between changes in income and changes in consumer expenditure

Changes in injections and leakages can alter a country's income. It has been estimated, for instance, that an injection of \$200m of government spending in the Swiss economy would cause a rise in GDP of \$300m.

- 10 The proportion of payments made in cash in Switzerland is declining. It is also falling in the UK. In 2005, 70% of payments in the UK were made in cash. By 2015, this had fallen to 50% and is forecast to decline to 30% by 2025. The extent to which cash is used influences the number of banknotes printed and in circulation. Fig. 2 shows the value of banknotes in circulation in the UK over a five year period.

Year	£5	£10	£20	£50	Total
2014	1 540	7 182	36 483	11 025	56 230
2015	1 601	7 371	38 912	11 788	59 672
2016	1 645	7 767	41 037	13 157	63 606
2017	1 912	8 006	43 357	15 601	68 876
2018	1 910	7 789	42 692	16 508	68 899

Fig. 2 The value of banknotes in circulation (£million) 2014–2018

- 15 Some central banks favour ending the use of cash. One reason is because of the role that cash plays in a number of criminal activities including money laundering and drug dealing. A more significant motive is probably to enable central banks to charge negative interest rates when needed to stimulate economic activity. If people and banks can take money out of their deposits and hold them as cash, negative interest rates are likely to have less power to encourage an increase in spending.

Negative interest rates involve commercial banks having to pay to hold deposits at the central bank. As commercial banks often have excess funds held at the central bank, a negative interest rate may encourage them to lend the funds instead. If commercial banks pass on the negative rates to their customers, people will have to pay to save. Negative interest rates would have an impact on borrowing, the cost of servicing government debt and probably on the exchange rate.

A number of central banks, including the Bank of Japan, the Swiss National Bank, Denmark's National Bank and the European Central Bank (ECB) have used negative interest rates in a bid to avoid deflation. These banks received some criticism for the effect that the negative interest rates had on confidence, saving and bank profitability.

- 30 The Bank of England has yet to introduce a negative interest rate. Fig. 3 shows how the UK interest rate has changed in recent years.

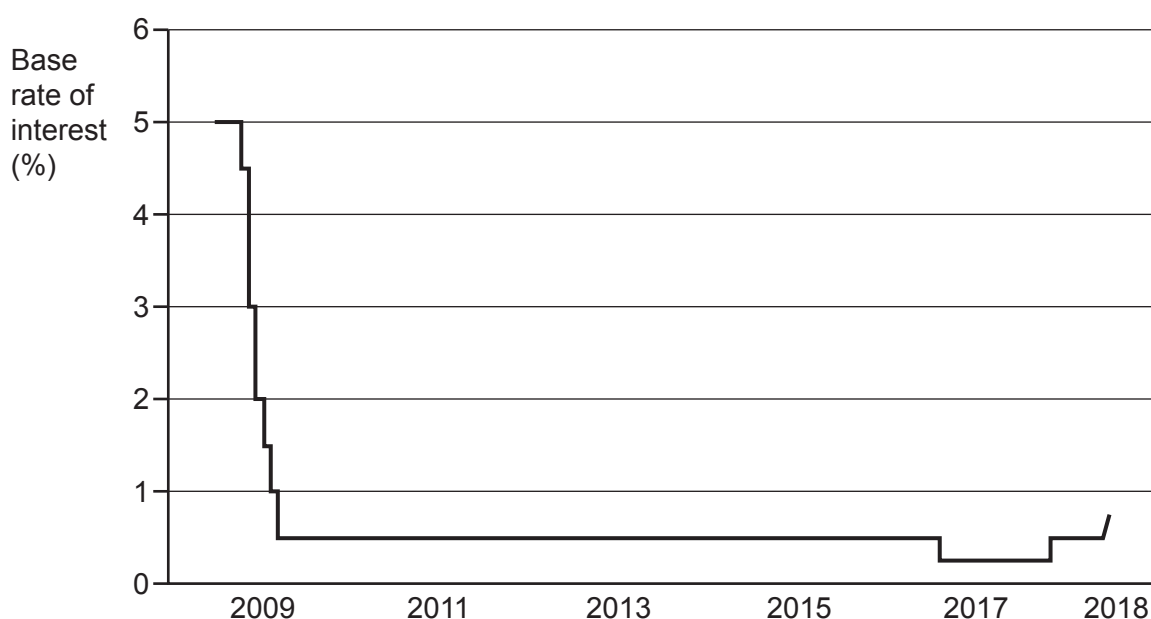


Fig. 3 UK interest rates 2009–2018

35 While the ECB has stopped producing its €500 note, the Bank of England has not yet scrapped any notes. Getting rid of cash is likely to affect the poor most. Nearly 1.5 million UK adults do not have a bank account and most of these are poor. Some of them are unemployed. The number of people unemployed may increase during a recession. The impact on unemployment will depend on a number of factors. These include firms' stock levels, the length of the recession, how easily firms can adjust working hours and the number of people they employ and whether the numbers in the labour force stay the same.

- 1 (a) Using information from the stimulus material, identify **two** stages of the economic cycle.

1 *Economic boom*.....

2 *Recession*.....

[2]

- (b) Using **Fig. 1**, explain the relationship between changes in consumer expenditure and changes in income.

Fig. 1 shows a direct (positive) relationship: as income rises, consumer expenditure rises. However, the curve gets flatter, so each rise in income causes a smaller rise in consumption, as saving becomes more attractive, and the average propensity to consume falls as income rises. C is positive at zero income, so at low incomes people dissave, spending savings or benefits.

[2]

- (c) Calculate Switzerland's marginal propensity to withdraw.

Multiplier = $\Delta Y \div \Delta J = \$300m \div \$200m = 1.5$

Multiplier = $1 \div MPW$, so $1.5 = 1 \div MPW$

MPW = $1 \div 1.5 = 0.67 (2/3)$

[2]

- (d) Using **Fig. 3**, explain what is likely to have happened to UK share prices at the start and the end of the period shown.

At the start of the period (2009) the base rate fell sharply from 5% to 0.5%, so share prices are likely to have been low initially and then increased. With interest rates so low, the return on saving in a bank fell, so buying shares gave a relatively higher return, raising demand for shares. A lower interest rate also raises AD and increases firms' profits and expected dividends.

At the end (2017 to 2018) the base rate rose from 0.25% to 0.75%, so share prices are likely to have fallen: saving became more attractive relative to shares, and dividend payments may be lower as higher borrowing costs reduce AD and profits.

[4]

- (e) Using information from the stimulus material, evaluate whether a recession will increase the number of people unemployed.

[8]

A recession is when real GDP falls for two successive quarters.

Unemployment is when people are willing and able to work, and actively seeking work, but cannot find a job.

A recession is likely to increase unemployment. As incomes and confidence fall, consumer expenditure falls (the stimulus says it can fall to a low level), so AD falls. Firms produce and sell less, so profits fall and, as labour is a derived demand, they cut the number of workers they employ: cyclical (demand-deficient) unemployment rises. The unemployment generated may itself cause more unemployment: those out of work spend less, reducing AD further, and the long-term unemployed lose skills and confidence, making it harder to get jobs when the economy picks up. The effect is greater if firms had high stock levels before the recession, as they will cut back production significantly.

However, as the stimulus notes, the impact depends on several factors.

Some people who lose their jobs may leave the labour force, entering higher education, retiring early, becoming homemakers or emigrating, so are not counted as unemployed. Firms may keep workers if they believe the recession will not last, and long-term contracts may make it difficult to dismiss them. If workers were doing long hours of overtime, firms can cut hours worked without reducing the number they employ. If the recession does not last much beyond six months and confidence is not too low, any rise in unemployment may be small.

On balance, a recession is likely to increase unemployment, but by how much depends mainly on its length, firms' stock levels and the extent to which firms wish to retain workers and adjust hours instead.

- (f)* Using information from the stimulus material, evaluate whether a negative interest rate would help the government achieve its macroeconomic objectives. [12]

A negative interest rate is one set below zero, so commercial banks pay to hold deposits at the central bank. Macroeconomic objectives include low and stable inflation (2% CPI in the UK), economic growth, low unemployment and a satisfactory balance of payments.

A negative rate could help. Banks often hold excess funds at the central bank, so rather than pay to hold them they lend more to households and firms. If banks pass on negative rates, borrowers gain and people have to pay to save, so consumption and investment rise. The government may also spend more, for example on investment subsidies, as the cost of servicing past debt and current borrowing falls. Higher C, I and G raise AD, increasing output and employment if there is spare capacity, and helping to avoid deflation, as the Bank of Japan, Swiss National Bank and ECB intended. A negative rate also lowers the return on saving in the country,

so less financial investment comes in and more goes out; demand for the currency falls and the exchange rate falls. Export prices fall and import prices rise, which may increase net exports and improve the balance of payments.

However, banks may not pass on the cut, and lower bank profitability (a criticism in the stimulus) may make it difficult for banks to attract funds to lend. More significantly, households and firms will not spend and invest more if they lack confidence; a negative rate may signal that the central bank is worried about the economy's prospects. If people think it will last only a short time, they may not change their saving and spending. While cash exists, people can switch from bank deposits to holding cash, so negative rates have less power to raise spending. The exchange rate may not fall if other central banks also have negative rates, and net exports may not rise if incomes abroad are falling. If C and I rise strongly, the rise in AD may cause inflation above target, conflicting with objectives.

Overall, a negative rate can help achieve growth, employment and inflation objectives, but it depends on how long rates stay negative, as people take time to react, and on initial savings: in a recession with few savings, spending may barely rise. It is more likely to work in a cashless society.

SECTION B

Answer **EITHER** question 2 **OR** question 3.

EITHER

- 2* In 2017 Bosnia had a significant output gap while it was estimated that Slovenia did not have an output gap.

Evaluate, with the use of an appropriate diagram(s), whether a government should always seek to reduce an output gap. [25]

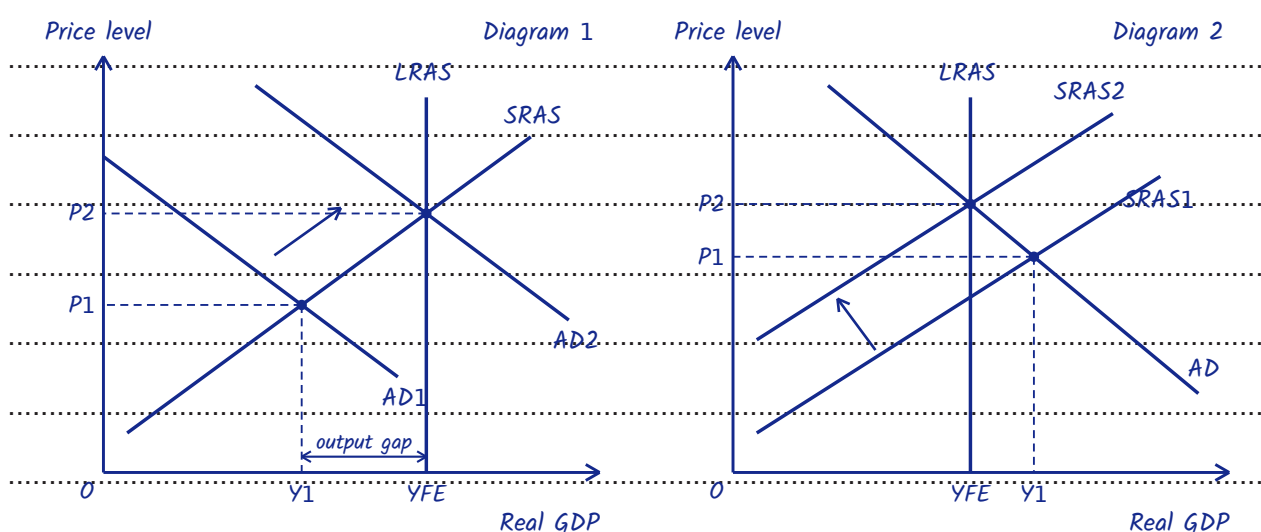
OR

- 3* In March 2018 the French government announced that children would have to start school at age 3 rather than age 6 from September 2019.

Evaluate, with the use of an appropriate diagram(s), whether a fall in the compulsory school starting age will benefit an economy. [25]

Question ...2.....

An output gap is the difference between actual output (real GDP) and potential output. A negative output gap, as in Bosnia in 2017, means the economy is operating at less than its potential output, with unemployed resources. A positive output gap means actual output is above potential output, as factors of production are over-utilised. Slovenia, with no output gap, was producing at its potential.



In Diagram 1, AD_1 cuts $SRAS$ at Y_1 , below the potential (full employment)

output YFE shown by LRAS. The existence of unemployed resources imposes considerable costs. Output that is lost can never be recovered, so living standards are lower than they could be. The government loses tax revenue and has higher spending on welfare benefits, worsening the budget position and creating an opportunity cost. Long-term unemployment causes a decline in workers' skills and motivation (hysteresis), which can reduce future potential output. For Bosnia, a significant gap probably meant high unemployment and emigration of young workers, so there is a strong case for expansionary fiscal or monetary policy shifting AD1 to AD2, raising output to YFE and reducing unemployment.

Diagram 2 shows a positive output gap: AD cuts SRAS1 at Y1, beyond YFE, so the economy produces more than its long-run potential. This is macroeconomic disequilibrium. Factors of production are over-utilised, which cannot be sustained: workers are paid overtime, labour shortages push up wages and raw material prices rise. The cost of production increases, shifting SRAS1 to SRAS2 and raising the price level from P1 to P2, which is inflationary. Inflation reduces international price competitiveness, erodes the real value of savings and creates uncertainty that discourages investment. Reducing a positive gap through contractionary policy, such as higher interest rates, can avoid an inflationary boom followed by a bust.

However, a government should not always seek to reduce an output gap. Some neo-classical economists argue that in the case of both types of output gap the government does not have to take action, as the economy will move to long-run macroeconomic equilibrium through adjustments in wages and raw material prices. With a negative gap, higher unemployment makes workers prepared to accept lower wages, and suppliers of raw materials lower their prices to raise demand for their products. If wages and raw material prices fall, SRAS

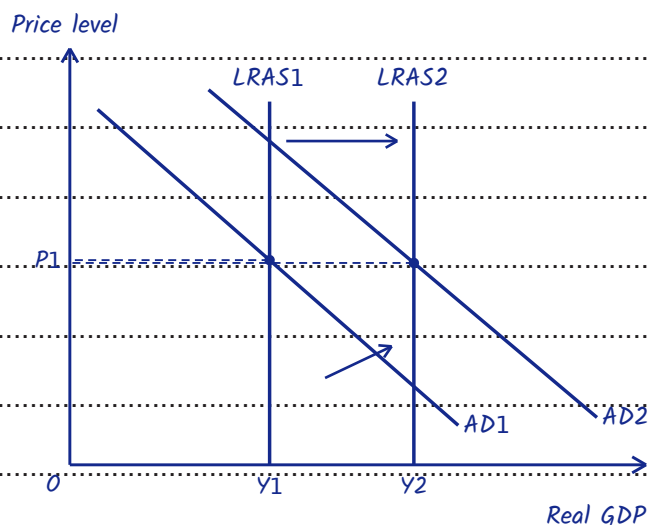
shifts to the right and long-run equilibrium is achieved at the productive potential, with a lower price level. With a positive gap, SRAS shifts to the left, as workers and suppliers demand higher wages and prices once they realise that inflation has eroded the real value of the payments they receive. Intervention may even make things worse because of time lags: by the time policy takes effect the economy may be recovering, so policy becomes pro-cyclical. Keynesian economists, however, argue that output gaps are not self-correcting and can continue in the long run. With a negative gap, wages may be 'sticky' downwards: despite high unemployment some workers resist wage cuts, employers may be reluctant to cut wages as it may have a negative effect on workers' motivation, and their ability to cut wages is limited by the length of workers' contracts. Falling prices may also make consumers delay spending, deepening the gap. This suggests a government should act on a persistent negative gap such as Bosnia's. Even then there is a trade-off. In Diagram 1, to reduce a long-run negative output gap the government has to increase AD from AD1 to AD2, which raises the price level from P1 to P2: it trades off lower unemployment against higher inflation. There is also some debate as to whether inflation creates more harm to an economy than unemployment. Expansionary fiscal policy raises government borrowing, which may crowd out private investment and increase debt interest. Potential output cannot be observed directly, so estimates of the gap, such as Slovenia's, may be wrong and policy may be mistimed. In conclusion, a government should not always seek to reduce an output gap. A positive output gap is more likely to be self-correcting, as it is difficult to sustain output beyond the maximum potential for long and the higher costs generated are likely to reduce output. A government may consider taking action if it is a negative output gap which will not be self-correcting, as in Bosnia,

and if it is prepared to accept a higher inflation rate. Whether a government
should act therefore depends on the type and size of the output gap, whether
it will be self-correcting and whether the measures it may take may harm its
other macroeconomic objectives; supply-side policies may avoid the trade-off.

Question 3

A fall in the compulsory school starting age from 6 to 3, as in France from September 2019, means that children start school younger and, if the leaving age stays the same, receive three more years of schooling. Its effects can be analysed using aggregate demand ($AD = C + I + G + (X - M)$) and aggregate supply.

In the short run, the size of the labour force may rise. Parents, especially mothers, who previously stayed at home to care for children aged 3 to 6 are able to seek work, so the participation rate rises. This increases the quantity of labour, raising productive capacity. Household incomes rise, increasing consumption, and parents pay more income tax, which helps to fund the policy. In the long run, if children's skills and qualifications increase as a result of starting their education earlier, they may go on to further education, improving the quality and skills of the labour force (human capital). This could lead to a rise in the productivity of labour. If workers are more productive, the LRAS curve shifts to the right from LRAS1 to LRAS2, as shown in the diagram, so potential output rises from Y_1 to Y_2 . The extra spending on schools also raises G , shifting AD1 to AD2, so real GDP rises without significant inflationary pressure because capacity has also grown.



The country's output would rise, so there is economic growth and higher living standards. A more skilled and qualified labour force is likely to experience lower structural unemployment and higher incomes, as workers can adapt to new industries. A better quality labour force may increase net exports as a result of greater price and quality competitiveness, improving the current account. It may also attract multinational companies to set up in France. As well as providing employment, MNCs may bring in new production methods and management techniques. Higher incomes raise tax revenue and reduce welfare spending in the long run, and early education may reduce inequality, as children from poorer backgrounds may gain the most.

However, there are costs. If the government provides state education, a lowering of the school starting age will increase government spending on teachers, buildings and equipment. This involves an opportunity cost. The government may have to sacrifice spending on, for instance, healthcare. Taxpayers may bear the opportunity cost if the government raises tax rates or widens the tax base to finance the extra spending, and higher tax rates may have a disincentive effect on work and enterprise, offsetting some of the supply-side gains. It is also possible that the government may borrow to raise the finance. In this case, funds used by the government will not be available to other borrowers, and higher government borrowing could also raise the rate of interest, crowding out private investment.

Higher government spending may increase AD before the supply-side benefits appear, which may create inflationary pressure, at least in the short run, especially if the economy is close to full capacity. The long-run benefits also involve a long time lag: children starting school at 3 in 2019 will not join the labour force until the 2030s. There is no guarantee that requiring all children to start school earlier will increase their skills and qualifications; some argue

very young children gain more from play than formal schooling. In France most 3-year-olds already attended nursery school before 2019, so the actual rise in years of education, and in the number of parents newly able to work, may be small.

In conclusion, a fall in the compulsory school starting age is likely to benefit an economy in the long run. Until recently the trend has been to raise the school leaving age, but more countries may now consider lowering the starting age as the benefits may exceed the costs, improving macroeconomic performance and the quality of people's lives. However, it will depend on the quality of education provided, which in turn will be influenced by the quality of the extra resources used, such as trained teachers. It will also depend on how productive parents joining the workforce are, and whether they actually join it. If the policy is financed efficiently, the long-run rise in productivity and LRAS is likely to outweigh the short-run costs.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

SECTION C

Answer **EITHER** question 4 **OR** question 5.

EITHER

- 4* The UK's deficit on the current account of its balance of payments in the first quarter of 2018 was £17.7bn (3.4% of GDP). This was a reduction on the deficit of £19.5bn (3.8% of GDP) in the last quarter of 2017.

Evaluate whether the UK would benefit from a reduction in the deficit on the current account of the balance of payments. [25]

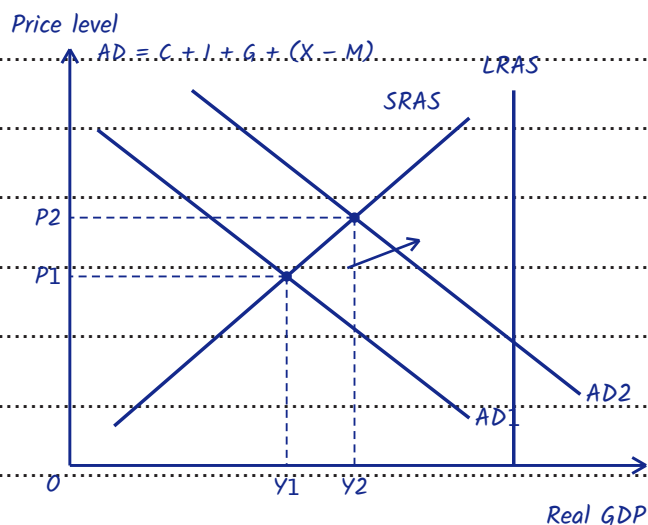
OR

- 5* In 2018 both Australia and Ireland had a high Human Development Index (HDI), 0.939 and 0.938. They did, however, have different rates of poverty.

Evaluate whether a country with a high HDI is likely to have a low rate of poverty. [25]

Question 4.....

The current account of the balance of payments records trade in goods and services, primary income (profits, interest and dividends) and secondary income (current transfers such as workers' remittances). A deficit means that outflows exceed inflows, mainly because the UK imports more goods and services than it exports. The UK's deficit fell from £19.5bn (3.8% of GDP) in the last quarter of 2017 to £17.7bn (3.4% of GDP) in the first quarter of 2018, although it remained large.



A reduction in the deficit caused by an increase in the competitiveness of UK

products is highly likely to be beneficial. If the cost of producing UK products falls and/or their quality rises, the UK is likely to export more and import less. Net exports ($X - M$) are a component of AD, so AD shifts right from AD1 to AD2 in the diagram, raising real GDP from Y_1 to Y_2 , magnified by the multiplier effect. Output will probably rise, which can, in turn, reduce unemployment, as labour is a derived demand. If costs of production have fallen, inflationary pressure may also be reduced. A smaller deficit also means the UK relies less on financial inflows, such as selling assets to foreigners, to finance it, reducing the risk of a sudden fall in sterling.

A reduction resulting from the removal of trade restrictions on UK exports by foreign governments is also likely to be beneficial, as such a change would allow UK firms to compete on more equal terms and gain economies of scale. A reduction caused by an increase in net primary income may arise from UK firms with branches abroad earning more profits, or UK banks earning a higher interest rate on loans to residents abroad; this raises UK national income. Workers' remittances appear as secondary income, and an increase in remittances to the UK may improve the living standards of family members and will reduce the deficit.

However, a reduction in the deficit is not always beneficial. A reduction caused by a fall in incomes at home is more likely to be harmful. Exports may rise because products cannot be sold at home, so while exports rise, output may still decline. Imports are also likely to decline, not only because households would not be able to spend as much but also because firms' demand for imported raw materials and capital goods will decline. In this case a smaller deficit is an indicator of falling output and rising unemployment.

A deficit reduction resulting from the UK government imposing trade restrictions, such as tariffs, or the Bank of England encouraging a lower

exchange rate, may only last a short time. This is because the measures may not tackle the real causes of the deficit, such as the UK's low level of productivity. A depreciation also raises import prices, causing cost-push inflation and reducing real incomes, and protectionism risks retaliation against UK exports. Higher income from abroad may have arisen because more UK firms have relocated abroad, or foreign firms with branches in the UK have closed them, reducing the outflow of profits; fewer production units in the UK would reduce output and employment. Higher remittances may mean the UK is losing skilled workers, reducing its productive capacity, although in practice workers' remittances are not a major contributor to the UK current account balance. A deficit of 3.4% of GDP may not be harmful anyway if it is financed by long-term foreign direct investment. An initial increase in the deficit may later result in a reduction: if the economy is expanding, more may be spent on imported raw materials and capital goods, which may be used to produce products, some exported and some bought to replace imports. The change from 3.8% to 3.4% of GDP over one quarter is also small and may be temporary. In conclusion, whether the UK will benefit from a reduction in the deficit on the current account depends principally on the cause of the reduction. It will be most beneficial if it is the result of a rise in the UK's international price and quality competitiveness, as this raises output and employment in a sustainable way. If it results from falling incomes at home or short-term protectionism, it is a symptom of economic weakness rather than a benefit.

Question 5

The Human Development Index (HDI) has three equally weighted components:

average income, measured by GNI per head; education, measured by mean and

expected years of schooling; and healthcare, measured by life expectancy at

birth. Australia (0.939) and Ireland (0.938) both have a very high HDI.

Absolute poverty is when people cannot afford basic necessities such as food,

shelter and clothing; relative poverty is when income is below a proportion of

the average (often 60% of median income), so people cannot participate fully

in the normal activities of their society.

A high HDI is likely to mean a low rate of poverty. If a country has a high

GNI per head, people are able to afford not just luxuries but also the goods and

services needed to participate fully in the normal activities of their society, so

both absolute and relative poverty may be low. High GNI per head may also

mean that tax revenue is high, enabling the government to redistribute income

through progressive taxes and benefits, ensuring greater equality of income and

so reducing relative poverty.

A high number of years of education contributes to a high HDI. If most of the

population have access to many years of good quality education, they may be

able to gain well-paid employment and enjoy a good standard of living. People

are likely to live a long life if there is good healthcare. Good quality healthcare,

as well as good quality education, should result in high labour productivity:

workers are mentally and physically fit and less likely to experience long periods

of sickness, which can be a cause of poverty. This is why countries with a high

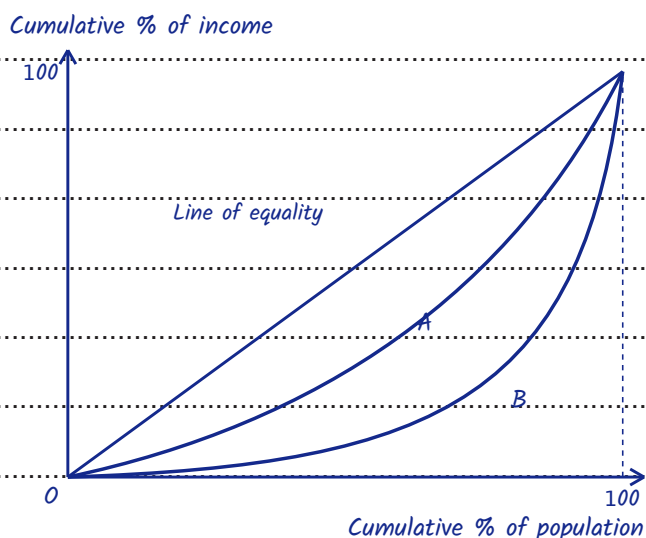
HDI, such as Australia and Ireland, have little absolute poverty.

However, a high HDI does not guarantee a low rate of poverty, as the different

poverty rates of Australia and Ireland show. GNI per head is an average, and

income may be very unevenly distributed. Some people may experience absolute

poverty, struggling to afford basic necessities, and there may be relative poverty, with some having incomes much lower than others, restricting the activities they can participate in. The Lorenz curve diagram shows this: two countries with the same average income can have very different distributions of income.



Country B, whose Lorenz curve is further from the line of equality (a higher Gini coefficient), will have more relative poverty than country A, even with the same HDI. In addition, Ireland's national income is inflated by the profits of multinationals based there, so average income may overstate typical household incomes.

The average years of schooling people receive may be high, but some people may receive significantly fewer years, and the quality of education may vary, for example between private and state schools. Those who receive less and/or low quality education stand a greater risk of being poor. HDI may even be high while mean and expected years of schooling are relatively low, if average income is high because the country exports a rare commodity, such as oil, and income is in the hands of the few. There may also be a wide spread of life expectancy, with the poor living much shorter lives than the rich. If people do not have access to good quality healthcare, in some cases because only private healthcare is available, their earning potential will be lower.

A high life expectancy may also mean there is a relatively high proportion of elderly people. One cause of poverty in a number of countries is old age, because state pensions are low or non-existent. Furthermore, HDI does not measure other aspects of poverty, such as access to clean water, housing or environmental issues, and because relative poverty is measured against a country's own average, it can remain high however high the HDI becomes. In conclusion, most countries that have a high HDI do have a relatively low rate of absolute poverty, because high incomes, education and healthcare make it rare for people to lack basic necessities. A number, however, have relatively high rates of relative poverty because of income inequality and unequal access to education and healthcare. Whether a high HDI country has a low rate of poverty therefore depends mainly on how evenly income, education and healthcare are distributed and on its welfare system, which is why Australia and Ireland, with almost identical HDIs, can have different rates of poverty.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

END OF QUESTION PAPER

[illegible]

Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.