

A Level Economics

Time allowed: 2 hours

- a scientific or graphical calculator



Centre number

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Candidate number

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StemUp Model Solution

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- 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.
- Answer **all** the questions in Section A, **one** question in Section B and **one** question in Section C.

- 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 **20** pages.

- Read each question carefully before you start your answer.

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SECTION A

Read the stimulus material and answer **all** parts of Question 1.

International competitiveness

In 2019, the UK had a trade in goods and services deficit of £30.5bn and a current account deficit of £95.3bn. A country's international competitiveness is influenced primarily by the relative price and quality of its products.

In the 2019 global competitiveness index, published by the World Economic Forum, the UK was ranked 9th out of 141 countries. This position was down one on 2018. Singapore was placed 1st in 2019 and 2nd in 2018. 5

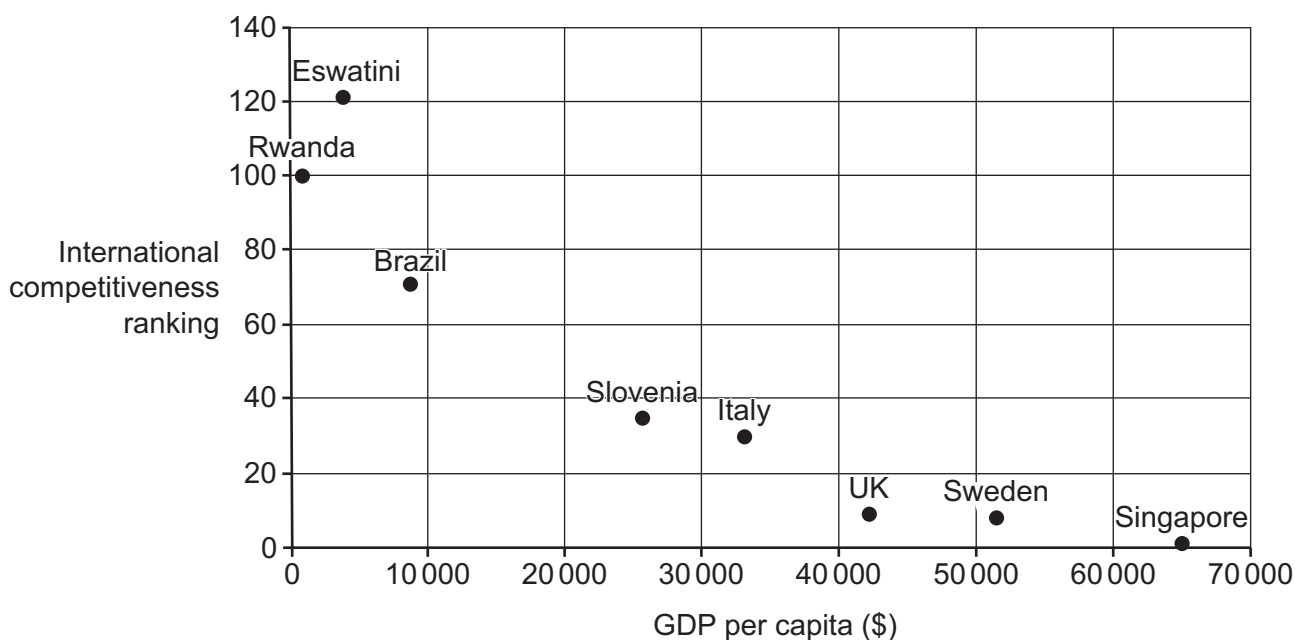
The World Economic Forum considers 12 categories of influences on a country's international competitiveness. These include the country's financial system, the skills of its workers and its macroeconomic stability. The UK has a strong financial system and was placed 7th in this category. Its central bank has experience in, for instance, maintaining price stability and engaging in quantitative easing. The country's commercial banks provide savings facilities, loans and other services for their customers. 10

The UK was placed 11th in the skills category. A more skilled labour force is likely to have higher productivity. In turn, productivity can also be affected by working hours. Between 2018 and 2019, average working hours fell in Germany, the UK and the USA and labour productivity rose. In contrast, both average working hours and labour productivity rose in Poland and both fell in Mexico over this period. 15

The category in the global competitiveness index which the UK performed best in was macroeconomic stability. It came 1st achieving a maximum score of 100. Macroeconomic stability can increase business confidence. This can increase investment, international competitiveness and GDP per capita. Fig. 1 shows the international competitiveness ranking of eight countries and their GDP per capita. 20

Fig. 1

International competitiveness ranking and GDP per capita of selected countries

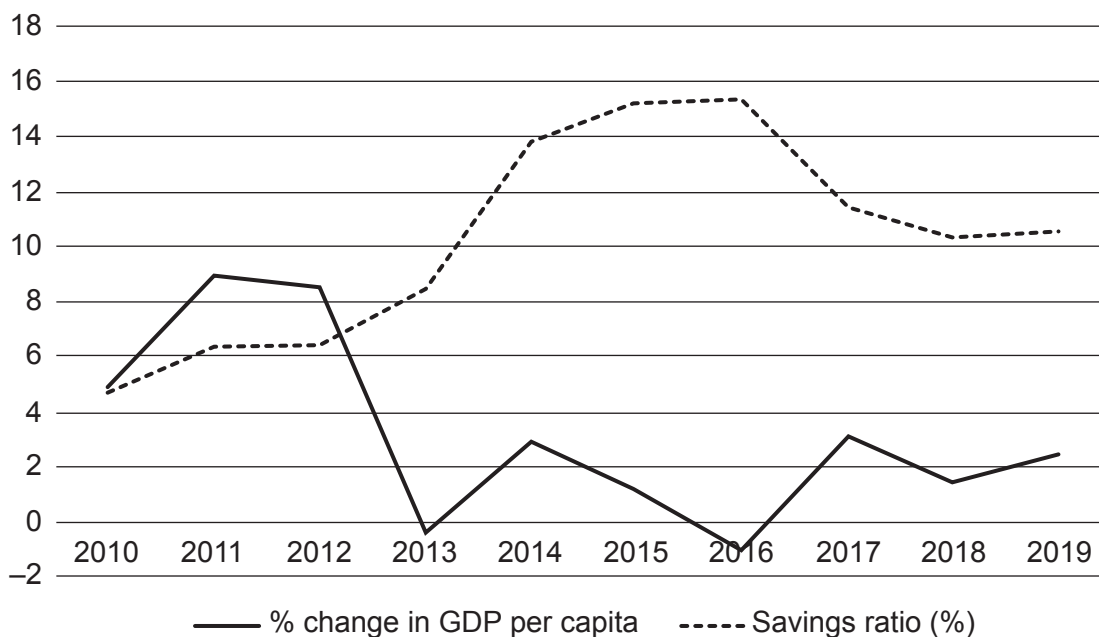


The country which experienced the largest increase in international competitiveness ranking between 2018 and 2019 was Rwanda. The main destination of Rwanda's exports is the UAE and its main source of imports is China. Rwanda's imports to GDP rose from 28% in 2010 to 35% in 2019 and GDP per capita increased from \$610 to \$802. Fig. 2 shows the savings ratio (average propensity to save) and the changes in GDP per capita in Rwanda over the period.

25

Fig. 2

Rwanda's savings ratio and change in GDP per capita 2010–2019



The Rwandan government tried to increase the savings ratio over the period. The government wanted to increase the domestic supply of finance for investment. It encouraged adults to open savings accounts at banks and students to join savings clubs. It did not, however, change tax rates over this period.

30

Higher investment would be likely to increase Rwanda's international competitiveness. The country's inflation rate also affects international competitiveness. Table 1 shows Rwanda's, China's and the UAE's inflation rates and the global average inflation rate over the period 2010 and 2019.

35

Table 1

Inflation rates for Rwanda, China and the UAE and the global average inflation rate 2010 to 2019

Year	Rwanda's inflation rate (%)	China's inflation rate (%)	UAE's inflation rate (%)	Global average inflation rate (%)
2010	-0.3	3.2	0.9	3.3
2011	3.1	5.5	0.9	4.8
2012	10.3	2.6	0.7	3.7
2013	5.9	2.6	1.1	2.6
2014	2.3	1.9	2.3	2.3
2015	2.5	1.4	4.1	1.4
2016	7.2	2.0	1.6	1.5
2017	8.3	1.6	2.0	2.2
2018	-0.3	2.1	3.1	2.5
2019	3.4	2.9	-1.9	2.3

Wages rose in Rwanda between 2010 and 2019 at a higher rate for skilled than unskilled workers. Unemployment fell and foreign direct investment increased slightly, although it was still low.

- 1 (a) Using information from the stimulus material, calculate the balance on the UK's primary and secondary income in 2019.

Current account = trade in goods and services + primary income + secondary income, so
-£95.3bn = -£30.5bn + (primary and secondary income)
Balance = -£95.3bn - (-£30.5bn) = -£64.8bn (a deficit of £64.8bn)
 [2]

- (b) Using information from the stimulus material, identify **two** causes of an increase in the money supply.

1 *Quantitative easing by the central bank, which creates new money to buy financial*
assets such as bonds.
 2 *Loans by commercial banks (bank lending / credit creation), as each new loan creates*
a new deposit.
 [2]

- (c) Explain how a change in working hours is likely to affect productivity.

There is likely to be an inverse relationship: a fall in working hours is likely to increase
labour productivity (output per worker per hour), as in Germany, the UK and the USA
from 2018 to 2019. Workers with fewer hours are less tired, so they produce more per
hour, whereas longer hours cause fatigue.
 [2]

- (d) Using Fig. 1, explain the relationship between international competitiveness and GDP per capita.

Generally there is a direct relationship: the higher the competitiveness ranking (closer to
1st), the higher the GDP per capita.
The five highest ranked countries (Singapore, Sweden, the UK, Italy, Slovenia) have the
five highest GDP per capita, in order, e.g. Singapore 1st at about \$65,000. Exception:
Eswatini is ranked below Rwanda (about 121st v 100th) yet has a higher GDP per
capita.
A competitive country sells more at home and abroad, so output and income are high;
in turn, high income funds investment, education and health care, raising productivity.
 [4]

- (e) Using information from the stimulus material, evaluate whether the size of Rwanda's multiplier is likely to have increased between 2010 and 2019.

The multiplier is the process by which an initial injection into the circular flow, such as investment, causes a larger final change in national income. Its size is $1/(1 - MPC)$ or $1/(mps + mrt + mpm)$, so the more income leaks out as saving, tax and imports, the smaller the multiplier.

Some evidence suggests it rose. The government did not change tax rates, so the mrt may not have risen. GDP per capita rose from \$610 to \$802 (about 31%), and this extra income is spent, creating further rounds of spending. Rwanda's competitiveness ranking rose by more than any other country in 2019, so Rwandans may switch from imports to domestic goods, lowering the mpm in future. Fig. 2 shows that when the savings ratio was low (2010 to 2012), GDP per capita grew quickly (about 9%), consistent with a high MPC.

However, leakages are likely to have increased. Fig. 2 shows the savings ratio (APS) rose from about 5% in 2010 to over 15% in 2016 and ended at about 10.5% in 2019, roughly double its starting level, which implies a higher mps. This is supported by the government encouraging adults to open savings accounts and students to join savings clubs, and by rising incomes, as richer people can afford to save more. Imports rose [8]

- (f) Using information from the stimulus material, evaluate whether the changes in Rwanda's price level between 2010 and 2019 is likely to have harmed Rwandan households and firms.

Inflation is a sustained rise in the general price level. Table 1 shows that Rwanda's inflation averaged about 4.2% from 2010 to 2019, compared with about 2.6% in China, 1.5% in the UAE and a global average of about 2.7%, so its price level rose by about 50% over the period. It also fluctuated widely, from deflation of -0.3% in 2010 and 2018 to 10.3% in 2012, and was over 7% in three years. This is likely to have harmed households. Wages of unskilled workers rose more slowly than those of skilled workers, so unskilled workers may have seen their real wages and purchasing power fall, reducing the quantity of products they could consume. Inflation therefore redistributed income arbitrarily away from the poorest. Savers may also have lost if interest rates were below inflation, working against the government's aim of raising savings. The volatile inflation rate created inflationary noise, making it hard for consumers, workers and firms to plan ahead. This uncertainty reduces confidence and may have discouraged investment, reducing AD in the short run and LRAS in the long run, which may explain why FDI remained low. Firms may also have lost international price competitiveness. Rwanda's inflation was usually above China's and the UAE's, so its products became relatively more expensive: firms may have exported less to the UAE, its main export market, and households bought more imports from China, consistent with imports rising from 28% to 35% of GDP. The current account may have worsened, reducing firms' revenue and jobs. The deflation in 2010 and 2018, if caused by a fall in AD, may have caused losses for firms and some unemployment. However, the harm may have been limited. Unemployment fell, suggesting the inflation was mainly demand-pull, caused by rising AD. This is less harmful than cost-push inflation, as it comes with rising output, so firms may have enjoyed higher demand and

[12]

SECTION B

Answer Question 2 or Question 3.

EITHER

- 2* Consumer expenditure rose in the USA in 2019. In that year, US unemployment fell to a 50-year low of 3.5%.

Evaluate, with the use of an appropriate diagram(s), whether an increase in consumer expenditure will always reduce a country's unemployment rate.

[25]

OR

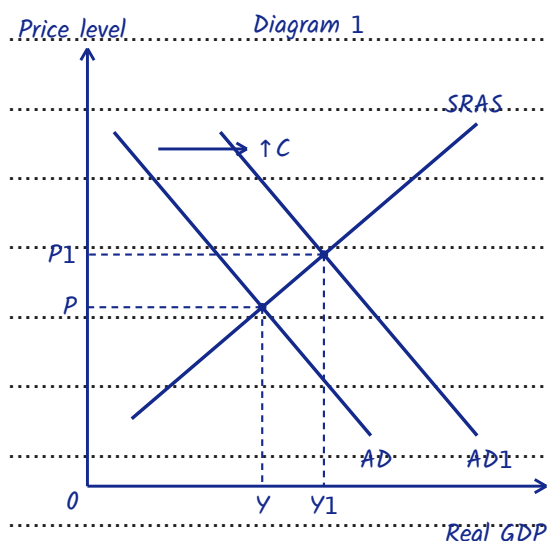
- 3* Between July 2018 and August 2020, the value of the Turkish lira fell from 4.73 lira to 1 US dollar to 7.32 lira to 1 US dollar. The Turkish central bank spent much of its foreign currency reserves in attempt to stop the decline in the country's exchange rate.

Evaluate, with the use of an appropriate diagram(s), whether a central bank should try to stop a decline in a country's exchange rate.

[25]

Question No. 2.....

Consumer expenditure (consumption) is spending by households on goods and services and is the largest component of aggregate demand, where $AD = C + I + G + (X - M)$. Unemployment is when people who are willing and able to work cannot find work, and the unemployment rate is the number unemployed as a percentage of the labour force. In the USA consumer expenditure rose in 2019 and unemployment fell to a 50-year low of 3.5%, which suggests a close link. If the other components of AD do not change, a rise in consumer expenditure



causes AD to increase. In Diagram 1, AD shifts right from AD to AD1, so real GDP rises from Y to Y1 and the price level from P to P1. Firms first see a fall in their inventories and an opportunity to increase production to meet the higher demand. To produce this higher output they increase their demand for labour,

because the demand for labour is a derived demand. Firms therefore take on more workers, so a smaller percentage of the labour force is unemployed and demand-deficient (cyclical) unemployment falls.

This effect is magnified by the multiplier: newly employed workers spend part of their wages, creating income for other firms, which in turn hire more workers.

Higher consumer expenditure also tends to raise business confidence, encouraging investment and further hiring, so the final fall in unemployment can be larger than the initial rise in spending suggests.

However, an increase in consumer expenditure will not always reduce unemployment. First, higher consumer expenditure may go on imports. If the marginal propensity to import is high, much of the extra demand reduces unemployment in other economies rather than in the domestic economy, and the multiplier is small. The USA imports many consumer goods, for example from China, so some of the 2019 rise in spending created jobs abroad. Yet it is highly unlikely that all the extra spending goes on imports, so domestic unemployment will usually fall to some extent.

Second, the economy may initially be operating at full capacity. In Diagram 2 the economy is at full employment output Y_f , where the LRAS is vertical. An increase in AD from AD2 to AD3 only raises the price level from P2 to P3, causing demand-pull inflation rather than a fall in unemployment. With US unemployment at 3.5%, close to its natural rate, further rises in spending may mainly cause inflation. Neoclassical economists argue that the economy is always operating at full employment in the long run, so no matter how much consumer expenditure increases, unemployment remains at its natural rate.

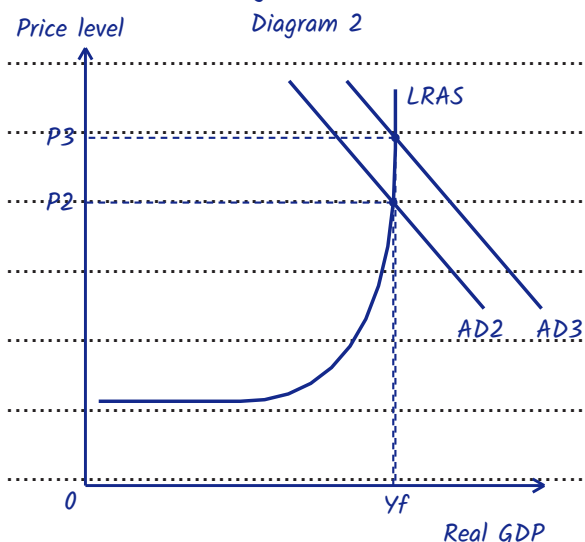
Third, firms may not need more workers. They may be able to produce a higher output by offering existing workers the opportunity to work overtime or by employing more advanced technology. Every year productivity tends to increase as

a result of improvements in education and technology; if aggregate demand does not increase in line with higher aggregate supply, a rise in consumer expenditure may be accompanied by a higher unemployment rate. Firms with spare capacity may also decide not to increase output, running down stocks instead, if they think the rise in consumer expenditure will not last, for example because it is financed by borrowing.

Fourth, even if firms take on more workers, it does not necessarily mean the unemployment rate will fall. The extra workers may have just entered the labour force, such as migrants or people returning to work. If the size of the labour force increases by more than the number of people employed, the unemployment

rate will rise. Finally, a rise in consumer expenditure may not help to reduce structural unemployment, caused by a mismatch between the skills or location of the unemployed and the jobs available. New jobs may be in growing sectors, while workers made redundant in declining industries lack the right skills or live in the wrong area.

In conclusion, an increase in consumer expenditure will not always reduce a country's unemployment rate, but in practice it often does, as the USA in 2019 shows. Economies do not often operate at full capacity, so the outcome depends mainly on the size of the multiplier, which depends upon the MPM and other leakages, on how much spare capacity exists, and on whether firms think the rise in consumer expenditure will last. It is most likely to cut unemployment when there is a negative output gap and high cyclical unemployment, and least likely when the economy is near full employment or when unemployment is mainly



..structural, in which case supply side policies such as training are needed instead.....

SECTION C

Answer Question 4 or Question 5.

EITHER

- 4* Since 1978, more than 800 million people have been lifted out of poverty in China. In this period, the Chinese government has made increasing use of supply side policy measures.

Evaluate the effectiveness of using supply side policy measures to reduce poverty. [25]

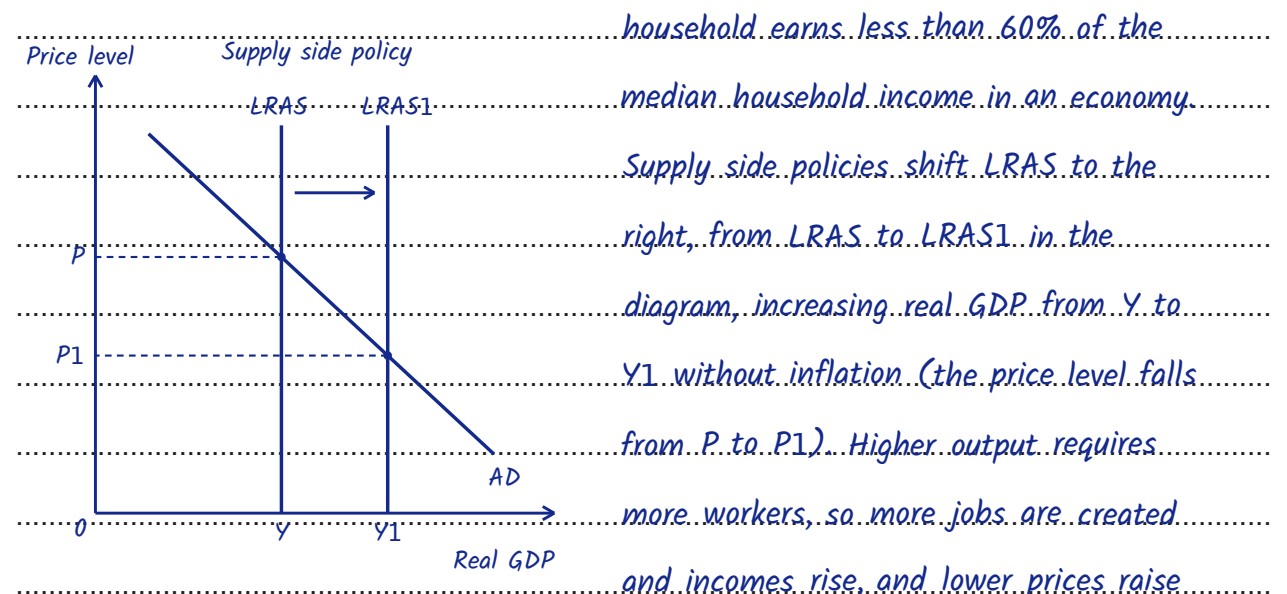
OR

- 5* In 2020, the Saudi Arabian government tripled Value Added Tax from 5% to 15%. It did not change the country's corporate tax rate.

Evaluate whether a government should rely more on indirect or direct taxation as a source of revenue. [25]

Question No. 4.....

Supply side policy measures are designed to increase aggregate supply, the productive capacity of the economy. They include market-based measures, such as cuts in income and corporation tax, cuts in unemployment benefit, trade union reform and privatisation, and interventionist measures, such as increased government spending on education, training, subsidies and infrastructure. Absolute poverty is a situation when a household has insufficient income to afford the basic necessities, such as food, shelter and clothing. Relative poverty is when a



the real incomes of the poor. Since 1978 more than 800 million people in China have been lifted out of poverty while the government made increasing use of these measures, suggesting they can be very effective.

Increased government spending on education is likely to reduce poverty for a number of reasons. It can create jobs for school staff and, more significantly, it increases the skills and employability of students, so they can earn higher wages as adults. Higher government spending on training is also likely to increase skills and employability, and it may enable workers to be promoted out of low-paid jobs, breaking the cycle of poverty.

A rise in government spending on infrastructure, such as China's roads, railways and ports, is also likely to reduce poverty, as it reduces firms' costs of production, encouraging them to increase output and employment. It may also increase the geographical mobility of labour, so workers from poor rural areas can reach jobs in cities, reducing structural unemployment. Government subsidies are likely to reduce poverty as they encourage firms to increase their output and employ more workers, and they are also likely to reduce prices.

Market-based measures can also help. Cutting income tax may stimulate a rise in consumer expenditure, aggregate demand and real GDP, resulting in a fall in unemployment, with some of the people gaining jobs moving out of poverty. Similarly, a cut in corporation tax may lower poverty by encouraging firms to expand and take on more workers, and by attracting FDI, as in China's special economic zones. Cuts in unemployment benefits may encourage the unemployed to seek work more actively; if they succeed, their incomes may rise. Trade union reform may persuade firms to employ more workers, as labour costs may fall and it may be easier to hire and fire workers. Privatisation may reduce poverty if the privatised firms become more efficient, charge lower prices and employ more workers.

However, supply side measures do not always reduce poverty. Cutting income tax is unlikely to raise the income of the poor directly, as they will probably not be paying any income tax, so it will be ineffective for absolute poverty and mainly benefits higher earners. If jobs are not available, cuts in unemployment benefits will just cause the unemployed to experience a fall in their incomes. There is the possibility that trade union reform may increase poverty by weakening the power of trade unions to raise the wages of low-paid workers and to resist job losses. Privatisation may increase poverty if it results in a decrease in employment as private sector firms seek to reduce costs, and the privatised firms may gain monopoly power and use it to raise the price of, for instance, gas and electricity, so more people experience fuel poverty.

Supply side policies also take a long time to be effective: education may take fifteen years or more to raise earnings, so more immediate policies, such as benefits, a minimum wage or progressive taxation, may be more effective in the short run. Interventionist measures are costly and have an opportunity cost, so they depend on the government's finances. Moreover, China's fall in poverty may owe as much to other factors, such as export-led growth and very high investment, as to supply side policy.

The effectiveness also depends on the type of poverty. Interventionist measures that raise the skills of the lowest paid can narrow the gap between their incomes and the median, so supply side policies may be more effective at reducing relative poverty, whereas tax cuts mainly raise the incomes of the better off and may widen the gap.

In conclusion, supply side policy measures can be very effective at reducing poverty in the long run, because they influence poverty by affecting employment, wages and prices, and China's experience shows that, combined with growth, they can work on a huge scale. Interventionist measures, such as government spending on

education, training, subsidies and infrastructure, are likely to have a more certain effect on poverty reduction than market-based measures, which may increase inequality. A combination of supply side policies will be more effective than one on its own, but the outcome depends on the type of poverty, the time period, the other objectives of the government and whether it has sufficient finances.

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

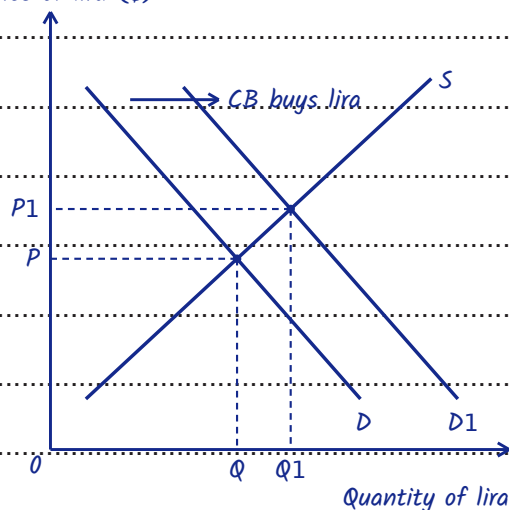
1(e) from 28% to 35% of GDP, suggesting a higher mpm, as people buy more imports as they get richer. Although tax rates were unchanged, higher incomes may have moved people into higher tax brackets, raising the mrt. Overall, the multiplier is likely to have fallen rather than risen, because the mps, mpm and probably the mrt all increased. This assumes the marginal propensities moved with the average ratios shown, and rising competitiveness may reduce the mpm in future.

1(f) profits and households more job opportunities. Skilled workers' wages rose faster, so their real wages may have risen. If the deflation was due to advances in technology, households and firms will have benefited from lower prices. Rwanda's rising competitiveness suggests productivity and quality gains outweighed the price effect, and higher savings may, as the Harrod-Domar model suggests, fill the savings gap, raising investment and productivity and reducing future inflation. On balance, the changes in the price level are likely to have harmed some households and firms, mainly through uncertainty from fluctuating inflation and falling real incomes for unskilled workers. However, the overall harm was probably moderate, as average inflation of 4.2% is not very high, unemployment fell and the economy was becoming more competitive by 2019.

3. An exchange rate is the value of one currency in terms of another. A central bank, such as the Turkish central bank, is the country's banker, which issues currency, sets interest rates and manages the foreign currency reserves. A decline (depreciation) in the exchange rate is a fall in its value against another currency. Between July 2018 and August 2020 the lira fell from 4.73 to 7.32 lira per US dollar, so the price of one lira fell from about \$0.211 to \$0.137, a fall of about 35%.

A central bank may try to stop a decline in the country's exchange rate by

Price of lira (\$)



buying its own currency using its foreign currency reserves, as Turkey's

central bank did. In the diagram

this increases the demand for the lira from D to $D1$, raising its value

from P to $P1$, or at least preventing

it from falling. Alternatively, it could

raise interest rates, attracting hot

money flows from foreign savers,

which also increases demand for the currency.

There are strong reasons to intervene. A lower exchange rate will lower relative export prices and increase relative import prices. The change in the price of exports and imports may result in a rise in net exports, increasing aggregate demand and causing demand-pull inflation. A higher price of imports may also cause cost-push inflation, as the price of imported raw materials, fuel and capital goods will increase, and there will be less pressure on domestic producers to avoid price rises. Turkey already had high inflation, so preventing a depreciation can help to avoid further inflation and a fall in households' real incomes.

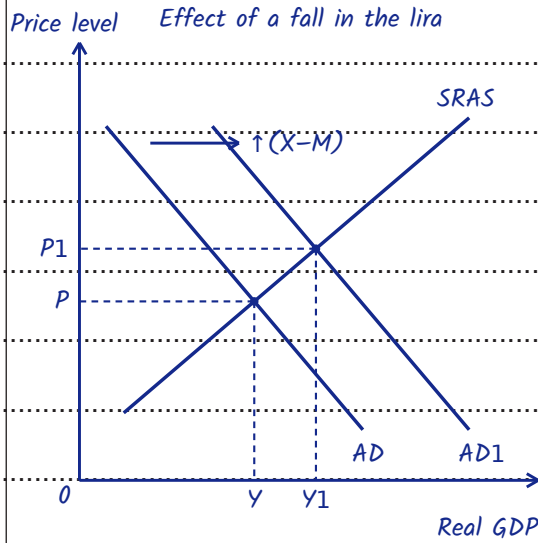
A central bank might also think that the price of the currency is falling due to speculation, with dealers selling the lira because they think it will decline in value. This could lead to a downward spiral in the exchange rate, so intervention may restore stability. A fall in the exchange rate may reduce confidence in the economy, which could reduce investment, having an adverse effect on productivity and economic growth. In addition, a lower exchange rate will worsen the terms of trade, meaning that more exports have to be exchanged for a given quantity of imports, and it raises the cost of repaying debts in US dollars for Turkish firms and the government.

There are, however, a number of reasons why a central bank should not intervene to prevent a fall in the exchange rate. One is that it may lack the foreign currency to purchase the domestic currency. Turkey spent much of its reserves, yet the lira still lost about 35% of its value, so intervention can waste reserves needed in a future crisis and is unlikely to succeed against strong market forces. The central bank may also be reluctant to raise the interest rate to attract demand for the currency, particularly if the economy is experiencing low economic growth and high unemployment, as higher rates reduce consumption and investment.

In addition, the central bank may consider that the currency is overvalued, so a fall in value moves it towards its long run equilibrium price. Turkey's inflation was much higher than in the USA, so purchasing power parity suggests the lira should fall. A fall in the exchange rate may also benefit the economy. Exports became more price competitive and imports less so, so net exports ($X - M$), a component of AD, increase. As the second diagram shows, AD shifts from AD to AD1, raising real GDP from Y to $Y1$ and reducing unemployment. The current account may also improve, particularly if the Marshall-Lerner condition holds (the sum of the price elasticities of

demand for exports and imports is greater than one), although the J-curve

suggests it may worsen at first.



In conclusion, whether or not a

central bank should try to stop a

fall in the exchange rate will be

influenced by the state of the

economy and the cause of the fall.

There is a stronger case for avoiding

a depreciation during an economic

boom, when inflation is already high,

and when the currency is being pushed below its long run equilibrium level

by speculation. There is a weaker case in a recession with high

unemployment, when the currency was overvalued, or when reserves are

limited. Turkey's experience suggests that spending reserves alone cannot stop

a decline caused by fundamental factors such as high inflation; tackling

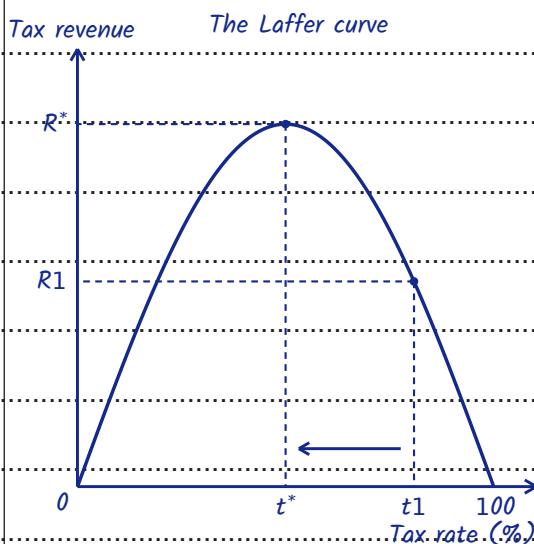
those causes is more effective in the long run.

5. Indirect taxes are taxes on spending, such as VAT and excise duties, which are collected from sellers and passed on to consumers in higher prices.

Direct taxes are taxes on income and wealth, such as income tax and corporation tax, paid directly to the government by the person or firm earning the income. In 2020 the Saudi Arabian government tripled VAT from 5% to 15% while leaving corporation tax unchanged, increasing its reliance on indirect taxation.

A number of governments are increasing their reliance on indirect taxation.

This is largely because indirect taxes are thought to have less of a disincentive effect on effort, saving and enterprise. Relying more on indirect taxes may enable income tax and corporation tax rates to be cut. Lower



income tax rates raise the reward for working, so they may encourage the unemployed to seek work more actively, encourage more people to enter the labour force and encourage existing workers to work more hours and be more willing to accept promotion, shifting LRAS to the

right.

The Laffer curve in the diagram suggests that a reduction in income tax rates from above the optimum rate t^* towards it, for example from t_1 , can increase tax revenue from R_1 towards R^* , because people work more and evade less. A cut in income tax rates may also encourage people to save more, which can provide more finance for investment, and lower corporation tax may encourage investment and attract FDI.

Indirect taxation is often cheaper to collect than direct taxation and harder

to evade, as sellers are responsible for collecting the tax and passing it on to the tax authority, whereas income can be hidden in the informal economy. This matters in Saudi Arabia, which has no personal income tax and a large foreign workforce, so VAT gives a broad tax base. Indirect taxes imposed on goods with inelastic demand, such as cigarettes and alcohol, will raise more revenue and also reduce negative externalities. VAT is also a more stable source of revenue than oil, helping Saudi Arabia diversify away from volatile oil prices. Both indirect and direct taxes can act as automatic stabilisers: during an economic boom both spending and income rise, so VAT and income tax revenue rise, reducing the growth in aggregate demand. However, the main argument against relying more on indirect taxation is its regressive nature. The indirect taxes that people pay take up a larger proportion of the income of the poor than of the rich, because the poor spend a higher share of their income, leading to greater inequality. This is particularly the case in countries where indirect taxation is imposed on food. In contrast, direct taxation is often progressive, taking into account people's ability to pay, as higher earners pay a higher marginal rate. In the short run, increasing reliance on indirect taxation may also be inflationary. While increasing direct taxes tends to reduce inflation by reducing disposable income and AD, higher indirect taxes push up the price of a range of products people buy, causing cost-push inflation, which may lead to higher wage claims. Inflation in Saudi Arabia rose sharply after the VAT rise in 2020, reducing real incomes. Furthermore, the effect of lower direct taxes is uncertain. Lower income tax may cause some workers to work fewer hours, as they could earn the same net income and have more leisure time, if the income effect outweighs the substitution effect. Lower corporation tax is not guaranteed to increase

investment; firms may lack the confidence to invest or may decide to increase dividends to shareholders. The Laffer curve only suggests revenue will rise if tax rates are already above t^* , which is unlikely in most countries.

In conclusion, whether a government should rely more on indirect tax depends upon the circumstances in the economy and the motives of the government. If the aim is to raise revenue efficiently, improve incentives and widen a narrow tax base, as in Saudi Arabia, greater reliance on indirect taxes is sensible. However, if there is already inequality in Saudi Arabia, a greater reliance on indirect taxes will make the situation worse, especially as the increase from 5% to 15% is significant. On balance, a mix is best: indirect taxes for a broad and stable revenue base, with necessities such as food zero-rated, alongside progressive direct taxes to protect equity.

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