Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/21**

Paper 2 AS Level Data Response and Essays **May/June 2023**

2 hours

6104193953

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **three** questions in total:
  - Section A: answer Question 1.
  - Section B: answer **one** question.
  - Section C: answer **one** question.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You may answer with reference to any economy you have studied where relevant to the question.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **4** pages.

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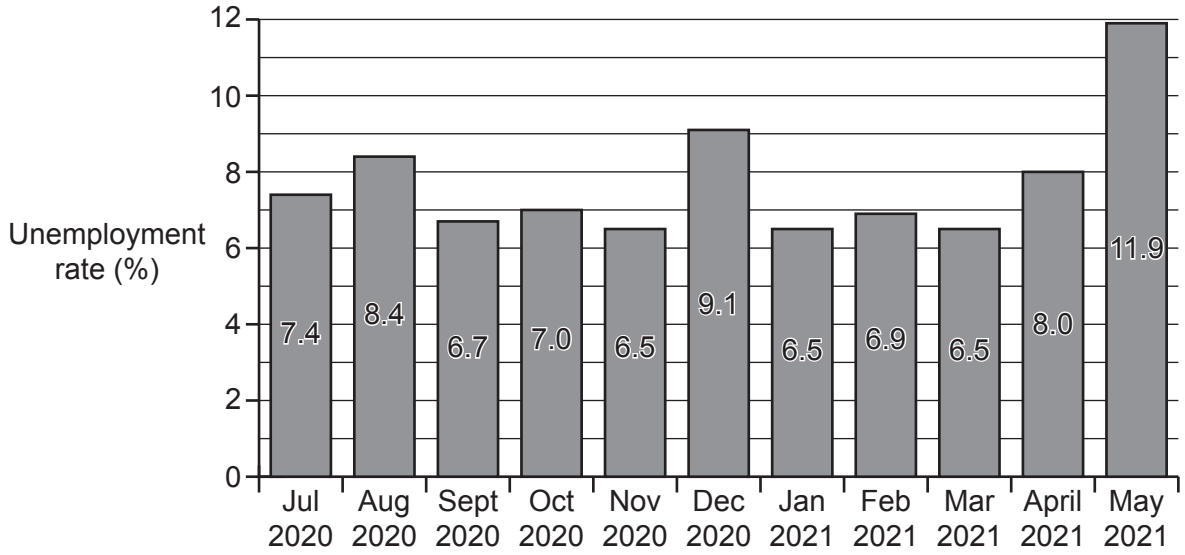
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Section A

Answer all parts of Question 1.

1 **Unemployment in India**

Changes in the rate of unemployment in India between July 2020 and May 2021 can be seen in Fig. 1.1.



Source: tradingeconomics.com, July 2021

Fig. 1.1: India's unemployment rate, July 2020 to May 2021

India's unemployment rate rose in December 2020, reaching a six-month high. The fact that the unemployment rate has been rising during this period, despite an economic recovery, has raised concerns among economists at the Centre for Monitoring Indian Economy (CMIE) research institute in Mumbai, although they recognise that there are possible difficulties in the measurement of unemployment.

One of the reasons for the increase in unemployment in December 2020 is an increase in frictional unemployment. According to CMIE, India's labour force increased from 421 million in November 2020 to 427 million in December 2020 and the majority of these new workers were unable to find work immediately. Many of these people are reluctant to relocate to take jobs and others are unaware of job vacancies.

Another reason for this increase in unemployment in India is because of seasonal unemployment. One of the main reasons behind rising unemployment has been the failure of the agricultural sector to absorb the additional labour. One economist at CMIE has stated: 'Farming is the last resort of many who are without work. However, December is not the month in which farming can absorb labour. This is the month when it needs fewer workers. In December 2020, the job losses from agriculture were 9.8 million.

The economists at CMIE stated that the rise in unemployment in certain months was not a good sign for the Indian economy as it could lead to higher income inequality and poverty.

Source: Adapted from India Today, 5 January 2021

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(a) Using the data in Fig. 1.1, calculate the change in India's unemployment rate between July 2020 and May 2021. [2]

(b) Using the information provided, explain how agriculture caused seasonal unemployment in India in December 2020. [2]

(c) Consider the extent to which difficulties may arise in the measurement of unemployment in India. [4]

(d) Assess whether seasonal unemployment is likely to be a more serious problem than frictional unemployment for India's economy. [6]

(e) Assess the possible measures that could be taken to increase employment in a country such as India. [6]

Section B

Answer **one** question.

EITHER

2 **(a)** With the help of a diagram, explain the difference between the causes of a movement along, and a shift of, a production possibility curve (PPC) **and** consider which is likely to have the most immediate impact on an economy. [8]

(b) Assess whether education should be classified as a public good rather than classified as a merit good. [12]

OR

3 **(a)** With the help of a formula, explain the meaning of cross elasticity of demand **and** consider which determinants are most important in establishing the size and sign of its coefficient. [8]

(b) With the help of a diagram, assess whether the benefits of a buffer stock scheme for an agricultural product always outweigh its disadvantages. [12]

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Section C

Answer **one** question.

EITHER

4 **(a)** With the help of an AD/AS diagram(s), explain cost-push inflation and demand-pull inflation in an economy **and** consider in what circumstances one may be more damaging than the other. [8]

(b) Assess whether monetary policy or supply-side policy is likely to be more successful in reducing the rate of inflation in an economy. [12]

OR

5 **(a)** With the help of a diagram(s), explain the likely causes of a depreciation of a floating exchange rate **and** consider whether such a depreciation is always beneficial to an economy. [8]

(b) Assess whether the arguments for protectionism in the context of international trade are always stronger than the arguments against. [12]

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Surname	StemUp Model Solution
Answer booklet	Write the question number in the left-hand margin at the start of each answer.

Question number

Answers for paper 9708/21

1(a) July 2020 = 7.4%, May 2021 = 11.9%

Change = 11.9 − 7.4 = +4.5 percentage points

(a rise of 4.5 ÷ 7.4 × 100 = 60.8% in the rate)

1(b) Farming is the last resort for many people without work, but December is a month when agriculture needs fewer workers, so instead of absorbing the extra labour it shed jobs. In December 2020, 9.8 million agricultural jobs were lost, more than the 6 million rise in the labour force (421 million to 427 million), so unemployment rose to 9.1%.

1(c) Unemployment is hard to measure in India. Many people work in the large informal economy, so they may be counted as unemployed when they actually have unreported work. There is also disguised unemployment, especially in farming, where people appear to be employed but add little to output. Discouraged workers who have stopped looking for work, or inactive people who would work if their situation changed, are not counted. The sheer scale of a labour force of 427 million, much of it in rural areas, makes a reliable survey costly and difficult, and seasonal swings mean the figure depends on the month chosen.

Overall these difficulties are significant: the official rate probably understates true unemployment and underemployment, so the CMIE figures should be treated as estimates and trends are more reliable than the exact level.

1(d) Seasonal unemployment occurs when demand for labour falls at certain times of

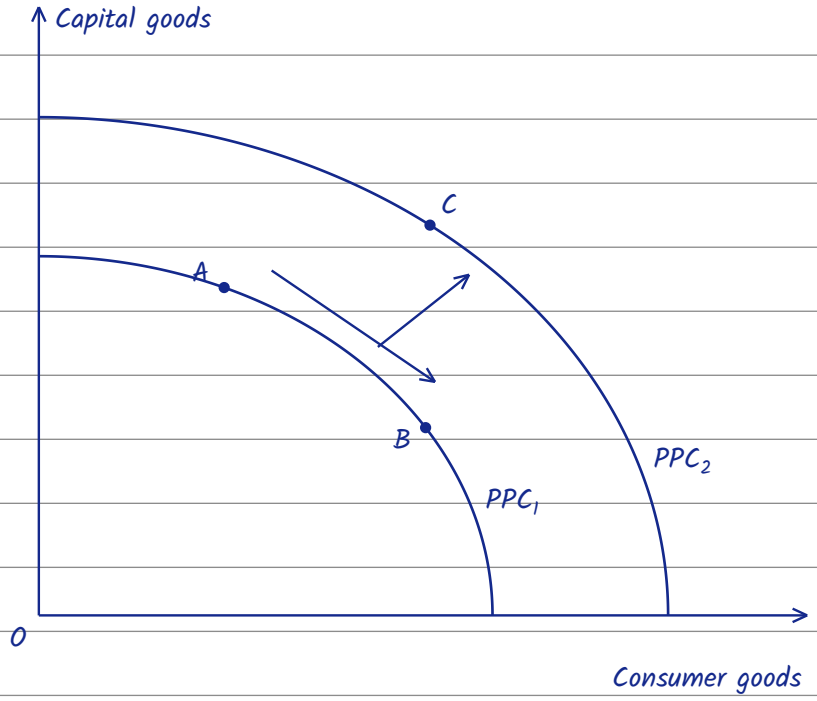
Question number	
	year. In India it is linked to agriculture: in December farming needs fewer workers and 9.8 million jobs were lost, pushing unemployment up to 9.1%. As farming is the last resort for many, these workers are often poor and have no other source of income, so it adds to poverty and income inequality, and it recurs every year. Frictional unemployment is the time people spend between jobs or searching for their first job. In December 2020 the labour force rose by 6 million and most new entrants could not find work immediately because they were unaware of vacancies (information failure) or were reluctant to relocate (geographical immobility). It is usually short term and can be reduced by better job information. Seasonal unemployment appears more serious for India: it affected more people (9.8 million against 6 million), it hits low-income rural workers and it is predictable but hard to remove because it is caused by the nature of farming. However, frictional unemployment could become more serious if, with a rapidly growing labour force, immobility turns short spells into long-term unemployment. On balance, seasonal unemployment is the more serious problem in the short run, although it is partly temporary, as Fig. 1.1 shows the rate falling back to 6.5% in January 2021.
1(e)	Expansionary fiscal policy, such as more government spending on infrastructure like rural roads and irrigation, or lower taxes, raises aggregate demand and, through the multiplier, the derived demand for labour. However, it worsens the budget deficit and may cause inflation or crowd out private investment. Expansionary monetary policy, cutting interest rates or increasing the money supply, makes borrowing cheaper so consumption and investment rise, creating jobs. But it works with time lags and may have little effect if confidence is low, and it can add to inflation. Supply-side policies tackle the types of unemployment in the data. Training and retraining reduce occupational immobility, job centres and online vacancy

Question number

information reduce frictional unemployment, and help with relocation or incentives for food processing and rural industry give farm workers jobs in the off season. Reducing disincentives to work and encouraging investment also help, but these are costly and take a long time to work.

The best measure depends on the cause and extent of unemployment. Fig. 1.1 shows it varied between 6.5% and 11.9%, so much of it is seasonal and frictional rather than due to a lack of demand; demand-side policies give a quick boost but supply-side policies, targeted at the regions most affected, are more likely to raise employment in the long term. A combination is most effective.

2(a) A production possibility curve (PPC) shows the maximum combinations of two goods an economy can produce when all its resources are fully and efficiently employed, with a given state of technology.



A movement along the PPC, from A to B, is caused by a reallocation of existing resources from producing capital goods to producing consumer goods. Because resources are scarce, more consumer goods can only be produced by giving up some capital goods: this trade-off is the opportunity cost. The PPC is concave because

Question number

resources are not equally suited to both goods, so the opportunity cost rises.

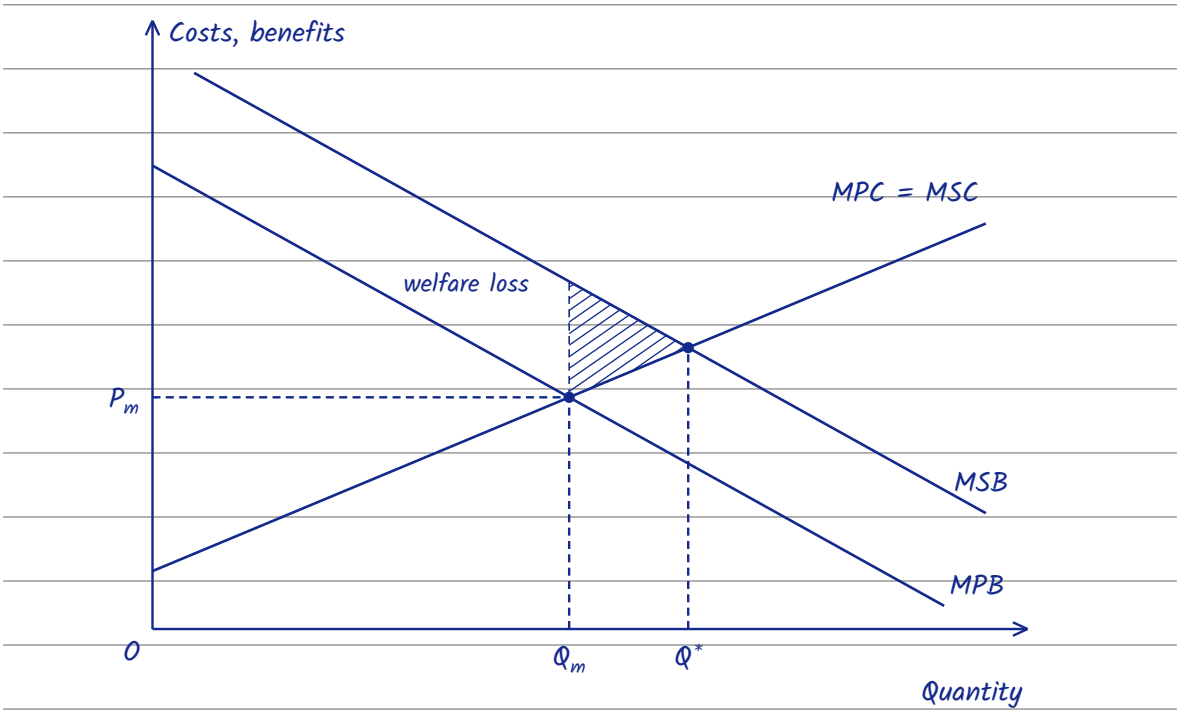
A shift of the PPC from PPC_1 to PPC_2 is caused by an increase in the quantity or quality of resources, for example investment in capital, a larger labour force, better education and training, new technology or the discovery of natural resources. The economy can then produce more of both goods, for example at C, with no trade-off.

A movement along the curve is likely to have the more immediate impact, because existing resources can be switched relatively quickly, for example when a government changes its spending priorities, although occupational immobility means even this takes some time. An outward shift usually takes years, because investment and education have long gestation periods. However, an inward shift caused by a natural disaster or war can be sudden and severe. In conclusion, in normal circumstances a movement along the PPC has the most immediate impact, while a shift has the greater long-term impact.

2(b) A public good is non-rival, so one person's consumption does not reduce the amount available to others, and non-excludable, so people who do not pay cannot be stopped from benefiting, for example street lighting or national defence. This creates the free rider problem: consumers wait for others to pay, so firms cannot charge a price and the market fails to provide the good at all (a missing market). Public goods must therefore be provided by the state and financed through taxation.

A merit good is a good that is more beneficial to consumers than they realise and would be under-consumed in a free market. Education fits this. Because of information failure, individuals underestimate the private benefits, such as higher future earnings, and the market ignores the positive externalities, such as a more productive workforce, lower crime and faster economic growth. So the marginal social benefit (MSB) is above the marginal private benefit (MPB).

Question number



The free market produces Q_m, where MPB = MPC, instead of the social optimum Q^*, so there is under-consumption and a welfare loss shown by the shaded triangle. The government therefore intervenes, by providing free state schools, subsidies or making education compulsory.

Education is not a public good, because it is both rival and excludable. A school place taken by one child cannot be used by another, and larger classes reduce the quality for others, so it is rival. Schools can charge fees and refuse entry to those who do not pay, so it is excludable. This is why private schools and universities exist and make a profit.

Some people argue it should be treated as a public good because it is often provided free by the state and some forms, such as free online lessons or broadcast lectures, are close to non-rival. In a very poor country where demand would be extremely low in a market, the government may decide to provide it entirely through the state, as it would a public good. However, the fact that the state provides a good free does not change its characteristics: free provision is a policy choice, not a sign that a market is impossible.

In conclusion, education should be classified as a merit good rather than a public

Question number

good. Its rival and excludable nature means a market can provide it, but only at too low a level, so the case for government intervention comes from information failure and positive externalities rather than from the free rider problem.

3(a) Cross elasticity of demand (XED) measures the responsiveness of the quantity demanded of one good to a change in the price of another good.

$$XED = \frac{\%\text{ change in quantity demanded of good A}}{\%\text{ change in price of good B}}$$

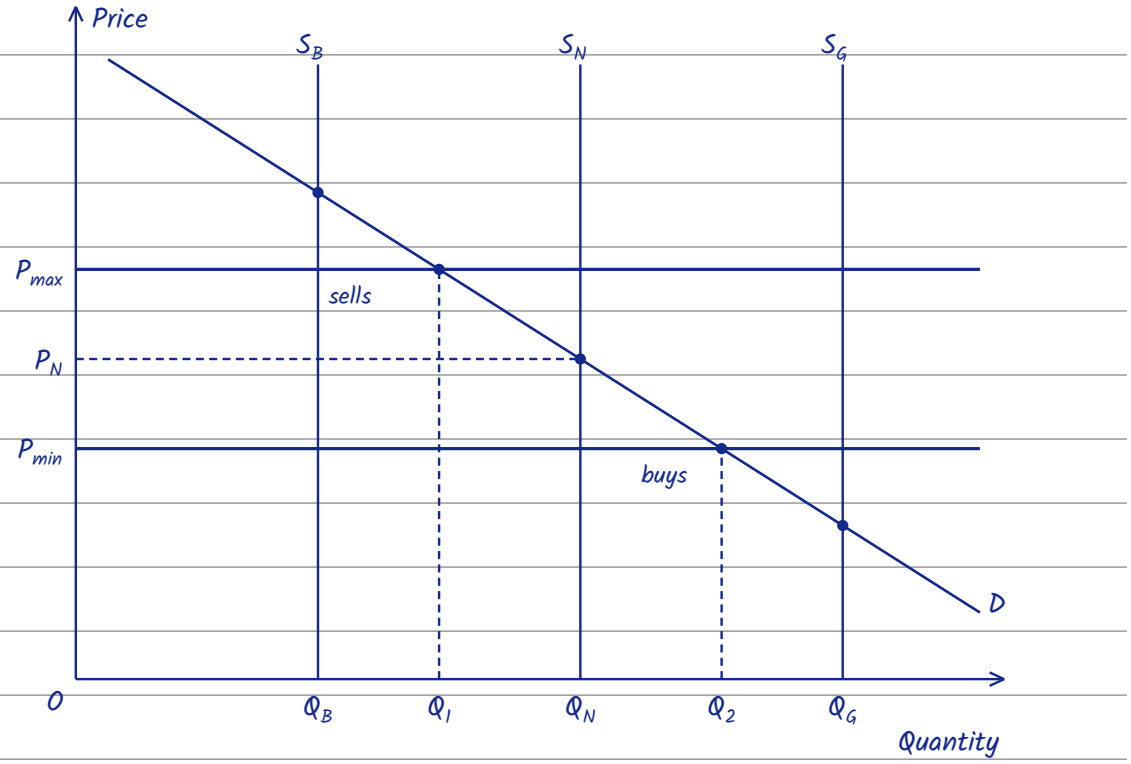
The sign shows the relationship between the goods. If they are substitutes, such as two brands of cola, XED is positive: a rise in the price of brand B makes consumers switch to brand A, so demand for A rises. If they are complements, such as cars and petrol, XED is negative: a rise in the price of petrol reduces demand for cars, which are used jointly. If the goods are unrelated, XED is zero. The size of the coefficient depends on how closely the goods are related. Close substitutes, such as petrol from two neighbouring garages, have a large positive XED (for example +3), while weak substitutes have a small one. Strong complements, such as printers and ink cartridges, have a large negative XED, and weak complements a value close to zero. The size is also affected by brand loyalty, the proportion of income spent on the other good and the time period, since consumers take time to switch.

The most important determinant is the closeness of the relationship between the two goods, because this alone decides the sign (whether they are substitutes or complements) and is the main influence on the size. Brand loyalty, the time period and the share of income only modify the size around this. In conclusion, the degree of substitutability or complementarity is the key determinant.

3(b) A buffer stock scheme is used to stabilise the price of a storable agricultural

Question number

product such as rice, coffee or wheat. An agency sets a price band with a minimum and a maximum price. When there is a good harvest it buys up the surplus and stores it; when there is a bad harvest it sells from its stocks.



Agricultural supply is fixed in the short run (vertical S) and depends on the weather. With a normal harvest S_N, the price P_N lies inside the band and the agency does nothing. With a good harvest S_G, the free market price would fall below P_{min}, so the agency buys Q_2Q_G and adds it to stock, holding the price at P_{min}. With a bad harvest S_B, the price would rise above P_{max}, so the agency sells Q_BQ_1 from stock, keeping the price at P_{max}.

The benefits are that farmers' prices and incomes are more stable, which encourages them to invest and plan, and keeps them in farming. Consumers face stable and affordable food prices, which helps low-income households, and food security improves because stocks are available in a bad year. For a developing country that exports the product, export earnings become more stable.

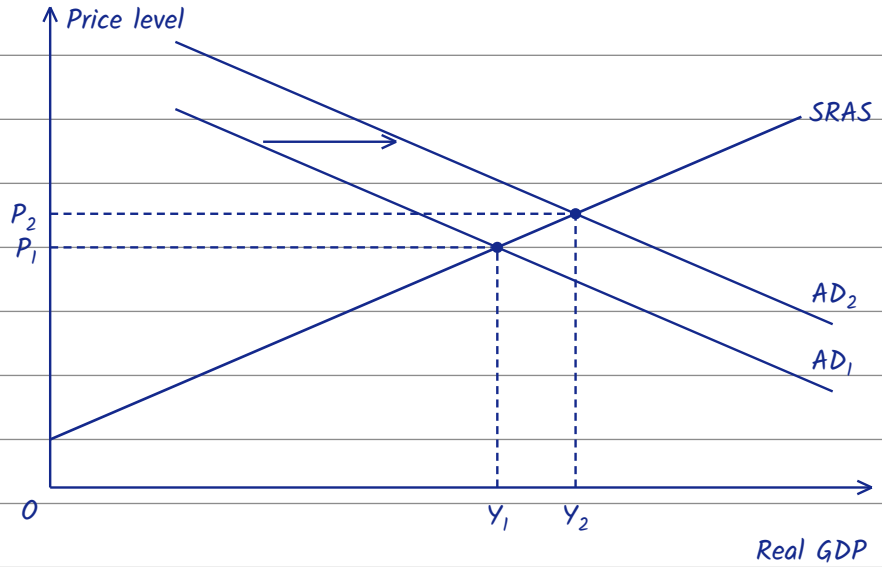
However, there are disadvantages. Buying and storing stocks is expensive and has an opportunity cost. Perishable products such as fruit or milk cannot be stored, so

Question number

there is waste. The scheme only works if the band is set around the long-run equilibrium price: if the minimum price is set too high, the agency keeps buying and stocks and costs build up, and farmers are encouraged to overproduce. If there is a run of bad harvests, the stocks run out and the maximum price cannot be defended. The International Tin Agreement collapsed in 1985 when its buffer stock ran out of funds.

Whether the benefits outweigh the disadvantages depends on the product, how well the price band is chosen, how well the scheme is funded and run, and whether harvests fluctuate randomly around a stable trend. For storable crops with a well-judged band, such as grains, the benefits of stability can be large. For perishable products, or where the price is set to support farmers' incomes, the scheme becomes costly and wasteful. In conclusion, the benefits do not always outweigh the disadvantages; it is most effective for storable products and over a short period.

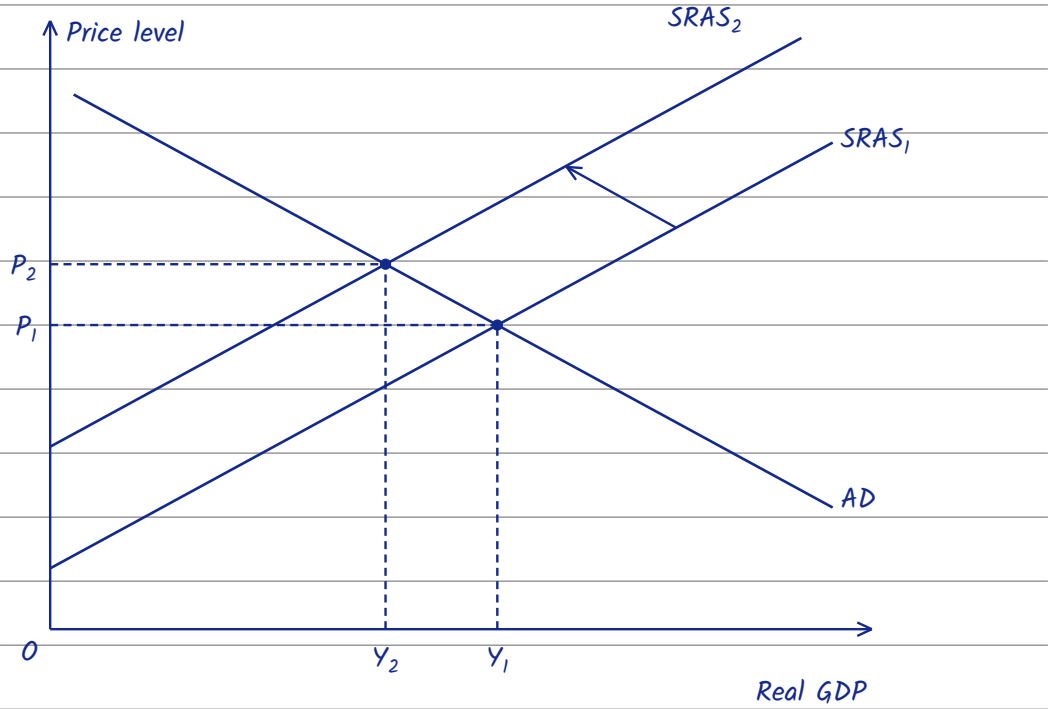
4(a) Inflation is a sustained rise in the general price level. Demand-pull inflation is caused by aggregate demand (AD) rising faster than aggregate supply (AS), for example due to higher consumer spending, lower interest rates, higher government spending or a rise in exports.



Question number

In the first diagram AD shifts from AD_1 to AD_2, so the price level rises from P_1 to P_2. Real output also rises from Y_1 to Y_2, so employment increases, but as the economy nears full capacity more of the increase in AD goes into higher prices.

Cost-push inflation is caused by rising costs of production, such as higher wages, higher import prices or higher oil prices, which shift the short-run AS curve to the left.



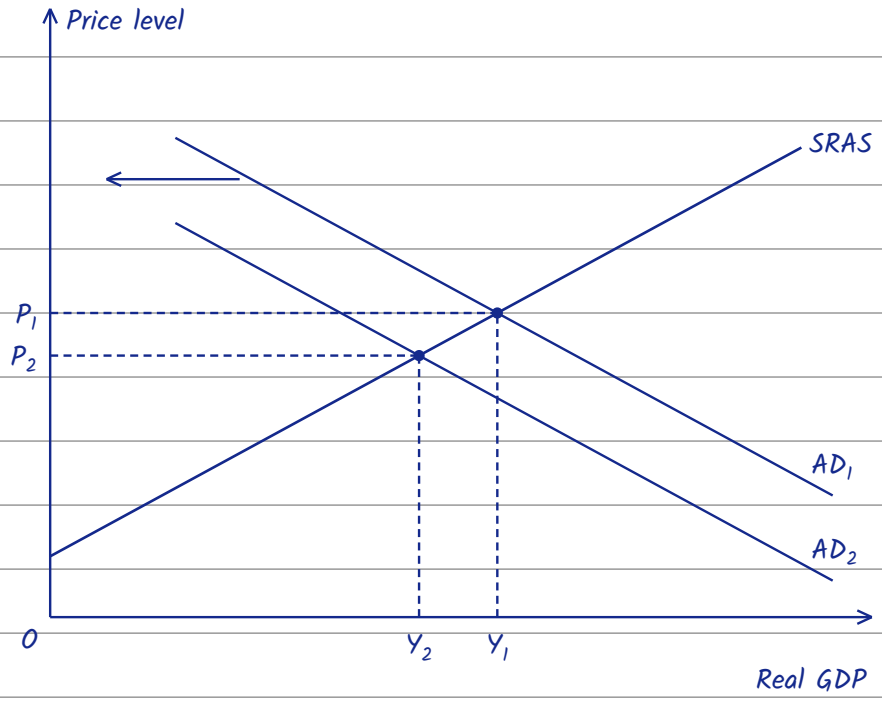
In the second diagram SRAS shifts from $SRAS_1$ to $SRAS_2$, so the price level rises from P_1 to P_2 while real output falls from Y_1 to Y_2. This is stagflation: inflation together with falling output and rising unemployment.

Cost-push inflation is usually more damaging, because it lowers output and employment at the same time as raising prices, and it is harder to cure, since cutting AD to reduce prices would deepen the recession. However, demand-pull inflation can be more damaging when the economy is already at full capacity, because then all extra demand raises prices, inflationary expectations and wage demands build up, and imports rise, worsening the current account. In conclusion, cost-push inflation is more damaging in most circumstances, but demand-pull inflation is worse if it is allowed to accelerate in an economy at full employment.

Question number

4(b)

Monetary policy is the use of interest rates, the money supply and the exchange rate by the central bank to influence the economy. To reduce inflation it is contractionary: the central bank raises interest rates or reduces the money supply.

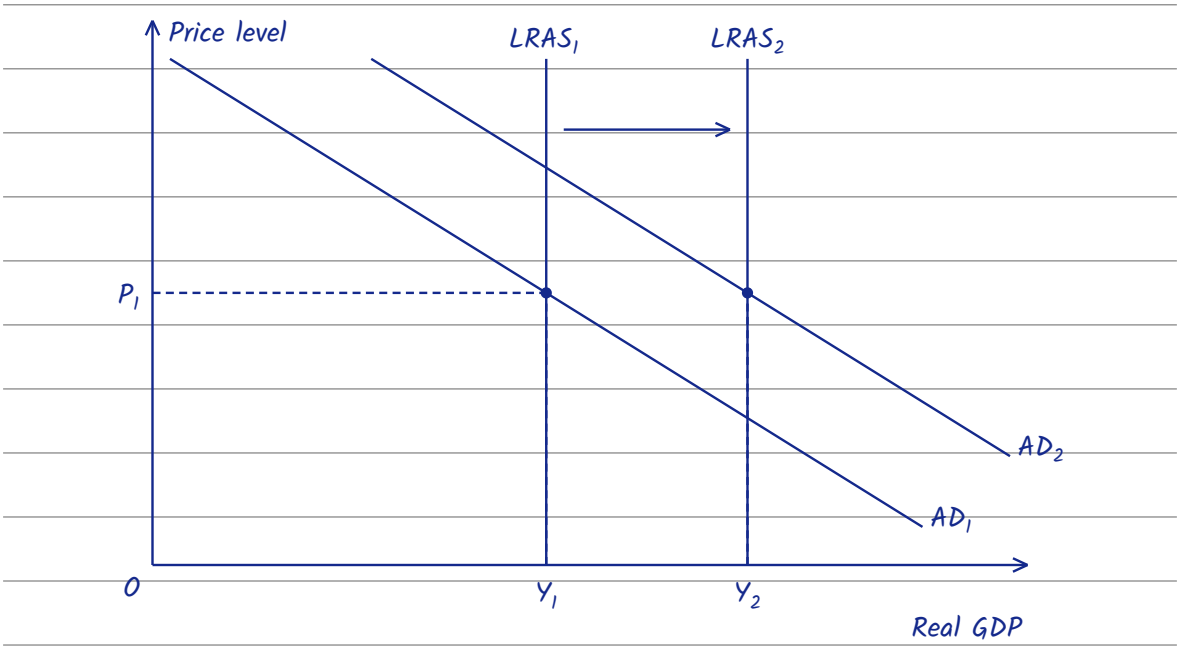


Higher interest rates make borrowing more expensive and saving more attractive, so consumption on credit and investment fall. Higher rates also attract hot money, so the exchange rate appreciates, making exports dearer and imports cheaper, so net exports fall. AD shifts from AD_1 to AD_2 and the price level falls from P_1 to P_2.

Monetary policy can be changed quickly and is often run by an independent central bank, which makes its inflation target credible. However, it has time lags of up to two years, it reduces real output from Y_1 to Y_2 and so raises unemployment, it hurts borrowers and exporters, and it does little to tackle cost-push inflation.

Supply-side policy aims to increase the productive capacity of the economy. Examples are making the labour market more flexible, spending on education and training, privatisation, deregulation and promoting competition, which put downward pressure on costs and prices.

Question number

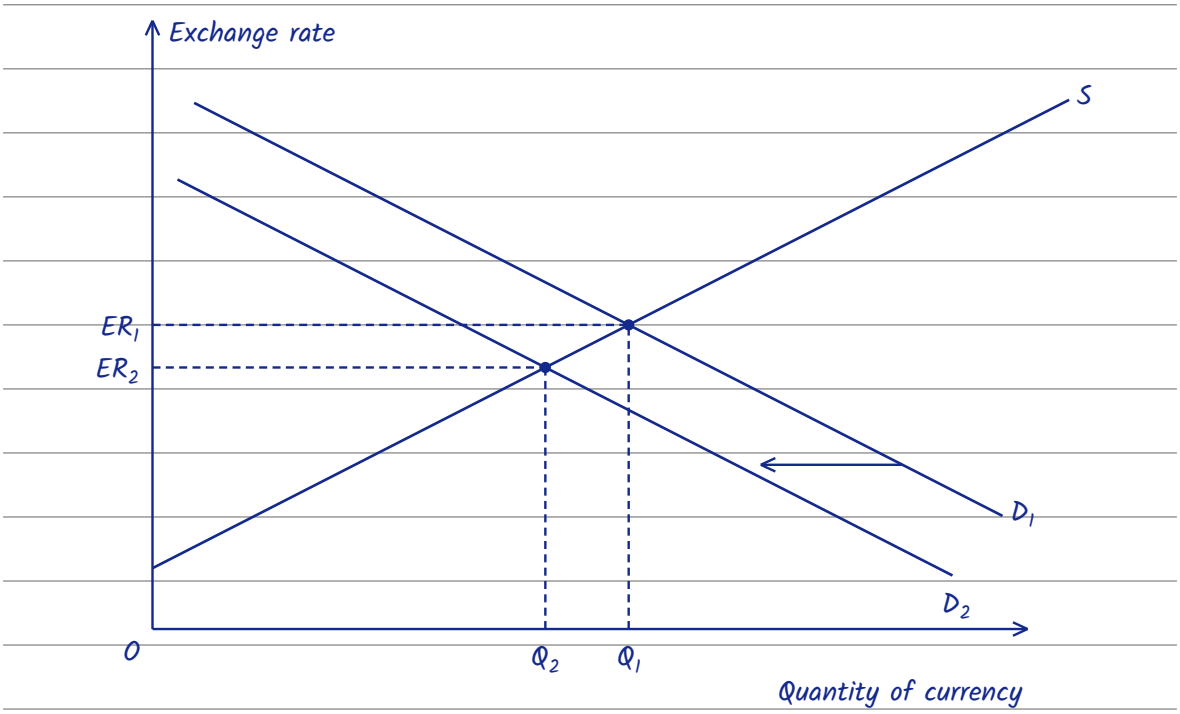


If LRAS shifts from $LRAS_1$ to $LRAS_2$, the economy can meet a rise in AD from AD_1 to AD_2 with higher output and no rise in the price level. Supply-side policy therefore reduces inflation without the conflict with growth and employment, and it tackles cost-push inflation by lowering unit costs. However, it takes many years to work, is expensive for the government and its results are uncertain, so it cannot reduce a high rate of inflation quickly.

Which policy is more successful depends on the type of inflation and the time period. For demand-pull inflation, monetary policy is more successful in the short run because it acts directly and quickly on AD. For cost-push inflation, raising interest rates would deepen a recession, so supply-side policy is better, although slow. In conclusion, monetary policy is likely to be more successful in reducing the rate of inflation in the short term, while supply-side policy is more successful in keeping inflation low in the long term, so the two are best used together.

5(a) A floating exchange rate is determined by the demand for and supply of the currency on the foreign exchange market. A depreciation is a fall in its value against other currencies.

Question number



Demand for a currency comes from foreigners buying the country's exports, investing in it and saving in its banks. If exports become less competitive, foreign incomes fall, domestic interest rates are cut (so hot money flows out) or speculators expect the currency to fall, demand shifts from D_1 to D_2 and the exchange rate falls from ER_1 to ER_2. Supply of the currency comes from residents buying imports and investing abroad, so higher spending on imports or higher interest rates abroad shift supply to the right, which also causes a depreciation.

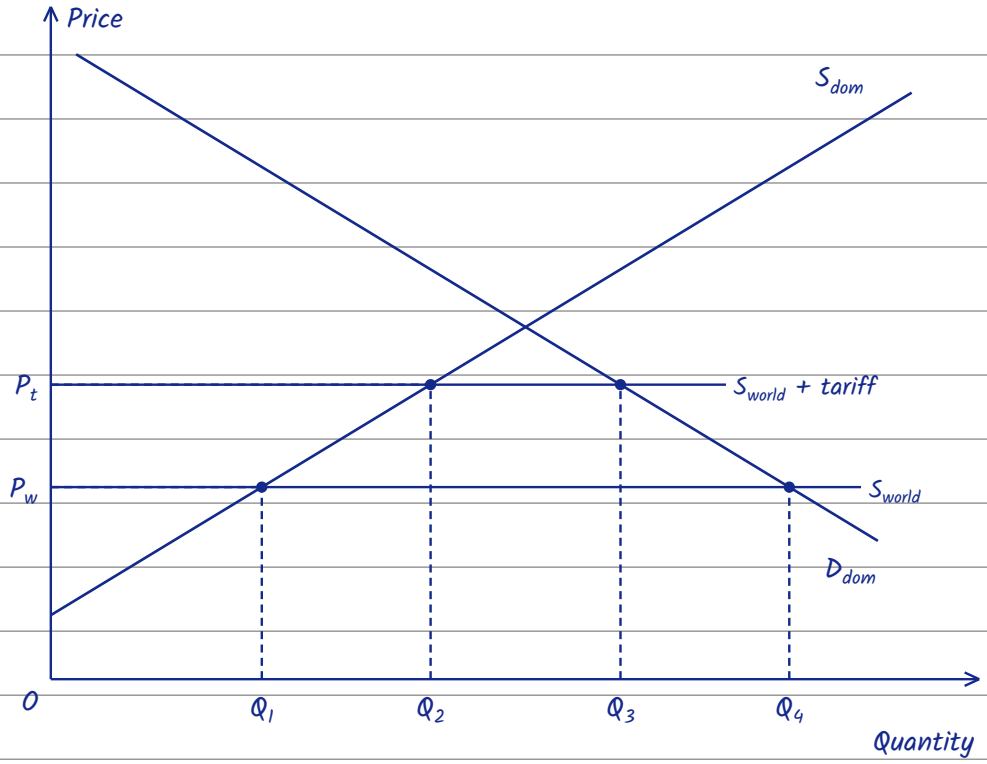
A depreciation makes exports cheaper in foreign currency and imports dearer, so exports rise and imports fall. This can improve the current account, and the rise in net exports increases AD, economic growth and employment.

However, it is not always beneficial. Dearer imported raw materials and fuel cause cost-push inflation, and if demand for exports and imports is price inelastic (the Marshall-Lerner condition does not hold), the current account worsens; even when it holds, the J-curve effect means it worsens at first. Debts in foreign currency become more expensive and consumers' living standards fall. In conclusion, a depreciation is beneficial when there is spare capacity and demand for exports and imports is price elastic, but not when the economy relies on imported essentials, so

Question number

it is not always beneficial.

5(b) Protectionism is the use of trade barriers to protect domestic producers from foreign competition. Examples include tariffs, quotas, embargoes, export subsidies and administrative barriers.



Without trade, the domestic price would be where domestic demand meets domestic supply. With free trade at world price P_w, domestic firms supply Q_1 and Q_1Q_4 is imported. A tariff raises the price to P_t: domestic output rises to Q_2, consumption falls to Q_3 and imports fall to Q_2Q_3, while the government gains tariff revenue.

The arguments for protection include the infant (sunrise) industry argument: a new industry may need protection until it grows and gains economies of scale. Declining (sunset) industries may be protected to give time for workers to find new jobs and avoid structural unemployment. Strategic industries such as food, energy and defence may be protected for security. Protection prevents dumping, where foreign firms sell below cost, it can reduce a current account deficit, and

Question number

tariffs raise revenue, which matters for developing countries.

The arguments against are based on comparative advantage. Free trade allows countries to specialise in what they produce at the lowest opportunity cost, so world output rises and resources are allocated more efficiently. Consumers gain from lower prices and a wider choice, which raises living standards. Protection raises prices for consumers and for firms buying imported inputs, protects inefficient firms from competition and causes deadweight welfare losses. It also risks retaliation and trade wars, so exporters lose markets.

The strength of the arguments for protection depends on the situation. The anti-dumping and strategic arguments are valid in specific cases, and the infant industry argument holds only if protection is temporary and the industry really does become competitive; in practice protection is often hard to remove. Protection to cut a current account deficit only treats the symptom and may provoke retaliation, while the gains from free trade are large and long-lasting. In conclusion, the arguments for protectionism are not always stronger: they can be justified for particular industries for a limited time, but in general the arguments for free trade are stronger.

Cambridge Assessment International Education

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ECONOMICS **9708/22**

Paper 2 AS Level Data Response and Essays **May/June 2023**

2 hours

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You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

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INFORMATION

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Section A

Answer all parts of Question 1.

1 Is Nigeria being held back by its dependence on oil and gas?

Nigeria has about half of West Africa's population with approximately 202 million people and one of the largest populations of young people in the world. With an abundance of natural resources, it is Africa's biggest oil exporter, and has the largest natural gas reserves on the continent.

Nigeria is highly vulnerable to the global economic disruption caused by the COVID-19 pandemic, particularly due to the steep decline in oil prices. Nationally, 40% of Nigerians live in poverty, while another 25% are vulnerable and could fall into poverty due to the pandemic.

Oil accounts for 80% of Nigeria's export revenues, a dominant position that it has occupied since the 1970s. Many people believe that Nigeria needs to move further away from its dependence on oil and natural gas. Initial attempts at diversification have produced limited gains as the policies have been aimed mainly at the domestic market to create jobs and to improve living standards. There needs to be a focus on export-orientated manufacturing that should boost economic growth as it has done in countries such as Malaysia and Indonesia.

Based on the experience of these countries, more open trade and competition policies would help to diversify the economy, especially as the African Continental Free Trade Area (ACFTA) takes effect. Nigeria needs to create at least five million new jobs each year to employ its growing population of young people.

Table 1.1 Nigeria: key economic indicators

	2016	2017	2018	2019	2020
Economic growth rate (% change in real Gross Domestic Product (GDP) per year)	1.6	0.8	1.9	2.2	–1.8
Inflation rate (% change in Consumer Price Index (CPI) per year)	15.7	16.5	12.1	11.4	12.8
Current account balance (% of GDP)	0.7	2.8	1.30	–3.8	–3.7
Government budget balance (% of GDP)	–3.9	–5.4	–4.5	–4.3	–5.2
Unemployment rate (% of labour force)	7.0	8.4	8.5	8.5	9.0

Source : Global economy.com

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Nigeria's economy entered a recession in 2020 due to fall in crude oil prices caused by falling global demand and measures to fight the spread of COVID-19. Inflation rose in 2020 due mainly to higher food prices, the removal of fuel subsidies and an increase in the price of electricity. The budget deficit also worsened in 2020 because the COVID-19 pandemic caused higher government spending and lower tax revenues, adding to the national debt.

Nigeria's national debt is sustainable at 25% of GDP, but interest payments are high, accounting for about 50% of government spending. Nigeria's government could improve its finances by reforming domestic tax collection. Non-oil tax revenue is equivalent to just 4% of GDP. An increase in the rate of value-added tax (VAT) from 5% to 7.5% in 2020 resulted in less revenue than forecast because of the recession. A wider tax base could help the budget, but this will require significant reform to reduce both tax evasion and a large informal economy.

Sources: Adapted from: World Bank in Nigeria Nov 2020
and: IMF News, African Department, February 2020
and: African Development Bank Group: Nigeria Economic outlook, 2021

(a) Compare the government budget balance of Nigeria in 2016 with the government budget balance in 2020. [2]

(b) Using a production possibility curve (PPC) diagram, demonstrate the impact of the rising level of unemployment on the Nigerian economy. [2]

(c) Consider the extent to which the removal of fuel subsidies in Nigeria would lead to an increase in inflation. [4]

(d) Assess whether using supply-side policy is the best way to diversify the Nigerian economy away from its dependence on oil and natural gas exports. [6]

(e) Assess whether adjusting the collection of direct tax or indirect tax is likely to be more effective in increasing the tax revenue collected by the Nigerian government. [6]

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Section B

Answer **one** question.

EITHER

2 **(a)** With the help of a diagram(s), explain what is meant by consumer surplus and producer surplus **and** consider whether a rise in the price of a product because of higher costs of production is likely to always reduce the consumer surplus. [8]

(b) A government wishes to keep the price of an essential food, such as rice, affordable to help low-income households.

Assess whether a policy of fixing the maximum price for an essential food is likely to be more effective than a policy of making transfer payments to low-income households. [12]

OR

3 **(a)** With the help of a diagram(s), explain what is meant by equilibrium in a market **and** consider the extent to which the equilibrium price and equilibrium quantity are likely to change for a product following an increase in the wages for labour across the whole economy. [8]

(b) Entrepreneurs are vital in an economy to achieve long run economic growth.

Assess whether encouraging entrepreneurship or increasing another of the factors of production will be a more effective way to achieve long-run economic growth. [12]

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Section C

Answer **one** question.

EITHER

4 **(a)** Two countries each produce two products and wish to trade with each other.

Explain the difference between the principles of absolute advantage and comparative advantage **and** consider whether the principle of comparative advantage is always the more important influence when each country is deciding whether to trade with each other. [8]

(b) Assess whether protectionism is the best way to correct a deficit in the current account of the balance of payments. [12]

OR

5 **(a)** Explain the difference between cost-push and demand-pull inflation **and** consider which is more likely to occur if there is a depreciation in the exchange rate of a country with few natural resources. [8]

(b) Assess whether monetary policy is the only way to control a high rate of inflation. [12]

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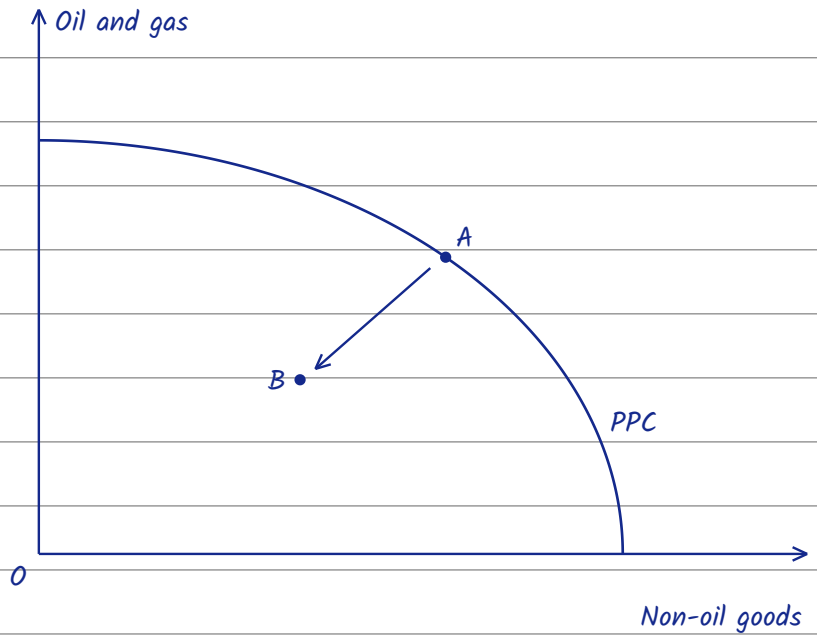
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Answer booklet	Write the question number in the left-hand margin at the start of each answer.

Question number

Answers for paper 9708/22

1(a) The government budget was in deficit in both years. The deficit was 3.9% of GDP in 2016 and increased to 5.2% of GDP in 2020, a larger deficit by 1.3 percentage points.

1(b)



Unemployment rose from 7.0% in 2016 to 9.0% in 2020, so more labour is unused. The economy moves from point A on the PPC to point B inside it, producing less of both goods.

1(c) Removing fuel subsidies raises the cost of supplying fuel, so supply shifts back to the left to its original position and the price of fuel rises. Demand for fuel is price inelastic and fuel has a high weighting in the CPI, and it is a cost of production for transport, electricity and food distribution, so the prices of many other products rise, causing cost-push inflation. Workers may then demand higher wages,

Question number

causing a wage-price spiral and continuing inflation.

However, the effect depends on the size of the original subsidy, and in a recession (real GDP fell by 1.8% in 2020) firms may not pass on all the cost. Inflation only rose from 11.4% to 12.8% in 2020, mainly due to food prices, so the removal of subsidies is likely to increase inflation, but only moderately.

1(d) Supply-side policies aim to increase the productive capacity and competitiveness of the economy. Spending on education and training would give Nigeria's large population of young people the skills needed for manufacturing and services. Better infrastructure, especially reliable electricity and transport, would cut firms' costs. Help for new businesses, research and development and deregulation, together with more open trade and competition policies as used by Malaysia and Indonesia, would encourage export-orientated manufacturing in new sectors. This would reduce the 80% share of oil in export revenue and help create the 5 million jobs needed each year.

However, supply-side policies take many years to work and are expensive. Nigeria's budget deficit is already 5.2% of GDP and interest payments take about 50% of government spending, so there is little money available. Results are uncertain and the large informal economy may not respond. An alternative such as protecting infant industries could give quicker results but risks inefficiency, and the earlier domestic-market policies brought only limited gains.

On balance, supply-side policy is the best way to diversify in the long run because it creates lasting competitiveness, but only if it is financed by reforming tax collection and combined with open trade under the ACFTA.

1(e) Direct taxes are taxes on income and wealth, such as income tax and corporation tax. The government could make income tax more progressive and widen the tax base by bringing more workers and firms into the system. Non-oil tax revenue is

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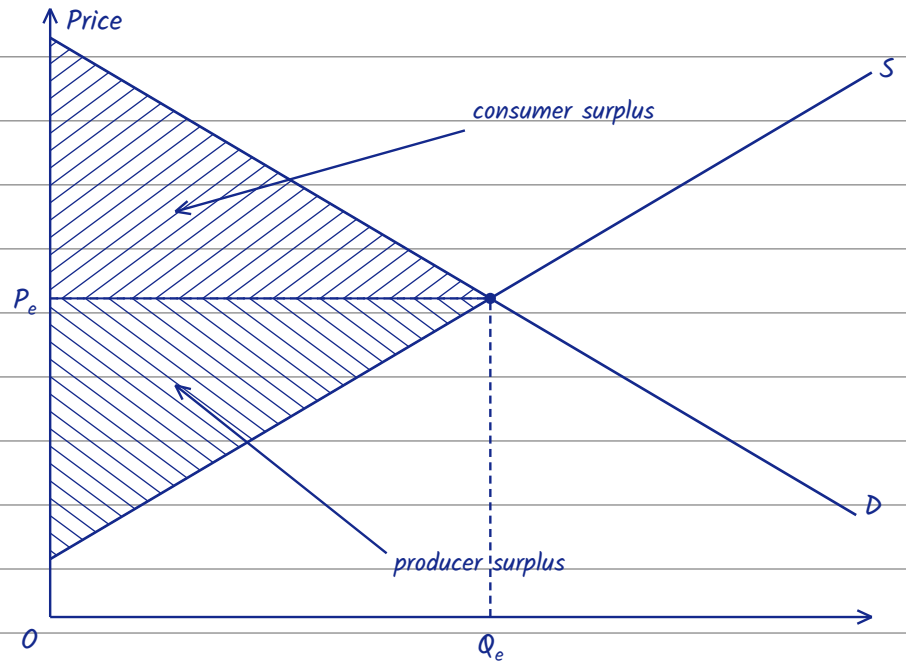
only 4% of GDP, so the potential gain is large, and a progressive tax would also reduce inequality where 40% live in poverty. However, the large informal economy and widespread tax evasion make incomes hard to track, many incomes are very low, compliance costs are high and higher rates may reduce incentives to work and invest.

Indirect taxes are taxes on spending, such as VAT. The government could raise VAT above 7.5% or extend it to more products. VAT is quicker to collect from registered firms at the point of sale and is harder to avoid than income tax. However, it is regressive, hurting the poor most, it would add to inflation of 12.8%, and in a recession spending falls: the rise from 5% to 7.5% in 2020 raised less revenue than forecast. Informal traders also do not collect VAT.

Both are limited by the informal economy and evasion. In the short run adjusting indirect tax is likely to be more effective because it does not need detailed income records, but in the long run improving the collection of direct tax would raise more and fairer revenue. Overall, indirect tax is more effective now, provided it is not increased so far that spending falls.

2(a) Consumer surplus is the difference between the price consumers are willing to pay for a product and the market price they actually pay. Producer surplus is the difference between the price producers are willing to accept for supplying a product and the price they actually receive.

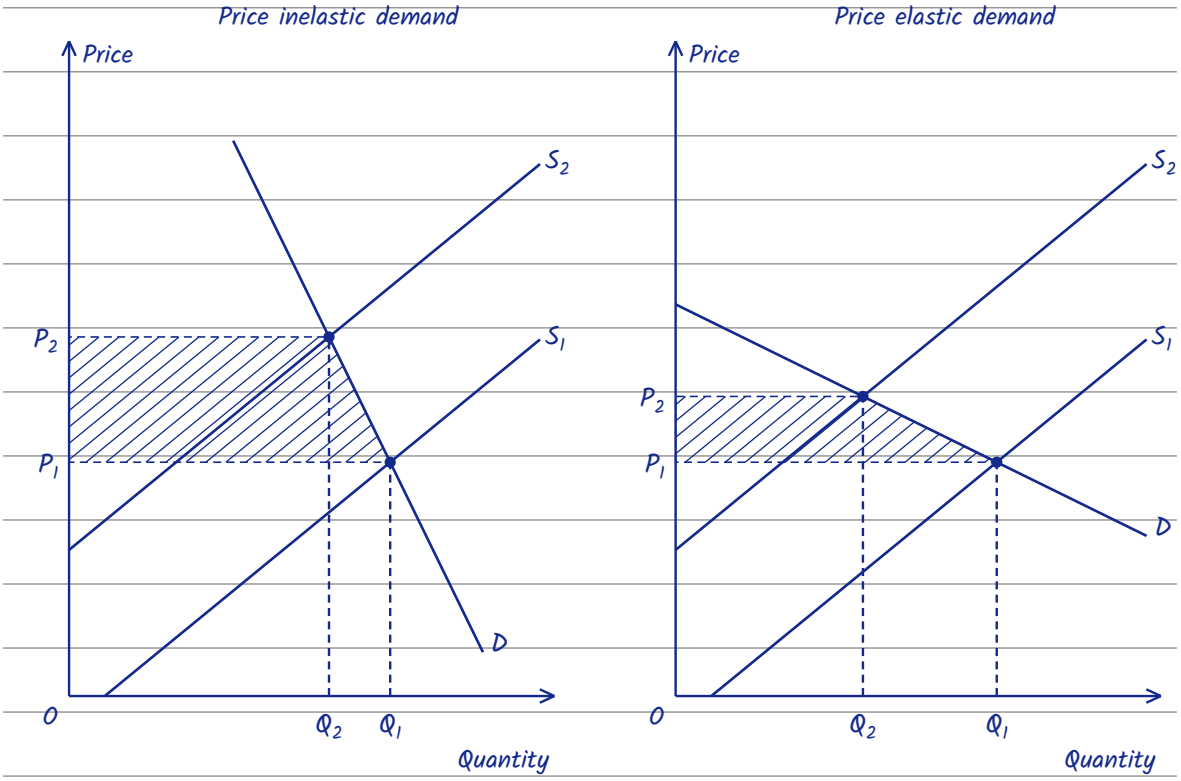
Question number



At the equilibrium price P_e, consumer surplus is the area below the demand curve and above P_e, and producer surplus is the area above the supply curve and below P_e.

If costs of production rise, supply shifts left from S_1 to S_2, so the price rises from P_1 to P_2 and quantity falls from Q_1 to Q_2. Consumer surplus falls by the hatched area.

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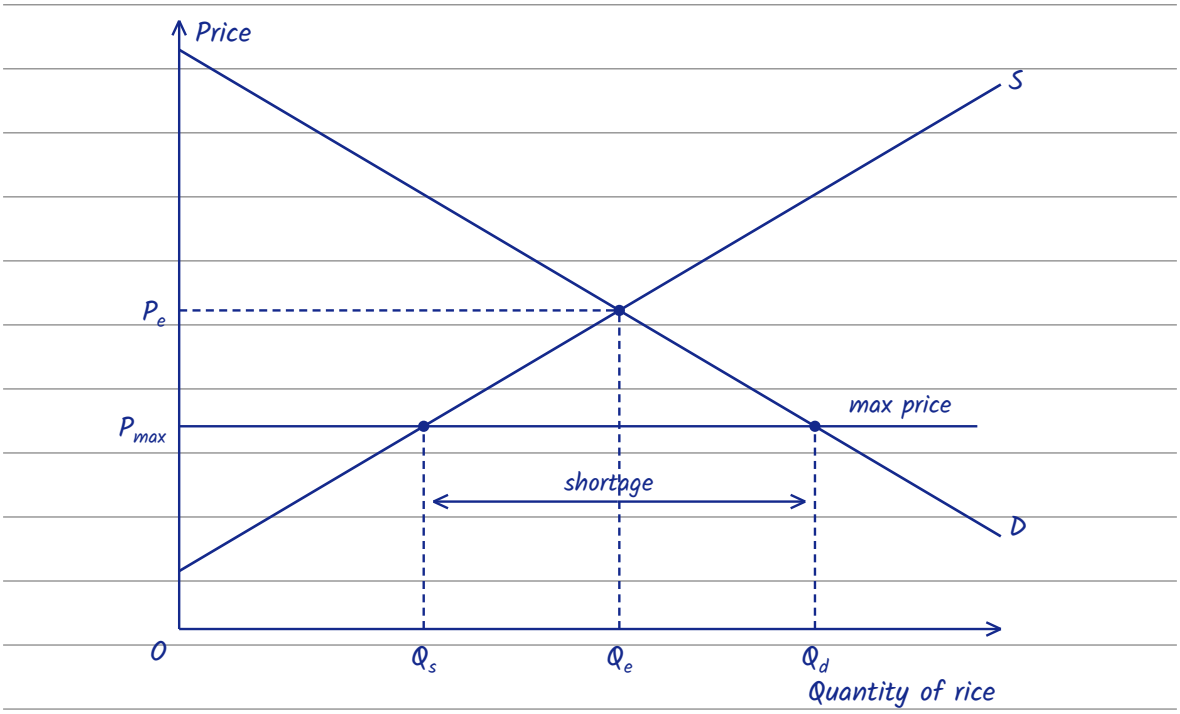


When demand is price inelastic, the price rises by a large amount and quantity falls only a little, so consumers keep buying at a much higher price and the loss of consumer surplus is large. When demand is price elastic, the price rises only a little and quantity falls a lot, because consumers switch to substitutes, so the loss of consumer surplus is smaller.

So, other things being equal, a rise in price caused by higher costs will always reduce consumer surplus, because consumers pay more and buy less. Only if demand were perfectly elastic would there be no consumer surplus to lose, and if demand rose at the same time, for example because incomes increased, consumer surplus might not fall. In conclusion, consumer surplus will always fall, but the extent of the fall depends on the price elasticity of demand: the more inelastic, the larger the fall.

2(b) A maximum price is a legal limit on the price of a good, set below the equilibrium price to make it more affordable.

Question number



With a maximum price P_{max} below the equilibrium P_e, rice becomes cheaper, so low-income households can afford more, which improves their living standards and health. It costs the government little directly and is simple to understand. However, quantity supplied falls to Q_s while quantity demanded rises to Q_d, so there is a shortage of Q_sQ_d. Some households cannot buy rice at all, queues form and informal (black) markets develop where rice is sold above P_{max}. The government must spend on enforcement, and producers may cut quality or leave the market. Rich and poor households gain equally, so it is poorly targeted.

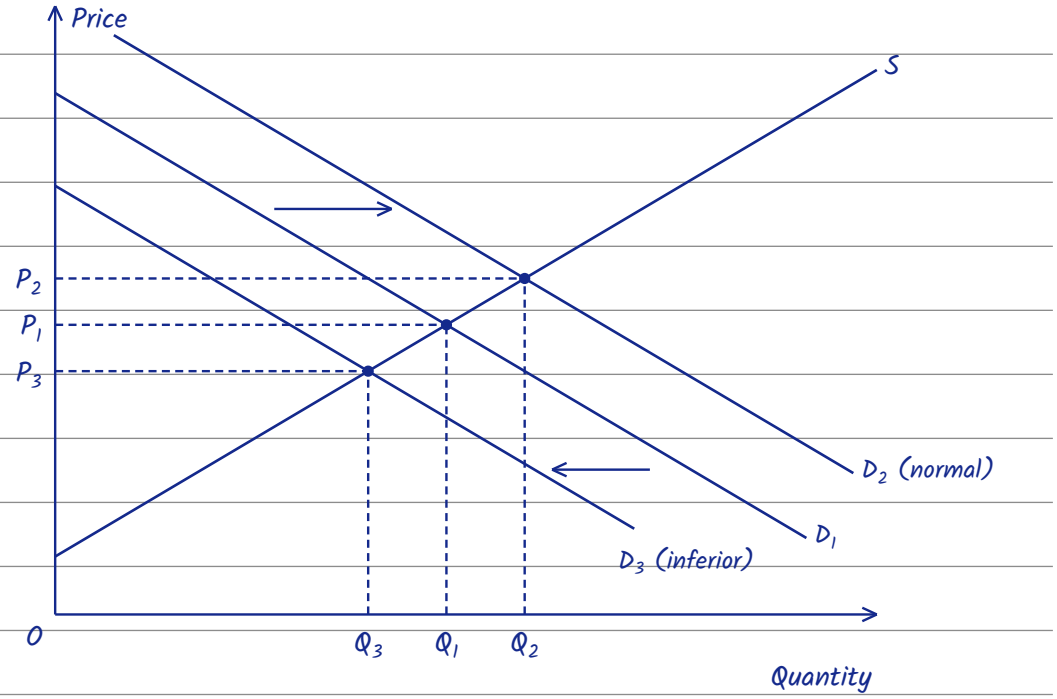
Transfer payments are payments from the government to households with nothing produced in return, such as unemployment benefits, pensions, cash grants or food vouchers. They can be targeted at low-income households, so help goes to those most in need, and vouchers can be restricted to basic foods such as rice. Because the market price is not fixed, there is no shortage and producers still have an incentive to supply. However, they are costly and have an opportunity cost, since the money could be spent on schools or hospitals, or must be raised through taxes. They require an administrative system to identify poor households, which many low-income countries lack, and the money may be spent on other things, or

Question number

vouchers sold on informal markets. Extra demand may also raise the price of rice. The relative effectiveness depends on the government's resources and administrative capacity, how far the maximum price is set below equilibrium, and the price elasticity of supply. If supply is inelastic and the maximum price is close to equilibrium, the shortage is small, so a maximum price may work in the short run. If the government can identify poor households and fund the payments, transfers help the poor more without distorting the market.

In conclusion, transfer payments are likely to be more effective than a maximum price, because they are targeted at low-income households and avoid shortages and informal markets. A maximum price is only better where the government cannot afford or administer transfers, and even then the shortage may mean the poorest cannot obtain the rice.

3(a) Equilibrium in a market is the price at which the quantity demanded equals the quantity supplied, so there is no shortage or surplus and no tendency for the price to change.



With demand D_1 and supply S, equilibrium is at price P_1 and quantity Q_1. If the

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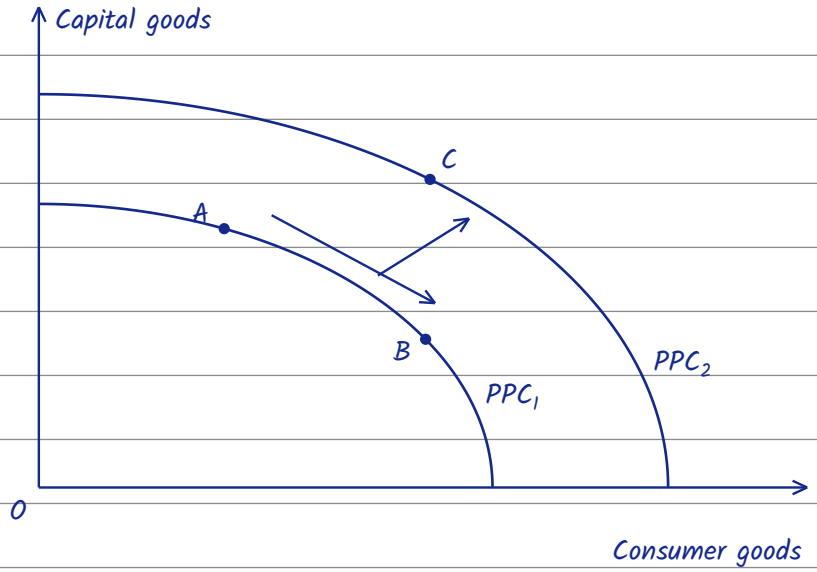
price were above P_1 there would be a surplus and the price would fall; below P_1 a shortage would push the price up.

An increase in wages across the whole economy raises household incomes. For a normal good, such as restaurant meals, demand rises: the demand curve shifts right from D_1 to D_2, so the equilibrium price rises to P_2 and quantity to Q_2. For an inferior good, such as cheap own-brand food, consumers switch to better products as incomes rise, so demand shifts left to D_3, and price and quantity fall to P_3 and Q_3.

The extent of the change depends on the size of the rise in real incomes and on the income elasticity of demand: luxuries with a YED above 1 will see a large shift, necessities only a small one. It also depends on the price elasticity of supply: if supply is elastic, most of the change is in quantity rather than price. If prices also rise, real incomes may not increase much. In conclusion, both equilibrium price and quantity are likely to change, rising for normal goods and falling for inferior goods, but the size of the change depends mainly on YED and PES.

3(b)

Long-run economic growth is an increase in the productive capacity of an economy, shown by an outward shift of the PPC. The factors of production are land, labour, capital and enterprise.



Question number

Entrepreneurs organise land, labour and capital to produce output and take the risks of doing so, motivated by profit. They are creative and innovative, introducing new products and new methods, which raises productivity and shifts the PPC outwards, for example from PPC_1 to PPC_2. Modern economies change rapidly, and entrepreneurs respond quickly to new opportunities. Governments can encourage enterprise by reducing regulation, lowering corporation tax, offering start-up grants and teaching business skills.

However, training future entrepreneurs is costly, many new firms fail, and subsidies have an opportunity cost. Entrepreneurs can only succeed if the other factors of production are available: an entrepreneur cannot grow a firm without skilled workers, finance and infrastructure. Because of high risk, some may seek short-run gains, for example by quickly using up scarce natural resources, which harms long-run growth.

Increasing capital, through investment in machinery, technology and infrastructure, directly raises the productive capacity and the productivity of labour. Public investment in roads, ports and power, and incentives such as investment allowances, can do this. However, investment is expensive, it must be financed by saving or borrowing, so consumption is sacrificed in the short run, capital is subject to diminishing returns, and machines need skilled workers and entrepreneurs to use them productively.

The more effective approach depends on which factor is scarcest. In a low-income country with many potential entrepreneurs but little finance and poor infrastructure, increasing capital is likely to be more effective. In a developed economy with plenty of capital, growth depends on innovation, so encouraging entrepreneurship is more effective. The two are complementary: enterprise without capital achieves little, and capital without enterprise is used inefficiently.

In conclusion, encouraging entrepreneurship is likely to be the more effective way to achieve long-run growth in a modern economy, because it drives the innovation

Question number

and productivity growth that keep shifting the PPC outward, but only if enough capital and skilled labour are also available.

4(a) Absolute advantage is when a country can produce more of a product than another country with the same resources. Comparative advantage is when a country can produce a product at a lower opportunity cost than another country.

	Wheat	Cloth	Opp. cost of 1 wheat
Country A	20	10	0.5 cloth
Country B	6	6	1 cloth

With the same resources, A produces more of both goods, so it has an absolute advantage in both. But A gives up only 0.5 cloth for each unit of wheat, while B gives up 1 cloth, so A has a comparative advantage in wheat and B has a comparative advantage in cloth (B gives up 1 wheat per cloth, A gives up 2). So even a country with no absolute advantage can gain from trade if it specialises according to comparative advantage, as long as the terms of trade lie between the two opportunity cost ratios.

Using comparative advantage leads to specialisation, a more efficient allocation of resources, higher world output, lower prices and higher living standards and employment. However, the theory assumes constant costs, no transport costs and mobile factors of production. Over-specialisation may exhaust finite natural resources and make a country vulnerable to falls in demand. Countries may also wish to keep strategic industries such as food or defence, and the exchange rate may not give terms of trade between the opportunity cost ratios.

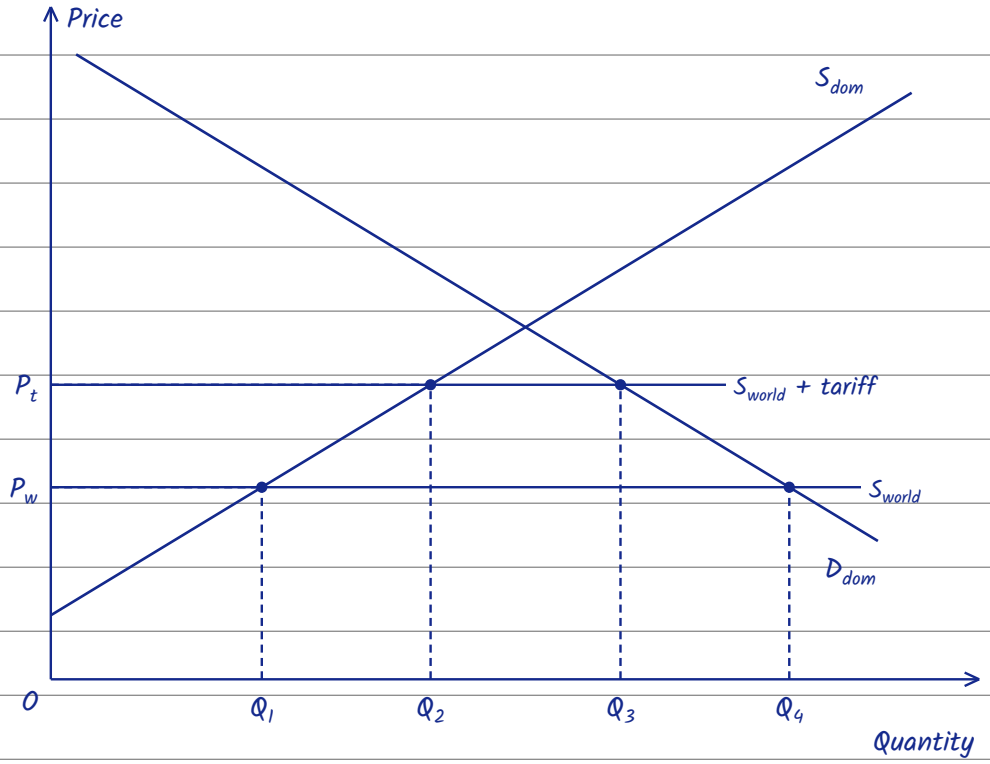
Comparative advantage is more important than absolute advantage, because it shows that trade benefits both countries even when one is better at everything. However, it is not always the deciding influence: transport costs, political relations, strategic concerns and protectionism also affect the decision. In conclusion,

Question number

comparative advantage is the more important economic principle, but not always the most important influence on whether countries actually trade.

4(b) A current account deficit occurs when the value of imports of goods and services, plus primary and secondary income paid abroad, is greater than the value of exports and income received.

Protectionism includes tariffs, quotas, embargoes and export subsidies. Tariffs and quotas raise the price or restrict the quantity of imports, and export subsidies make exports cheaper abroad, so imports fall and exports rise, reducing the deficit.



The tariff raises the domestic price from P_w to P_t, and imports fall from Q_1Q_4 to Q_2Q_3, which reduces spending on imports. It acts quickly and also raises revenue. However, other countries may retaliate with their own tariffs, so exports fall and the deficit may not improve. It breaks WTO rules, raises prices for consumers and for firms using imported inputs, which makes exports less competitive, and protected firms have less incentive to become efficient, so long-term competitiveness falls. It treats the symptom, not the cause.

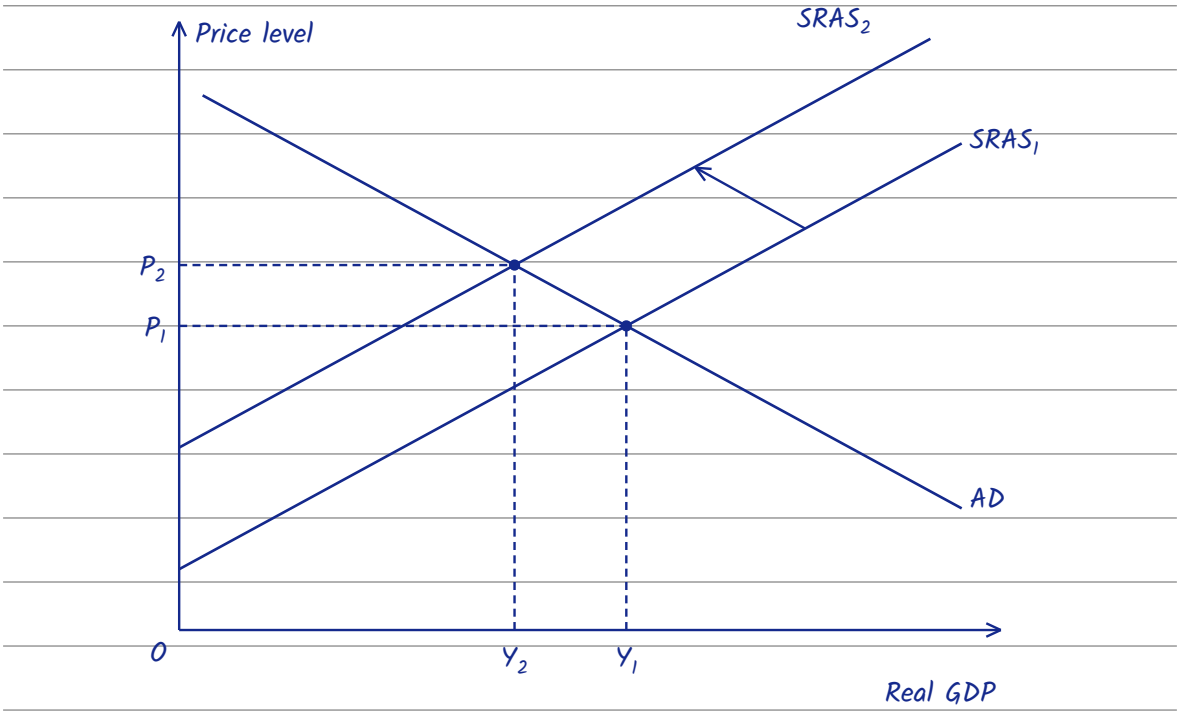
Question number

Other policies are available. Expenditure-dampening policies, contractionary fiscal or monetary policy, reduce incomes and so spending on imports, but they cause slower growth and higher unemployment. Expenditure-switching through a depreciation of the exchange rate makes exports cheaper and imports dearer, but only improves the current account if the Marshall-Lerner condition holds, after a J-curve delay, and may cause imported inflation. Supply-side policies, such as education and training, better infrastructure and incentives for entrepreneurs, raise productivity and lower costs, improving competitiveness, but they are slow and expensive.

The best policy depends on the cause of the deficit. If it is caused by a temporary boom in spending, expenditure-dampening is suitable. If it is caused by a lack of competitiveness, only supply-side policies solve the problem permanently. Protectionism may give a quick, short-term improvement, but retaliation and inefficiency mean the gain rarely lasts. In conclusion, protectionism is not the best way to correct a current account deficit; supply-side policy, supported in the short run by a depreciation or expenditure-dampening, is more effective.

5(a) Cost-push inflation is a rise in the general price level caused by increases in the costs of production, such as wages, raw materials or imported fuel, which shift SRAS to the left. Demand-pull inflation is caused by aggregate demand rising faster than aggregate supply. The difference is that cost-push starts on the supply side and reduces real output, while demand-pull starts on the demand side and raises real output.

Question number



A depreciation raises the price of imports. A country with few natural resources must import raw materials, energy and components, and demand for these is price inelastic, so firms' costs rise. SRAS shifts from $SRAS_1$ to $SRAS_2$, the price level rises from P_1 to P_2 and output falls from Y_1 to Y_2: cost-push inflation. Dearer imported consumer goods may also lead to higher wage demands.

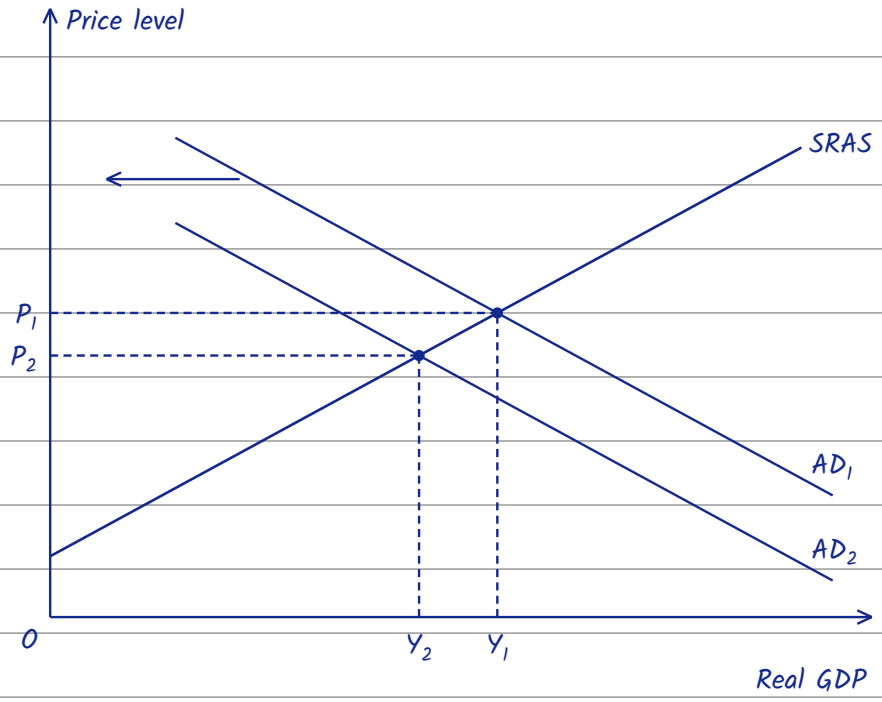
A depreciation also makes exports cheaper abroad and imports dearer at home, so exports rise and imports fall. Net exports (X – M) increase, AD shifts right and demand-pull inflation can occur, especially if the economy is near full capacity and demand for exports is price elastic.

For a country with few natural resources, the cost-push effect is likely to dominate, because it must import essential inputs whatever their price, and this effect is felt quickly, whereas the rise in exports takes time and may be small if its exports themselves rely on imported inputs. In conclusion, cost-push inflation is more likely, although demand-pull inflation may follow if exports respond strongly.

5(b) Monetary policy is the use of interest rates, the money supply and credit regulations by the central bank to influence aggregate demand. To control high

Question number

inflation it raises interest rates, reduces the money supply or restricts bank lending.



Higher interest rates increase the cost of borrowing and the reward for saving, so consumption and investment fall, and an appreciation of the exchange rate reduces net exports. AD shifts from AD_1 to AD_2, so the price level falls from P_1 to P_2.

Reducing the money supply or restricting credit has a similar effect. Monetary policy is flexible, can be changed monthly, and an independent central bank is credible, which reduces inflationary expectations. However, there is a time lag of 18 to 24 months, consumer confidence and expectations may offset the higher rates, it reduces output from Y_1 to Y_2 and raises unemployment, and it does not address cost-push inflation.

Fiscal policy can also control inflation. Raising taxes or cutting government spending reduces AD in the same way and acts directly on spending. But it is politically unpopular, takes time to implement, and cutting spending on infrastructure or education may harm long-run growth.

Supply-side policies such as training, deregulation, promoting competition and labour market reform reduce costs and increase productive capacity, shifting LRAS

Question number

right. They reduce inflation while raising output, and are the most suitable response to cost-push inflation, but they take years to work and are costly. Exchange rate policy, such as allowing an appreciation, also reduces import prices. The best policy depends on the cause of inflation. For high demand-pull inflation, monetary policy is usually the quickest and most flexible tool. For cost-push inflation, raising interest rates may cause stagflation, so supply-side policy is more appropriate. In conclusion, monetary policy is not the only way to control a high rate of inflation; it is the main short-run tool, but it is most effective when supported by fiscal restraint and supply-side policies.

Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/23**

Paper 2 AS Level Data Response and Essays **May/June 2023**

2 hours

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You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **three** questions in total:
  - Section A: answer Question 1.
  - Section B: answer **one** question.
  - Section C: answer **one** question.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You may answer with reference to any economy you have studied where relevant to the question.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **4** pages.

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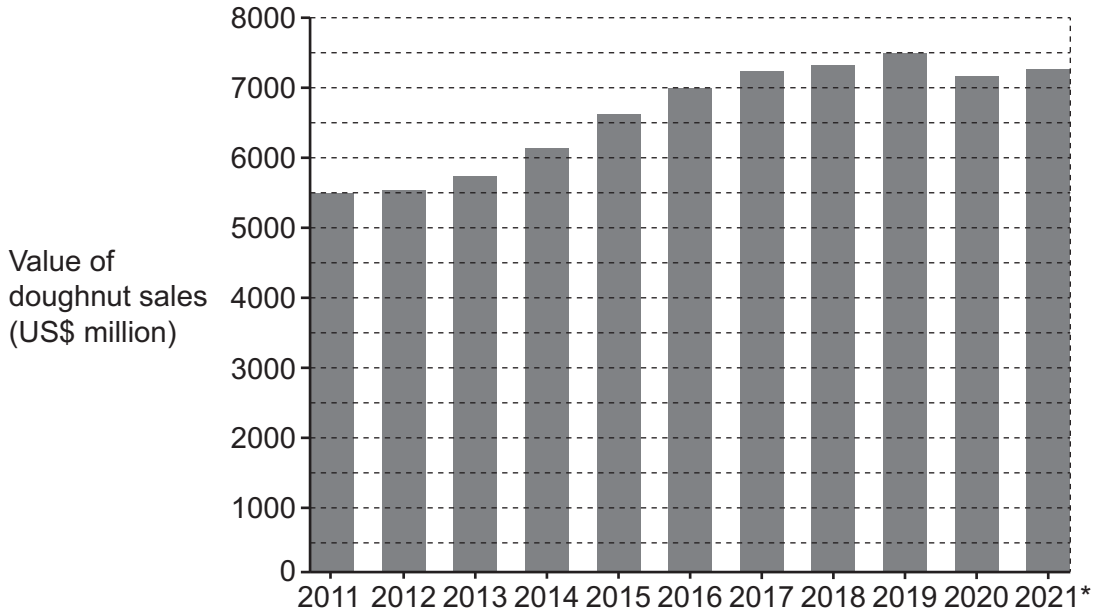
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Section A

Answer all parts of Question 1.

1 **Are doughnuts demerit goods?**

Consumers love to eat doughnuts. In 2019, 10 billion of these deep-fried sugar-coated products were consumed in the United States (US). Fig. 1.1 shows that the US market increased steadily from 2011 to 2019. Doughnuts are widely available throughout the US. There are specialist shops selling their branded products almost everywhere; local coffee shops invariably sell 'hole in one' doughnuts as a popular breakfast snack to tempt consumers on their way to work. The growing number of shops selling doughnuts has been an important reason behind overall market growth.



* Data for 2021 is estimated

Source: ibisworld.com, March 2021

Fig. 1.1 Doughnut market size in the US, 2011 to 2021

The COVID-19 pandemic has had a varying impact on the US doughnut market. Despite having less income, many consumers have continued to buy small luxuries such as doughnuts which remain affordable and can provide some short-term relief from the stresses of the pandemic. Overall, sales of doughnuts fell in 2020 and are forecast to remain below their 2019 peak into 2021. Reasons for this fall in demand are that consumers are making fewer shopping trips and in cities, more people are working from home and therefore not buying their daily coffee and doughnut snack.

In the United Kingdom (UK), more so than in the US, there are growing concerns about the increase in sugar consumption amongst children. This increase comes from soft drinks, chocolate biscuits and sweets (candy) as well as from jam-filled doughnuts, all of which are widely available in supermarkets and local convenience stores. In 2021, it was estimated that a third of teenagers and two thirds of adults in the UK were overweight. This has increased the pressure on the UK government to end online advertising of a range of products including doughnuts. It has been estimated that viewing one minute of advertising for products like doughnuts leads to a child consuming an additional 14.2 calories. Moreover, a ban on advertising sugary foods would result in children consuming the equivalent of 62 million fewer doughnuts a year in the UK.

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(a) Using the data in Fig. 1.1, calculate the percentage change in the value of sales of doughnuts in the US from 2011 to 2019. [2]

(b) Explain **one** reason why the US market for doughnuts contracted in 2020. [2]

(c) Comment on whether the demand for doughnuts in the US is income elastic or income inelastic. [2]

(d) Explain why a doughnut might be regarded as a demerit good. [2]

(e) With the help of a diagram, assess how the market for sugary foods in the UK might be affected by a ban on online advertising. [6]

(f) Assess the likely effects on UK consumers and the UK government of a ban on online adverts for sugary foods. [6]

Section B

Answer **one** question.

EITHER

2 **(a)** Explain, with the help of examples, the significance of the size and sign of the coefficient of income elasticity of demand for the classification of a good **and** consider how confident you are of this classification. [8]

(b) When the price of a product changes, it usually changes the consumer surplus in the market.

Assess how variations in price elasticity of demand for a product determine the extent of changes in consumer surplus in a market. [12]

OR

3 **(a)** Explain why government intervention may be required to provide merit goods **and** consider why such intervention may not always be successful. [8]

(b) Assess the effectiveness of government intervention through buffer stock schemes in agricultural markets. [12]

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Section C

Answer **one** question.

EITHER

4 **(a)** With the help of a circular flow of income diagram, explain how equilibrium is determined in an open economy **and** consider whether a budget deficit or a trade deficit is more likely to cause lasting disequilibrium. [8]

(b) Assess whether an increase in investment in new infrastructure projects will always have a positive impact on the circular flow of income in an economy. [12]

OR

5 **(a)** Explain how monetary policy may be able to reduce the rate of inflation in an economy **and** consider the likely success of this policy. [8]

(b) Assess how governments use macroeconomic intervention to achieve their macroeconomic objectives. [12]

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Answer booklet	Write the question number in the left-hand margin at the start of each answer.

Question number

Answers for paper 9708/23

1(a) 2011 sales ≈ US$5500 million, 2019 sales ≈ US$7500 million

$$\% \text{ change} = \frac{7500 - 5500}{5500} \times 100 = +36.4\%$$

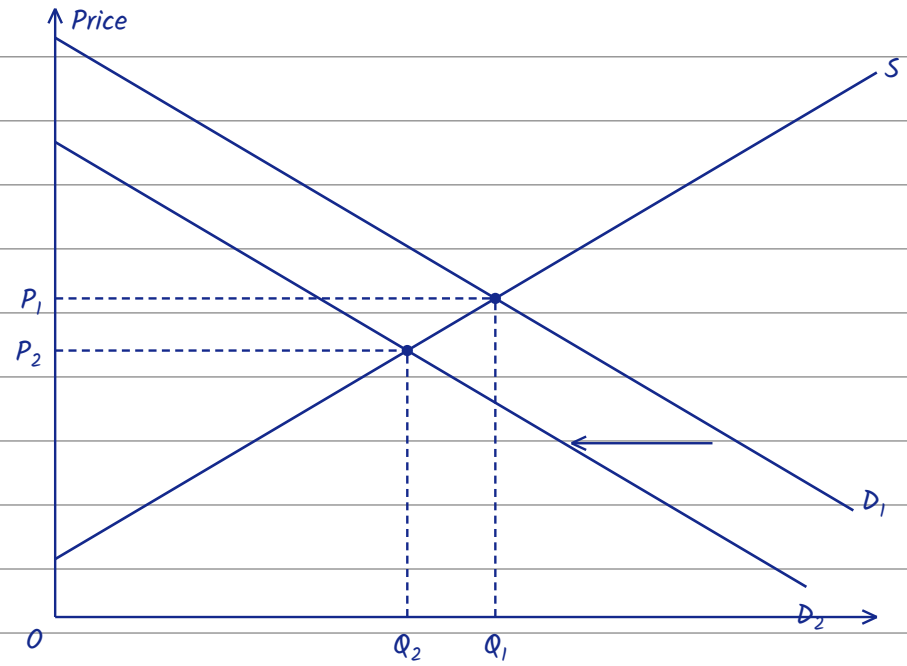
1(b) More people in cities were working from home during the pandemic, so they no longer bought their daily coffee and doughnut on the way to work. With fewer workers in city centres, demand for doughnuts fell, so the market contracted.

1(c) Demand for doughnuts is income inelastic. Despite having less income, many consumers continued to buy doughnuts as small, affordable luxuries, so the quantity demanded changed by a smaller proportion than income (YED between 0 and 1).

1(d) A demerit good is one that is more harmful to consumers than they realise and is over-consumed and over-provided by the free market. Due to information failure, consumers are not fully aware of the health risks of eating too many sugary doughnuts, such as obesity, so they eat more than is good for them.

1(e) A ban on online advertising is likely to reduce the demand for sugary foods in the UK.

Question number



Advertising increases consumers' awareness of and desire for sugary foods; one minute of advertising leads a child to consume an extra 14.2 calories. A ban on online advertising would reduce demand, so the demand curve shifts left from D_1 to D_2. The price falls from P_1 to P_2 and the quantity bought falls from Q_1 to Q_2; it is estimated children would eat the equivalent of 62 million fewer doughnuts a year.

However, the effect may be small. Sugary foods are cheap, take a small share of income and are habit forming, so demand is likely to be price inelastic, and the lower price may encourage some extra purchases. Some consumers are not influenced by advertising, firms will switch to TV, in-store and other advertising, and children may still obtain sugary foods through older friends. 'Sugary foods' covers many products, so some will be affected more than others.

Overall, demand for sugary foods in the UK is likely to fall, but only slightly, because online advertising is only one of many influences on demand.

1(f) UK consumers, especially children, are likely to eat less sugar, so they would be healthier and less likely to be overweight; at present a third of teenagers and two

Question number

thirds of adults are. Firms may develop and promote healthier snacks, widening choice. The government benefits from less pressure on the NHS from obesity-related illness, and a healthier population may raise educational standards and workplace productivity, increasing growth and tax revenue in the long run. However, consumers would receive less information about new products and prices, and there is a loss of freedom of choice. The government may lose tax revenue from lower sales of sugary foods (VAT and corporation tax) and from advertising firms, and it must pay to enforce the ban.

The impact is uncertain and difficult to measure, since other forms of advertising will continue and eating habits change slowly. On balance the ban is likely to benefit both consumers and the government, because the long-term savings in health costs should outweigh the small loss of tax revenue, although the benefits may be modest.

2(a) Income elasticity of demand (YED) measures the responsiveness of the quantity demanded of a good to a change in consumers' income.

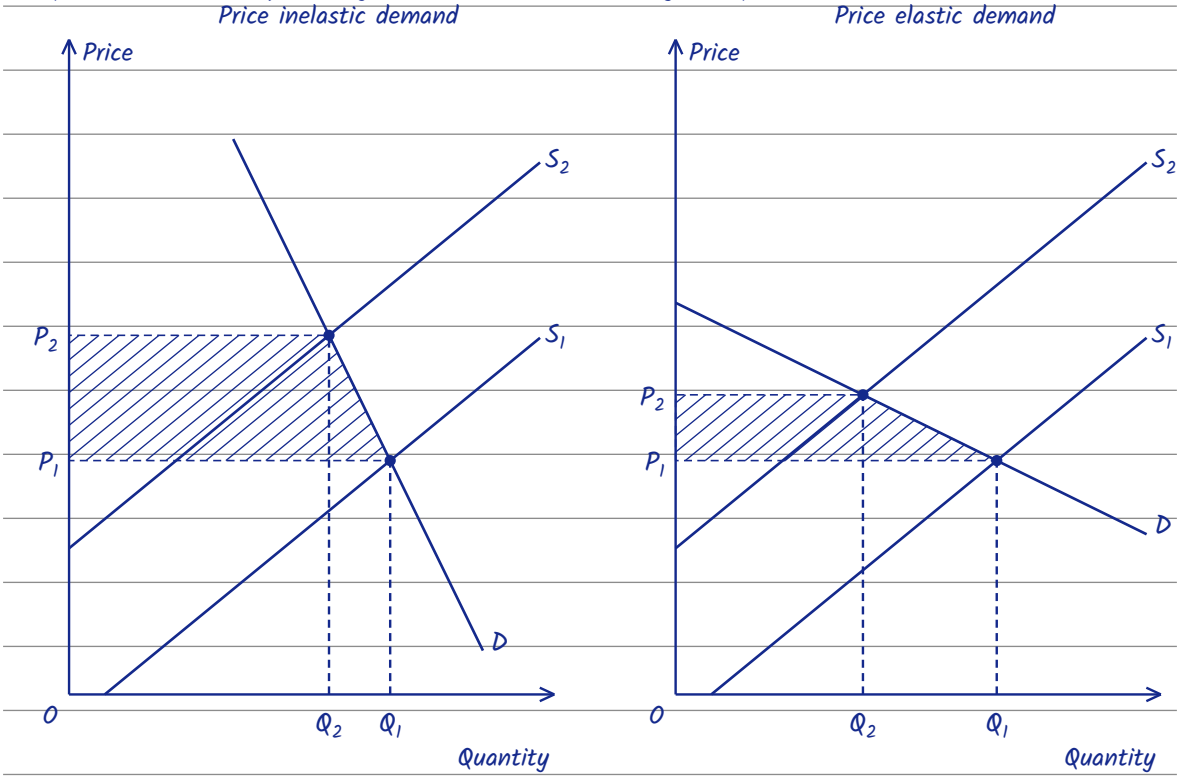
$$YED = \frac{\%\ \text{change in quantity demanded}}{\%\ \text{change in income}}$$

If YED is greater than 1, demand is income elastic: demand changes by a larger proportion than income. If YED is between 0 and 1, demand is income inelastic. The sign of the coefficient shows whether a good is normal or inferior. A normal good has a positive YED, so demand rises as income rises, for example clothing. Within normal goods, the size matters. A necessity has a YED between 0 and 1, for example bread, rice or electricity, since people buy them whatever their income. A luxury or superior good has a YED above 1, for example foreign holidays or sports cars: if income rises by 10%, demand rises by more than 10%. An inferior good has a negative YED, for example bus travel or cheap own-brand food, because as

Question number

income rises consumers switch to better alternatives such as cars or branded food. However, the classification is not certain. It depends on the income level of the household: bus travel may be a normal good for a very poor household but an inferior good for a middle-income one, and a good that is a necessity for a low-income household may be a luxury for another. YED is an estimate calculated over a time period in which tastes and prices may also change, so it is not ceteris paribus, and it may change over time. In conclusion, I am fairly confident of the classification for a particular group and time, but not that it applies to all consumers.

2(b) Consumer surplus is the difference between the price consumers are willing to pay and the price they actually pay, shown by the area below the demand curve and above the market price. Price elasticity of demand (PED) measures the responsiveness of quantity demanded to a change in price.



Suppose a rise in costs shifts supply from S_1 to S_2, so the price rises from P_1 to P_2. Consumer surplus falls by the hatched area: consumers pay more for the units

Question number

they still buy and lose the surplus on the units they stop buying.

When demand is price inelastic, for example for petrol or medicines with few substitutes, consumers keep buying almost the same amount at the higher price. The price rises a lot and quantity falls a little, so the loss of consumer surplus is large. When demand is price elastic, for example for one brand of chocolate, consumers switch to substitutes; the price rises only a little and quantity falls a lot, so the loss of consumer surplus is smaller.

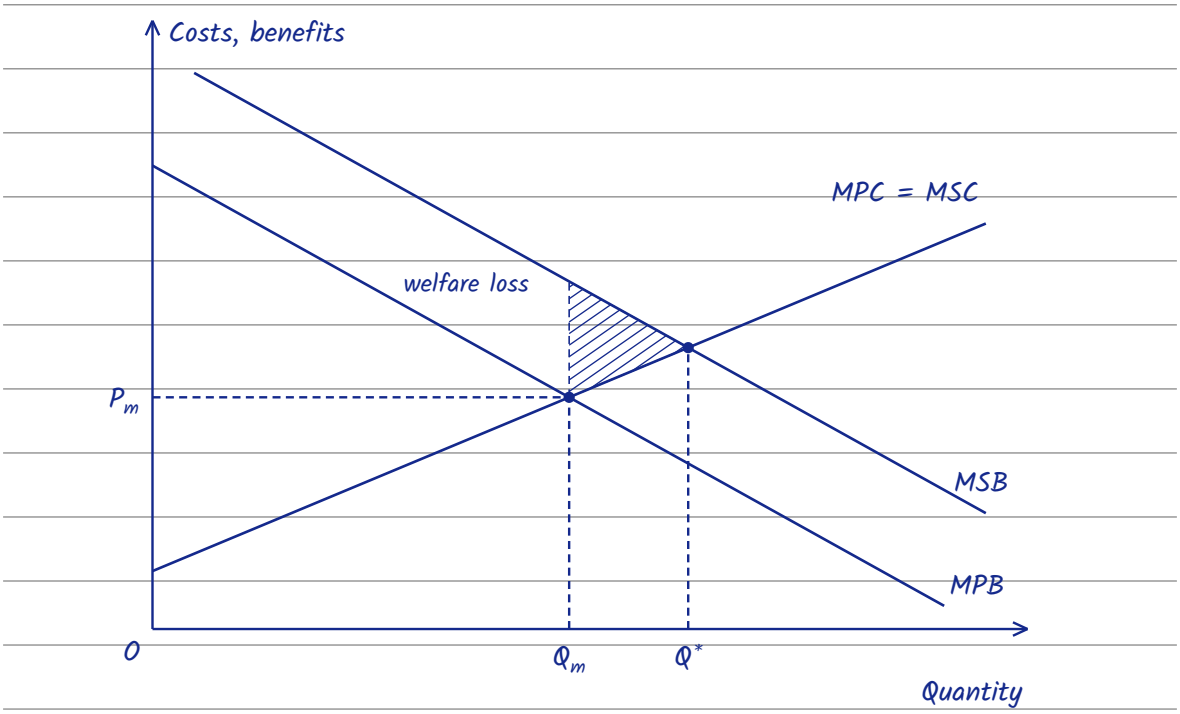
When the price falls, consumer surplus increases. With elastic demand, a price fall causes a large rise in quantity, so consumers gain surplus on many extra units as well as paying less for existing units. With inelastic demand, quantity rises only a little, so the gain comes mainly from the lower price on existing purchases.

However, PED is not the only factor. The change also depends on the size of the price change and the original quantity bought: a small price rise on a product bought in large quantities may reduce consumer surplus more than a large rise on a minor product. PED also varies along a straight-line demand curve, so the same product may be elastic at high prices and inelastic at low prices. The analysis assumes ceteris paribus, but if incomes or tastes change at the same time, demand shifts and consumer surplus may change differently.

In conclusion, the more price inelastic the demand, the larger the loss of consumer surplus from a price rise, while the more price elastic the demand, the larger the gain from a price fall. PED is therefore a key determinant of the extent of the change, together with the size of the price change.

3(a) Government intervention is needed when markets fail to allocate resources efficiently. Merit goods, such as education, healthcare and vaccinations, are more beneficial to consumers than they realise. Due to information failure, people underestimate their private benefits, and the market ignores their positive externalities, so they are under-consumed.

Question number

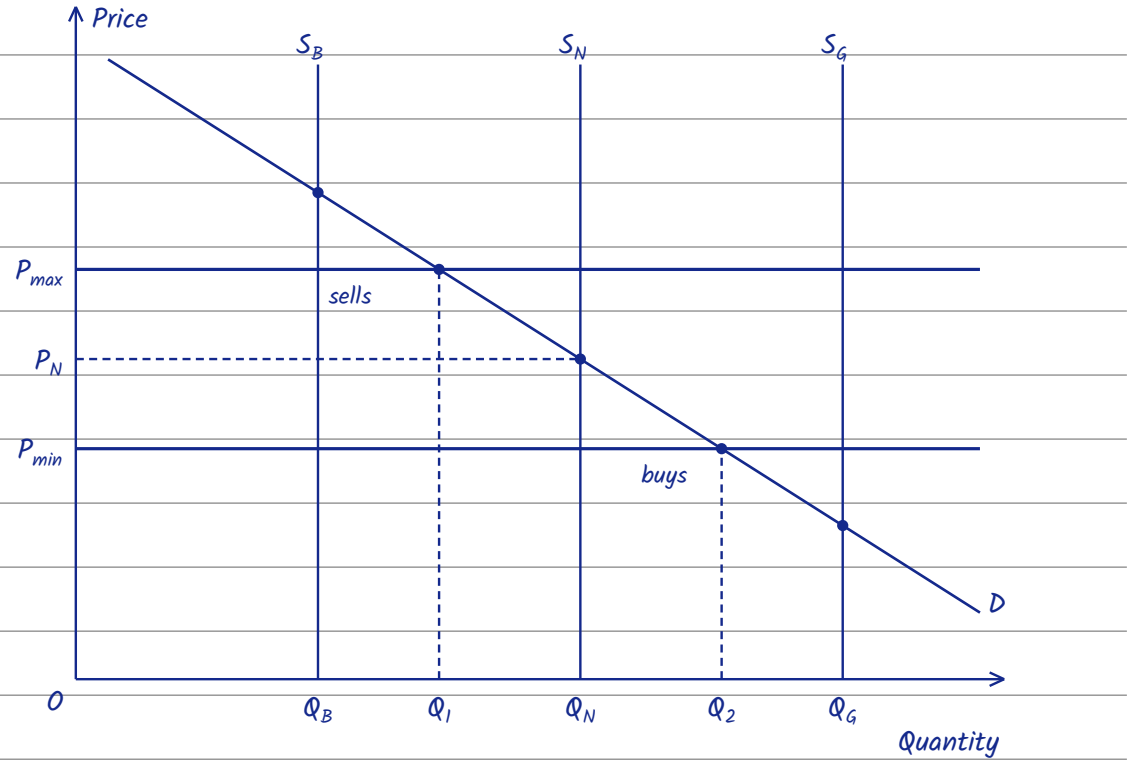


The free market produces Q_m where MPB = MPC, below the socially optimum output Q^*, where MSB = MSC, so there is a welfare loss. Because merit goods are essential to people's wellbeing, the government should make sure they are available. The private sector is not willing to provide the full social optimum because it can only charge for private benefits, and many low-income households cannot pay, for example for hospital treatment. Merit goods also benefit society and the economy: an educated, healthy workforce is more productive and vaccinations reduce the spread of disease. So the government provides them free, subsidises them or makes them compulsory, raising consumption towards Q^*.

However, intervention may not be successful. Governments may lack the resources to provide enough merit goods, since provision has an opportunity cost, leading to waiting lists and overcrowded schools. Governments may not have enough information on how much of each merit good to provide, so they may over- or under-provide. Without a profit motive, state providers may be inefficient, and some people may still not use a free service. In conclusion, intervention is justified to correct under-consumption, but its success depends on the government's resources, information and efficiency.

Question number

3(b) A buffer stock scheme is a form of government intervention that stabilises the price of a storable agricultural product. An agency sets a minimum and a maximum price; it buys and stores the product when supply is high and sells from stock when supply is low.



With a normal harvest S_N, the price P_N is within the band. After a good harvest S_G, the free market price would fall below P_{min}, so the agency buys Q_2Q_G. After a poor harvest S_B, the price would rise above P_{max}, so the agency sells Q_BQ_1 from its stocks.

The scheme is effective at smoothing out volatile prices caused by the weather. It responds to market conditions, and the use of stored stocks protects farmers' incomes and consumers' food prices, improving food security. However, it is expensive to buy and store stocks, perishable products are wasted, and if the minimum price is set too high surpluses keep building up, while farmers have little incentive to change what they produce. A run of poor harvests can exhaust the stocks.

Question number

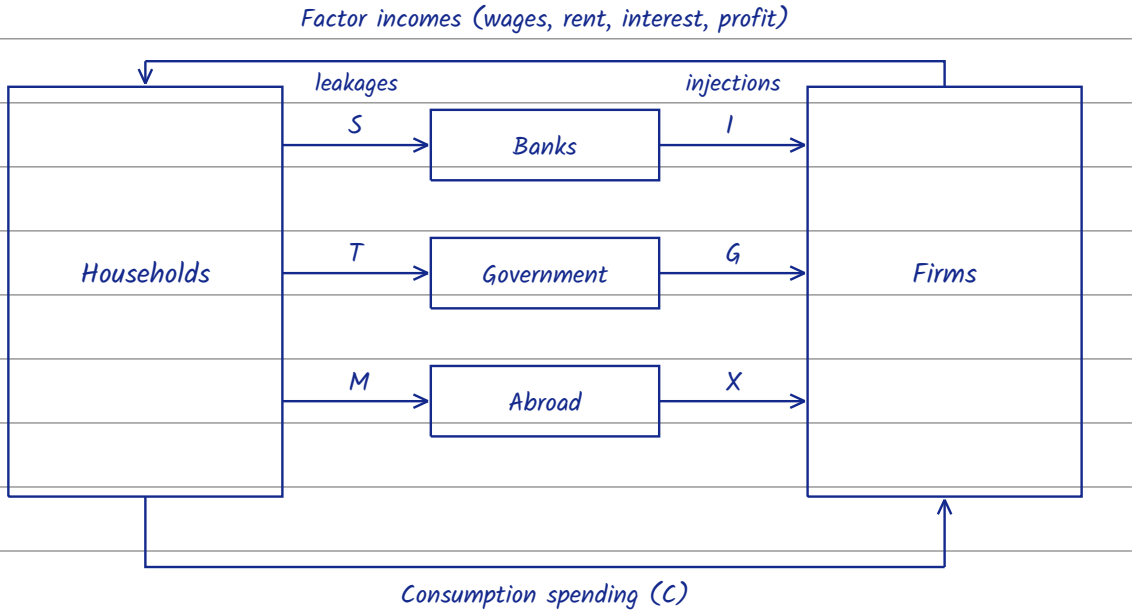
Other methods of intervention include subsidies to farmers, tariffs on imports and export controls. Subsidies lower costs and raise efficient farmers' incomes, but have a large opportunity cost and can lead to overproduction. Tariffs on imports improve security of supply and reduce dependence on imports, but raise food prices and may provoke retaliation. Export controls keep food at home and lower domestic prices, but reduce farmers' incomes and export earnings. These methods leave more to market forces but do not stabilise prices as directly.

The effectiveness of buffer stocks depends on choosing the correct price band, near the long-run average price, which is very difficult to know in advance. If the minimum is too high there will be permanent over-supply, the agency will run out of funds and releasing stocks later will depress future market prices. In low-income countries, large informal markets and many small subsistence farmers mean much of the crop never passes through the scheme.

In conclusion, buffer stock schemes can be effective for storable products such as grains when the price band is well chosen and the scheme is well funded, and they stabilise prices better than subsidies or tariffs. However, for perishable products, or where the minimum price is set to support incomes, they are costly and often fail, so their effectiveness is limited in practice.

4(a) The circular flow of income shows how income flows between households and firms. Households supply factors of production and receive factor incomes; they spend this income on goods and services produced by firms.

Question number



In an open economy with a government, some income leaks out of the flow: saving (S), taxation (T) and spending on imports (M). Injections add to the flow without coming from household spending: investment (I), government spending (G) and exports (X).

If injections exceed leakages, the flow of income rises; through the multiplier, output and income increase, so S, T and M rise until they equal the injections. If leakages exceed injections, income falls. Equilibrium is reached when total injections equal total leakages: $I + G + X = S + T + M$. It is not necessary for each pair to balance.

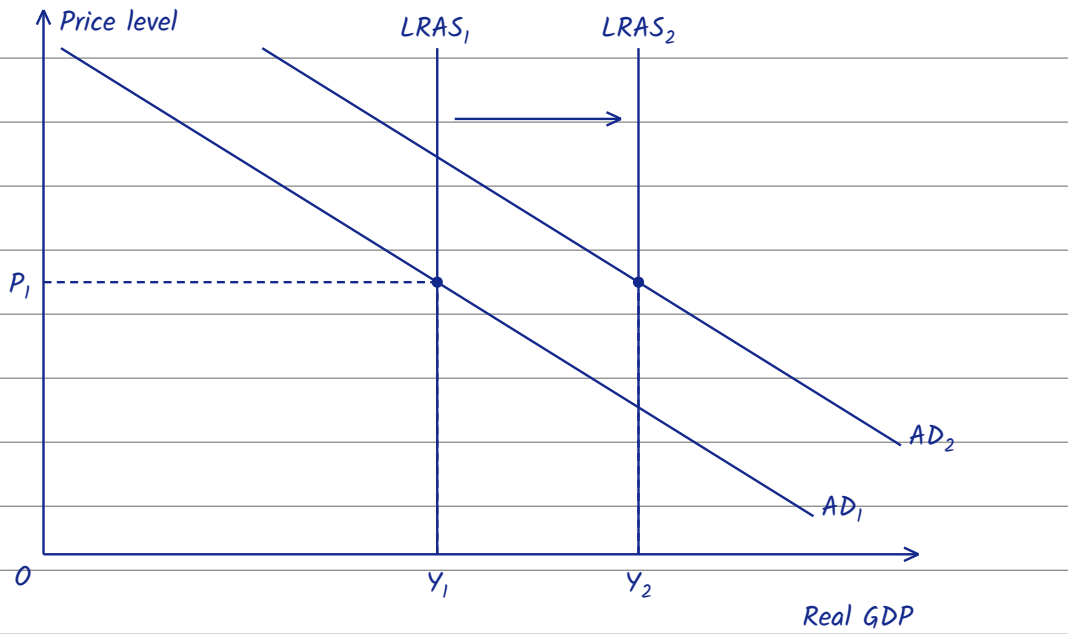
A budget deficit ($G > T$) is a net injection, so it raises income, while a trade deficit ($M > X$) is a net leakage, so it reduces income. Neither need cause lasting disequilibrium, because income adjusts until total injections equal total leakages.

However, a budget deficit is a choice the government can change. A trade deficit often reflects a lack of competitiveness and can persist for years, and in a fixed exchange rate system it does not correct itself. In conclusion, a trade deficit is more likely to cause lasting disequilibrium, unless the exchange rate depreciates to

Question number

correct it.

4(b) Investment is spending on capital goods. Investment in new infrastructure, such as roads, railways and power stations, may come from firms or from the government, and it can be financed from household savings channelled through the banks. Investment is an injection into the circular flow of income. Firms pay for the factors of production needed to build the project: households supply labour, enterprise and capital and receive wages, profit and interest. They spend part of this income, which becomes other firms' revenue, so there is a multiplier effect and the total rise in income is greater than the initial investment. In the long run, better infrastructure lowers firms' costs and raises productive capacity.



So investment shifts AD from AD_1 to AD_2, and the extra capacity shifts LRAS from $LRAS_1$ to $LRAS_2$, so real income rises from Y_1 to Y_2 without higher prices. However, leakages reduce the impact. Taxes on the inputs and on workers' incomes flow to the government, imported materials and foreign contractors cause money to leave the economy, and households save part of their extra income. If leakages are large, the multiplier is small. The way the project is financed also matters: if the government raises taxes or borrows heavily, private spending may be crowded

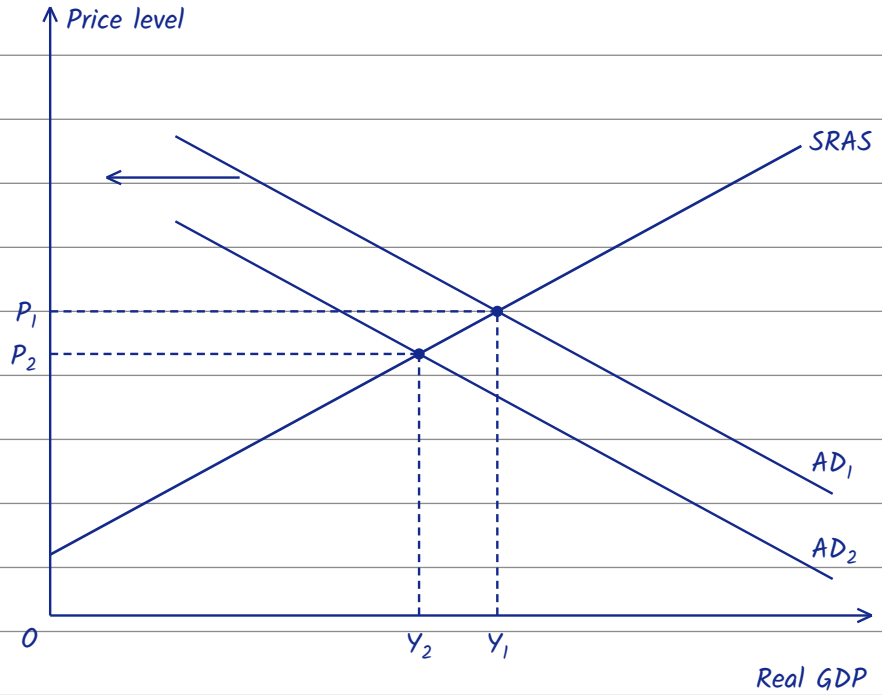
Question number

out, and interest paid later to foreign lenders is a further leakage, so the net injection may be small or even negative.

The circular flow model is a simplified view of reality. Many infrastructure projects have negative effects not shown by the model, such as pollution, destruction of homes or farmland, and cost overruns. Some projects are poorly chosen and become 'white elephants' that add little to productive capacity. The impact also depends on whether the economy has spare capacity: at full employment, the extra spending causes inflation rather than higher real income.

In conclusion, an increase in investment in infrastructure is an injection that usually has a positive impact on the circular flow of income, but not always. The net effect depends on the balance of injections and leakages, how the project is financed and whether it is well chosen.

5(a) Monetary policy is the use of interest rates, the money supply and regulations on bank lending by the central bank to influence the economy. To reduce inflation it uses contractionary monetary policy: raising interest rates, reducing the money supply or tightening credit regulations.



Question number

Higher interest rates make borrowing more expensive, so households spend less on credit and mortgage payments rise, reducing disposable income; firms invest less because fewer projects earn a return above the interest rate. Saving becomes more attractive. Higher rates attract hot money, so the exchange rate appreciates, making exports dearer and imports cheaper. AD shifts left from AD_1 to AD_2, so the price level falls from P_1 to P_2, reducing the rate of inflation. However, real output falls from Y_1 to Y_2 and, because labour is a derived demand, unemployment rises. The success of the policy depends on how consumers and firms respond. If confidence is high, or if many loans are at fixed rates, spending may fall little. It also depends on the cause and rate of inflation: it works well against demand-pull inflation, but cost-push inflation caused by higher oil prices is not reduced and the fall in output makes the recession worse. There are also time lags. In conclusion, monetary policy is likely to succeed against demand-pull inflation, especially with a credible central bank, but is less successful against cost-push inflation.

5(b)

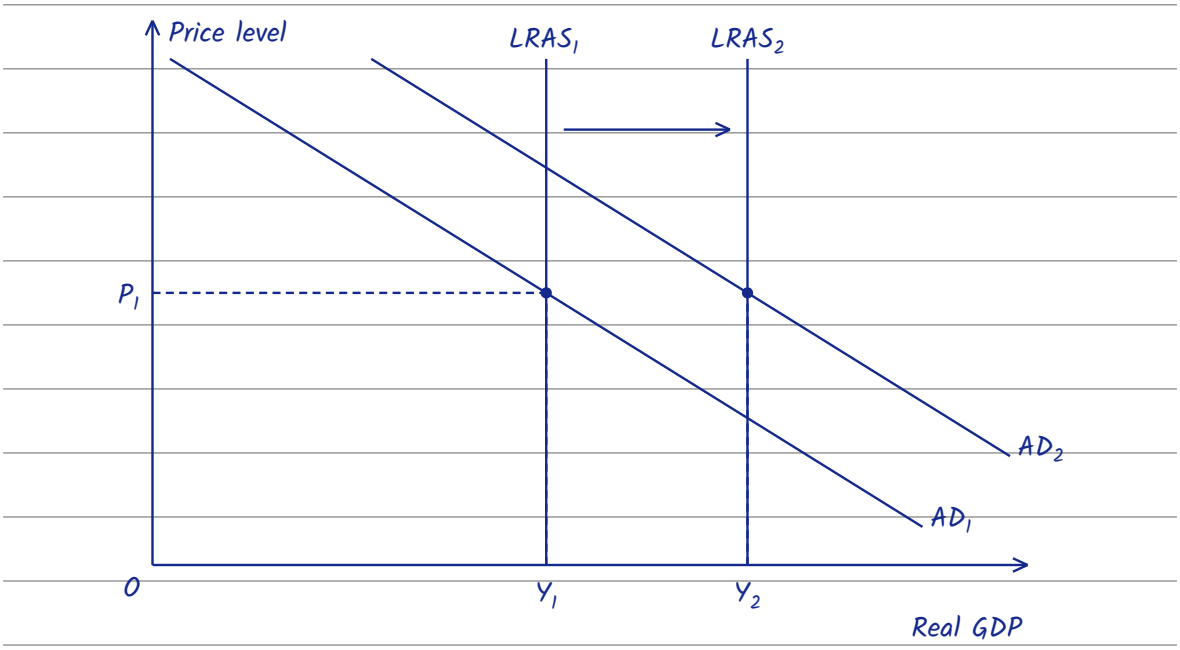
The main macroeconomic objectives are price stability (low and stable inflation, often a 2% target), low unemployment, steady economic growth and a stable balance of payments; many governments also aim for a fairer distribution of income.

Fiscal policy uses government spending and taxation through the budget. To reduce unemployment and raise growth, the government can increase spending or cut taxes, increasing AD through the multiplier; to reduce inflation it does the opposite. Progressive taxes and transfer payments are used to redistribute income.

Monetary policy uses interest rates and the money supply. Raising interest rates reduces consumption and investment, which controls inflation, while cutting them boosts AD to support growth and jobs.

Supply-side policies, such as education and training, deregulation, privatisation and tax incentives to invest, increase productive capacity and productivity.

Question number



By shifting LRAS right, supply-side policy allows output to grow from Y_1 to Y_2 without higher inflation, reduces structural unemployment and improves international competitiveness, so it can help achieve several objectives at once.

However, intervention does not always achieve the objectives. There are conflicts between objectives: expanding AD to cut unemployment may raise inflation and, by increasing imports, worsen the current account, while raising interest rates to cut inflation slows growth. Policies have time lags and governments lack perfect information, so they may act too late or too much. Fiscal policy may be limited by debt and by political pressures, monetary policy is weak against cost-push inflation and when interest rates are already low, and supply-side policies take many years and are costly.

The effectiveness of each intervention depends on the objective: monetary policy is best for controlling demand-pull inflation, fiscal policy for a quick boost to employment in a recession, and supply-side policy for long-run growth. In conclusion, governments use a combination of fiscal, monetary and supply-side policies, matching each tool to the objective it is best suited to, which reduces conflicts, although they rarely achieve all objectives at the same time.