Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/21**

Paper 2 Data Response and Essay **May/June 2021**

1 hour 30 minutes



You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **two** questions in total:
  - Section A: answer Question 1.
  - Section B: 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 40.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **4** pages. Any blank pages are indicated.

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Section A

Answer this question.

1 Vietnam's exports of fruit and vegetables to exceed US$4 billion

The value of Vietnam's fruit and vegetable exports reached US$1.3 billion in the first four months of 2018, a year-on-year increase of 30%, according to the Vietnam Ministry of Agriculture. With a high export growth rate in the past four years, the sector is expected to exceed the export target of US$4 billion set for 2018.

A government spokesperson stated that because world trade in fruit and vegetables is worth US$230 billion a year, with an annual growth rate of 3% to 5%, there is more scope for Vietnam to increase its fruit and vegetable exports. The spokesperson said that Vietnam must use more land to grow crops to export and build additional modern food processing facilities to take advantage of these opportunities.

The increase in the export of fruit and vegetables will add to Vietnam's current account balance. Fig. 1.1 below shows the balance of the current account of the balance of payments for Vietnam from Q1 2016 to Q2 2018.

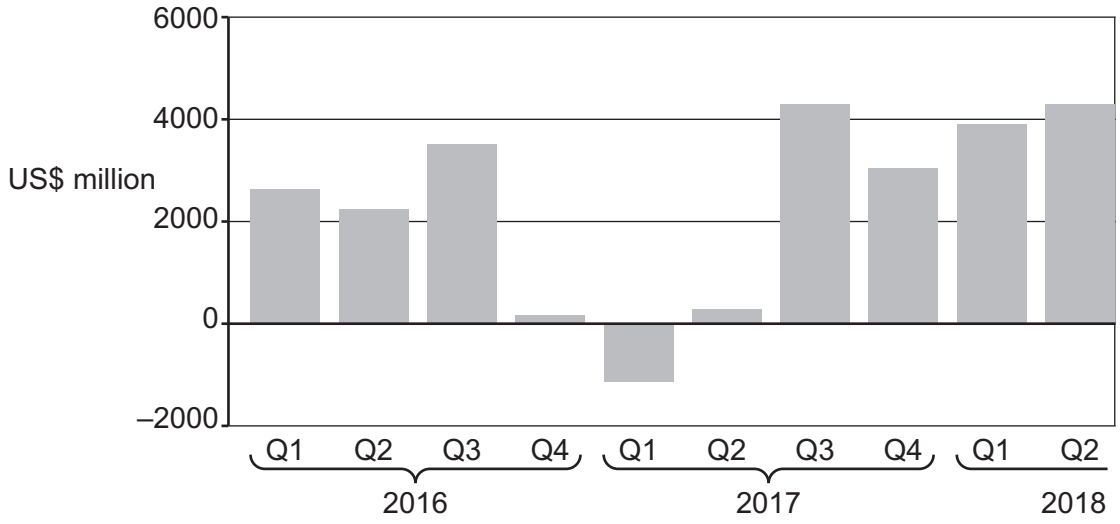


Fig. 1.1 Vietnam's current account balance, Q1 2016 to Q2 2018 (US$ million)

Source: tradingeconomics.com, accessed October 2019

Despite its impressive results in exporting fruit and vegetables, Vietnam faces possible risks because it relies very heavily on China, its biggest fruit and vegetable importer. China accounted for 77% of Vietnam's exports of fruit and vegetables in the first four months of 2018 while the United States, its second biggest importer, accounted for just 2.8% and Japan, its third biggest importer, accounted for 2.7%. Some analysts believe that Vietnam's agricultural sector in general, and fruit and vegetable producers in particular, should explore other potential countries for their exports.

According to the Vietnam Fruit and Vegetable Association, fruit and vegetable exporters face additional costs in complying with administrative burdens on trade, such as strict hygiene and food safety regulations. Vietnam's producers need to ensure that product quality is as high as possible and production costs as low as possible if they are to succeed.

Source: adapted from Vietnam News, 7 May 2018

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(a) **(i)** Describe the overall trend in Vietnam's current account balance between Q1 2017 and Q2 2018. [1]

(ii) Calculate the value of Vietnam's exports of fruit and vegetables to China in the first four months of 2018. [1]

(b) Explain **one** possible demand factor and **one** possible supply factor that could have caused the increase in Vietnam's export sales of fruit and vegetables. [4]

(c) Explain how complying with administrative burdens on trade will affect Vietnam's supply of fruit and vegetables for export. [2]

(d) Discuss whether the risks of Vietnam relying very heavily on the Chinese market for the export of its fruit and vegetables are greater than the potential benefits. [6]

(e) Using aggregate demand and aggregate supply analysis, discuss the possible impact on Vietnam's economy of a sustained increase in its net exports. [6]

Section B

Answer **one** question.

2 **(a)** Explain whether private goods, free goods and public goods will all be sold in a free market economy. [8]

(b) Discuss whether the direct provision of goods and services by the government prevents the price mechanism from working effectively. [12]

3 **(a)** With the aid of diagrams, explain how consumer surplus is affected by a decrease in the price of a luxury product with many substitutes, and of an essential product with few substitutes.[8]

(b) Discuss the extent to which knowledge of the income elasticity of demand for its product is likely to be more useful to a business than knowledge of the cross elasticity of demand for its product. [12]

4 **(a)** With the aid of a diagram(s), explain **one** demand factor and **one** supply factor that would cause the value of a currency in a floating exchange rate system to depreciate. [8]

(b) Discuss how likely it is that monetary policy would be successful in reducing inflation in an economy with a floating exchange rate. [12]

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Question number

Answers for paper 9708/21

1(a)(i) The current account balance improved overall. It was in deficit in Q1 2017 (about –US$1200 million) and then moved into surplus, rising to about US$4300 million by Q2 2018, with only one fall (in Q4 2017).

1(a)(ii) Exports to China = 77% × US$1.3 billion

= 0.77 × 1.3 = US$1.001 billion, so about US$1 billion

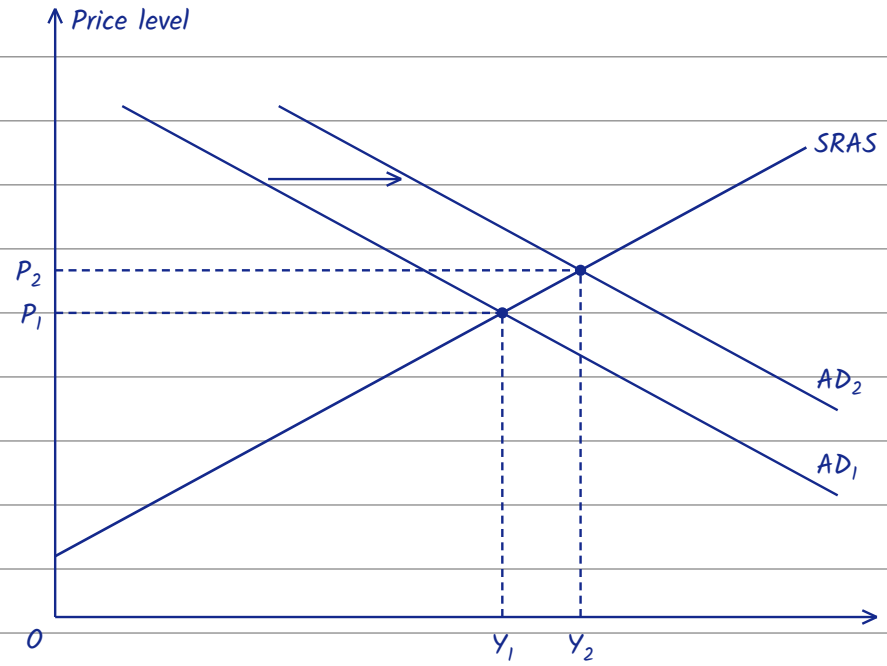
1(b) Demand factor: rising incomes in importing countries such as China. Fruit and vegetables are normal goods, so as incomes abroad rise the demand for Vietnam's exports shifts to the right. More is bought at every price, so the value of export sales increases (world trade in these products is growing at 3% to 5% a year).

Supply factor: the use of more land and new technology such as modern food processing facilities. This increases capacity and lowers the cost per unit, so the supply of fruit and vegetables for export shifts to the right. Vietnamese produce can then be sold at more competitive prices, so a larger quantity is exported.

1(c) Complying with strict hygiene and food safety regulations raises producers' costs of production, for example the costs of testing, inspection and paperwork. Because each unit now costs more to supply, the supply curve of fruit and vegetables for export shifts to the left: less is supplied at each price, so the export price rises and the quantity exported falls. Some small farms that cannot meet the standards may stop exporting altogether.

Question number	
1(d)	The main risk is that Vietnam's export earnings depend on one market. China takes 77% of its fruit and vegetable exports, compared with only 2.8% for the US and 2.7% for Japan. If China has a recession, changes its tastes, or imposes tariffs or stricter food regulations, demand for Vietnamese produce would fall sharply. This would cut farm incomes and employment and worsen the current account, and because Vietnam has few other trading contacts it could not quickly sell the produce elsewhere. However, there are clear benefits. China is a neighbour, so transport costs are low and fresh produce reaches customers quickly. It is a very large and fast growing market, which helped exports grow by 30% year on year. Close, established trading contacts give security of orders and allow long-term contracts, and producers gain economies of scale by selling large volumes to one market instead of paying to enter many smaller ones. In conclusion, the benefits are large in the short run, but the risks are greater because 77% is such an extreme concentration: one shock in China could hit the whole sector. The best approach is to keep the Chinese market while gradually diversifying into others, as the analysts suggest.
1(e)	Net exports (X – M) are a component of aggregate demand, AD = C + I + G + (X – M). A sustained increase in net exports therefore shifts AD to the right from AD1 to AD2, as shown in the diagram.

Question number



If Vietnam has spare capacity, real GDP rises from Y1 to Y2. The extra export income is spent by farmers and food processing workers, so through the multiplier effect national income rises by more than the initial increase in net exports, unemployment falls and the current account surplus grows (it was already about US$4300 million in Q2 2018).

However, the price level also rises from P1 to P2. As the economy gets closer to full capacity the SRAS curve becomes steeper, so further increases in AD cause more demand-pull inflation and less extra output. Exporting more produce also leaves less for domestic consumers, raising food prices. Inflation and a likely appreciation of the currency due to the surplus would then reduce export competitiveness in the future.

Overall the impact is likely to be beneficial, because a developing economy like Vietnam probably has spare capacity in agriculture. The benefit will be greatest if export earnings are invested in new land and processing facilities, which would shift LRAS to the right and allow growth without high inflation.

2(a) Private goods are rival and excludable: when one person consumes a unit no one

Question number

else can, and people who do not pay can be excluded, for example food and clothing. They are scarce, so consumers are willing to pay and firms can make a profit. The price mechanism works: the price is set where demand equals supply, and it rations the goods. Private goods are therefore sold in a free market economy.

Free goods, such as air and sunshine, are not scarce. They need no factors of production, so they have no opportunity cost, and supply is greater than demand even at a zero price. Nobody owns property rights over them and nobody would pay for them, so free goods are not sold in a free market; they do not need to be.

Public goods, such as street lighting and national defence, are non-rival and non-excludable. Once provided, one person's use does not reduce the amount available to others, and non-payers cannot be stopped from benefiting. Consumers therefore have an incentive to be free riders and will not reveal their preferences by paying. Firms cannot make a profit, so the market fails to provide them at all: a missing market. Unlike free goods they are scarce and use resources, so they have to be provided by the government and paid for through taxation.

So only private goods will be sold in a free market economy; free goods and public goods will not.

2(b) The price mechanism allocates resources through three functions. Prices ration scarce goods, signal where resources are wanted, and give producers an incentive to respond to consumer preferences. When the government directly provides goods such as education and health care, free at the point of use and financed by taxation, they are allocated by need instead of price.

This can prevent the price mechanism from working effectively. At a zero price demand is greater than supply, so goods have to be rationed by waiting lists and queues instead of by price. Without prices there is no signal of how much consumers value each service, so the government may provide too much of one

Question number

service and too little of another, which is a form of government failure. There is no profit motive, so state providers may have little incentive to keep costs down, and the taxes needed to finance provision can reduce incentives to work and invest in other markets. Government provision may also crowd out private firms.

On the other hand, direct provision often replaces a price mechanism that was not working anyway. For public goods such as defence the market fails completely because of the free rider problem, so provision fills a missing market. For merit goods such as education the free market under-consumes because of information failure and positive externalities, so provision moves output closer to the socially optimum level. The price mechanism also still operates in factor markets: the government must pay market wages to attract teachers and nurses and buy equipment at market prices. In a mixed economy most goods are still allocated by prices.

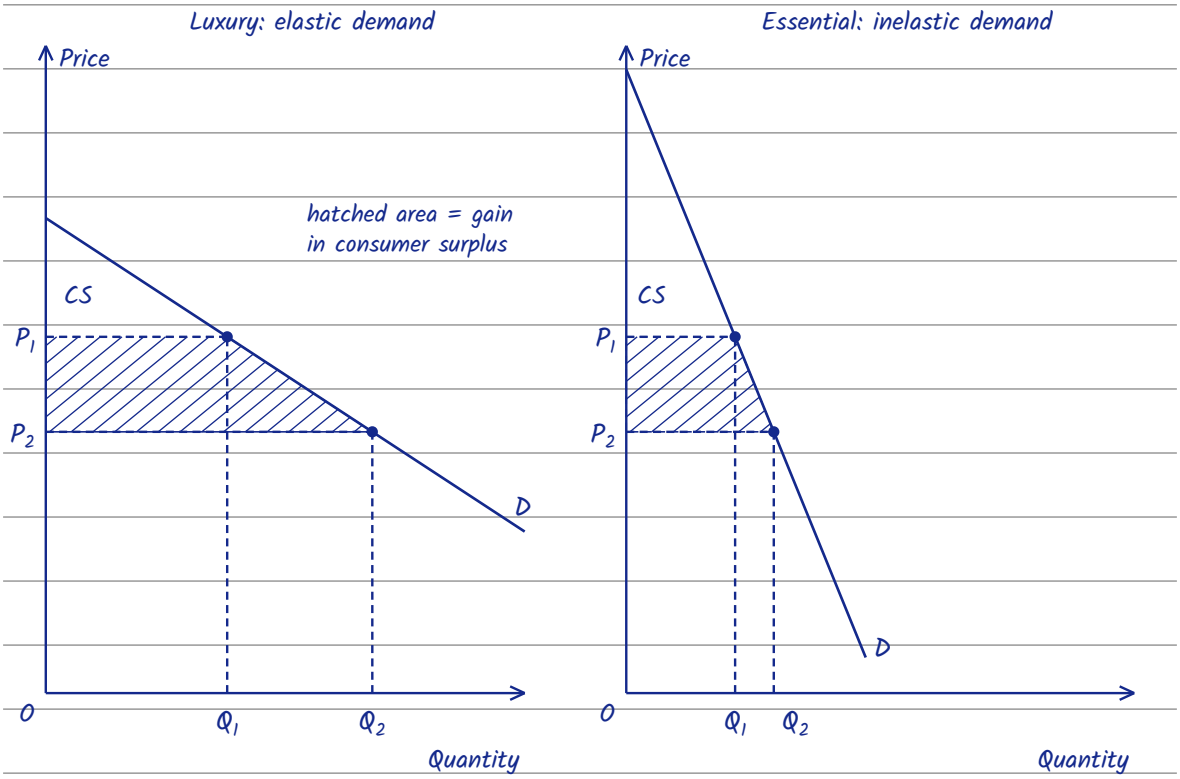
Whether provision prevents the price mechanism working effectively depends on the type of good. For public goods it does not, because there was no effective price mechanism to begin with. For merit goods it changes the outcome, but towards a better allocation. Only if the government provides private goods that markets could supply efficiently, such as state-run shops, is it likely to cause serious inefficiency. It also depends on scale: limited provision in a mixed economy leaves prices working elsewhere, while a command economy replaces them almost entirely.

In conclusion, direct provision does stop prices rationing and signalling for the goods concerned, but where it is limited to public and merit goods it corrects market failure, so overall it does not prevent the price mechanism from working effectively in the economy as a whole.

3(a) Consumer surplus is the difference between the price consumers are willing to pay for a good and the price they actually pay. On a diagram it is the area below the

Question number

demand curve and above the market price.



When the price falls from P1 to P2, consumer surplus increases by the hatched area. This has two parts: existing consumers pay less for the Q1 units they already bought (a rectangle), and new consumers buy the extra units from Q1 to Q2 (a triangle). How large the change is depends on price elasticity of demand.

A luxury product with many substitutes has price elastic demand, shown by the flatter demand curve. The price fall causes a more than proportionate rise in quantity demanded, as many consumers switch from substitutes, so quantity rises a lot from Q1 to Q2. A large part of the gain in consumer surplus comes from these new consumers.

An essential product with few substitutes has price inelastic demand, shown by the steep demand curve. The original consumer surplus is large, because people would be willing to pay a lot more than the price. The price fall causes only a small rise in quantity demanded, so almost all of the gain is the rectangle: existing consumers simply pay less for the same quantity, with very little gain from new

Question number

consumers.

3(b) Income elasticity of demand (YED) measures the responsiveness of demand to a change in income: % change in quantity demanded ÷ % change in income. It is useful for forecasting sales over the business cycle. A firm selling a luxury such as new cars, with a YED of, say, +2, knows that if incomes rise by 3% in a boom demand will rise by about 6%, so it should increase capacity and hire staff; in a recession it should cut output and stocks. A seller of inferior goods, with negative YED, such as a discount supermarket, can expect sales to rise when incomes fall. YED also helps with long-term strategy, for example targeting fast growing emerging economies where rising incomes will increase demand for normal goods.

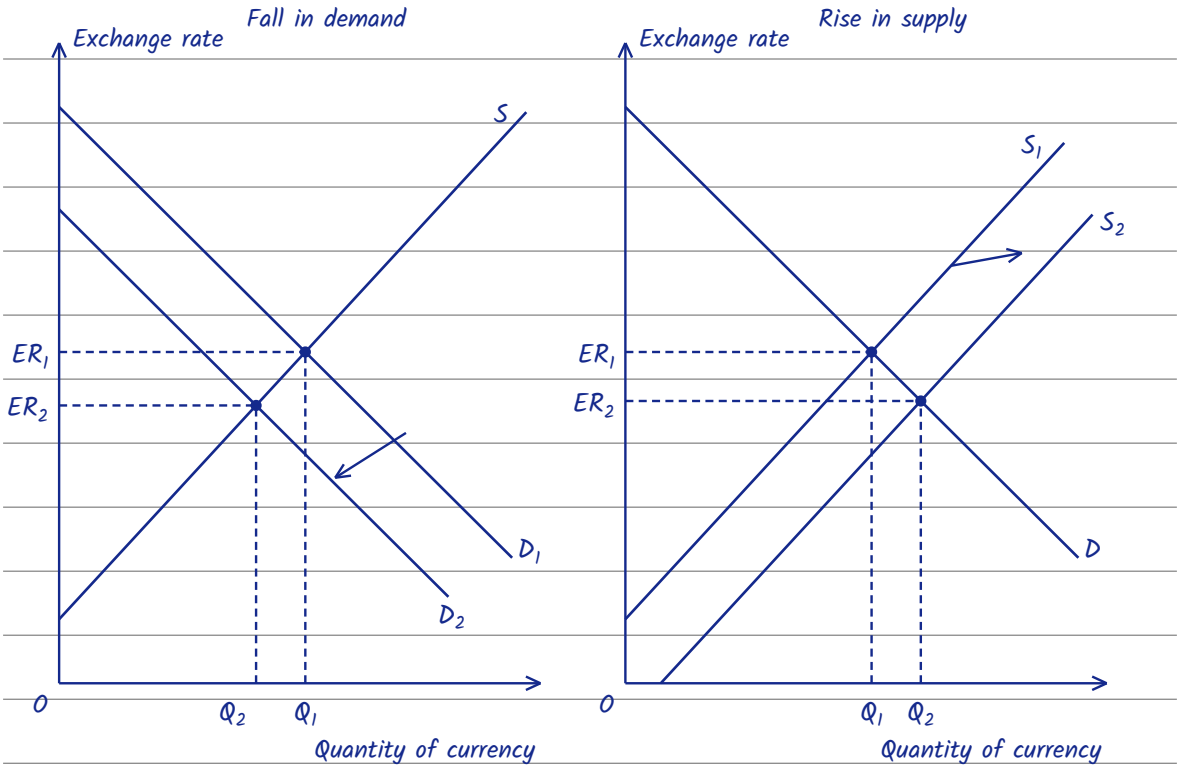
Cross elasticity of demand (XED) measures the responsiveness of demand for the firm's product to a change in the price of another product. For substitutes XED is positive: a high value, such as +3, tells a firm that a rival's price cut will take many of its customers, so it may need to match the cut or build brand loyalty to reduce XED. For complements XED is negative: a firm making both printers and ink knows that cutting printer prices will raise ink sales, so it can price one product low and make its profit on the other.

Which is more useful depends on the firm's market. In a competitive market such as oligopoly, rivals change prices often, so XED is needed for day-to-day pricing decisions. For firms selling luxuries or inferior goods, or in an economy with volatile growth, income changes have a much bigger effect on sales, so YED is more useful. It also depends on the time period: YED is more useful for long-term investment planning, XED for short-term pricing. Both estimates have limits: they are based on past data, assume other things are equal, and may change over time. Neither income nor rivals' prices are controlled by the firm, but a firm can at least respond to a rival's price change immediately, whereas it can only plan around income changes.

Question number

In conclusion, knowledge of YED is more useful for strategic planning and for firms whose sales are sensitive to the economic cycle, but for most firms facing close competitors, XED is likely to be more useful in practice. So YED is not generally more useful; ideally a business needs both.

4(a) In a floating exchange rate system the value of a currency is determined by the demand for and supply of it on the foreign exchange market. A depreciation is a fall in its value caused by market forces, from ER1 to ER2 in the diagrams.



Demand factor: a fall in demand for the country's exports, for example because of a recession in its main trading partners. Foreigners must buy the country's currency to pay for its exports, so when they buy fewer exports they demand less of the currency. Demand shifts to the left from D1 to D2, and at ER1 there is now excess supply, so the exchange rate falls to ER2.

Supply factor: an increase in demand for imports, for example because domestic incomes rise. To pay for imports, residents sell their own currency to buy foreign currency, so the supply of the currency on the foreign exchange market increases

Question number

from S1 to S2. At ER1 there is excess supply, so the exchange rate falls to ER2 (the quantity traded rises from Q1 to Q2).

4(b) Monetary policy uses interest rates and the money supply to influence aggregate demand. To reduce inflation the central bank would raise interest rates or reduce the growth of the money supply. Higher interest rates make borrowing more expensive and saving more attractive, so consumption and investment fall. Mortgage repayments rise, reducing disposable income. AD shifts to the left, so demand-pull inflation falls.

A floating exchange rate makes the policy more powerful. Higher interest rates attract inflows of hot money from abroad, increasing the demand for the currency, so it appreciates. This lowers the price of imported finished goods and imported raw materials and components, which reduces cost-push inflation. Exports also become more expensive and imports cheaper, so net exports fall and AD falls further. With a fixed exchange rate this channel would not be available, as the central bank would have to keep the currency at its peg.

However, there are difficulties. Monetary policy works with long time lags, often 12 to 24 months. The effect of the appreciation on net exports depends on price elasticities: by the Marshall-Lerner condition, net exports only fall if the sum of the PEDs for exports and imports is greater than 1. In the short run demand is often inelastic, so the trade balance may at first move the other way (a J-curve effect in reverse) and AD falls more slowly. If other countries raise their interest rates too, there may be no inflow of hot money and no appreciation. If inflation is caused by domestic cost-push factors such as wage rises, cutting AD reduces output and raises unemployment more than it reduces inflation. The appreciation also harms exporters.

How successful the policy is therefore depends on the cause of inflation, the price elasticities of exports and imports, and how mobile international capital is. It is

Question number

likely to be most effective against demand-pull inflation and inflation caused by rising import prices, especially in an open economy where the exchange rate channel is strong.

In conclusion, monetary policy is quite likely to succeed in reducing inflation over the medium term in an economy with a floating exchange rate, provided the Marshall-Lerner condition holds, but it is less effective for domestic cost-push inflation and may take time.

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INFORMATION

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Section A

Answer this question.

1 Rice farmers in Cambodia and Myanmar under pressure

Rice farmers across Cambodia and Myanmar, in Southeast Asia, have been left searching for new markets for their crop after the European Union (EU) announced that it will now be imposing substantial tariffs on rice from both countries for the next three years. An investigation has confirmed that the increase in rice imports from these countries has been damaging to EU rice producers.

Representatives of EU farmers welcomed the decision, as the cheap rice imported from Southeast Asia has been contributing to EU farmers and labourers leaving agriculture and migrating to towns.

EU rice imports from the two Southeast Asian countries increased from 9000 tonnes in 2012 to 360 000 tonnes in 2017, leading to a sharp fall in the price of rice in the EU. In 2018, approximately 30% of all EU rice imports came from countries with duty-free status, with most being shipped in from Cambodia and Myanmar. The increase in low-price imports has caused serious difficulties for EU rice producers. Their market share in the EU dropped substantially from 61% to 29%.

Rice is currently grown across eight EU countries including Italy, whose government initially requested that the EU investigate the issue in March 2018 to protect the EU rice industry.

Cambodia and Myanmar have enjoyed duty-free rice exports to the EU since 2010, when tariffs on the crop were removed as part of a policy which aims to promote EU trade in goods with the world's 50 least-developed countries. Other more developed countries in Southeast Asia, including Thailand and Vietnam, have long been paying tariffs of around US$200 per tonne for rice exports to the EU. For both Cambodia and Myanmar, rice is a major export and the EU has become their most profitable market, so the new tariff has harmed their economies.

The EU is currently Cambodia's largest destination for rice exports, accounting for 43% of all exported rice. It is thought that Cambodia's rice industry could be put in a critical condition as a result of the EU tariffs. In order to offset the additional costs resulting from the tariffs, local rice farmers will have to cut production costs, and may need to grow different crops altogether. One suggestion is that government subsidies could make Cambodia's rice industry more competitive.

The impact of the tariff will ultimately depend on the extent to which EU consumers consider rice produced in the EU to be a good substitute for Cambodian rice. Consumers in Europe may not mind paying a bit more for Cambodian rice.

Myanmar is in a similar situation, as the EU has become one of Myanmar's major rice markets. Myanmar reached an all-time high of 293 000 tonnes of rice exported to the EU in 2017. But this could change now that there is a high barrier for entry to the EU rice market, forcing farmers to look closer to home for different buyers. Myanmar's Rice Federation stated that the EU's decision to levy tariffs on the country's rice exports had serious potential negative effects on Myanmar's economy.

Source: Robin Spiess, Southeast Asia Globe, 18 January 2019

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Table 1.1 Myanmar and Cambodia: consumer prices (annual percentage change)

	2016	2017	2018	2019*	2020*
Myanmar	6.8	4.0	7.1	6.8	7.5
Cambodia	3.0	2.9	2.5	2.5	2.5

*Projections

Table 1.2 Myanmar and Cambodia: current account balances: (% of national income)

	2016	2017	2018	2019*	2020*
Myanmar	–4.3	–4.7	–2.0	–4.0	–5.0
Cambodia	–10.9	–10.5	–13.6	–12.7	–11.8

*Projections

Source: Asian Development Bank: Asian Development Outlook 2019

(a) Compare the change in the price level in Myanmar with that in Cambodia between 2016 and 2018. [2]

(b) Compare the current account balance of Myanmar with that of Cambodia in 2018. [2]

(c) Explain any **two** policies that could improve the competitiveness of rice from Myanmar and Cambodia in the EU market. [4]

(d) Discuss **two** factors that will determine the extent of the impact the EU tariffs will have on the economies of Myanmar and Cambodia. [6]

(e) Discuss the view that the EU should give tariff-free access to the EU market to all producers of rice. [6]

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Section B

Answer **one** question.

2 In 2018 the UK government, concerned about the rise in obesity, particularly amongst young people, imposed a tax on producers of sugar-sweetened drinks.

(a) State what is meant by a demerit good, and with the help of a diagram(s) explain how a tax on producers can improve the allocation of resources in the market for sugar-sweetened drinks. [8]

(b) Compare the likely effectiveness of a policy of imposing minimum prices on demerit goods with **one** other policy to improve public health and consider which policy is more likely to be successful. [12]

3 **(a)** Explain how the concept of cross-elasticity of demand can be used to distinguish between goods that are substitutes, those that are complements and those that have no relationship. [8]

(b) An economy is experiencing a fall in average incomes during a severe recession.

Discuss the extent to which the concepts of income elasticity of demand and price elasticity of demand might be useful to an entrepreneur in this economy and consider which would be more useful. [12]

4 **(a)** Explain what is meant by deflation and use aggregate demand and aggregate supply diagrams to explain how it might arise in an economy. [8]

(b) Discuss whether a government should use monetary policy or fiscal policy to solve the problem of deflation in an economy. [12]

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Question number

Answers for paper 9708/22

1(a) In both countries the price level rose every year, so both had inflation. However, prices rose faster in Myanmar (6.8%, 4.0% and 7.1%) than in Cambodia (3.0%, 2.9% and 2.5%), and Myanmar's inflation rate was more volatile, rising again in 2018 while Cambodia's fell steadily.

1(b) In 2018 both countries had a current account deficit. Cambodia's deficit was a much larger percentage of national income, at 13.6%, compared with only 2.0% of national income for Myanmar.

1(c) Policy 1: the Cambodian and Myanmar governments could give subsidies to rice producers. A subsidy lowers farmers' costs of production, so supply shifts to the right and rice can be sold in the EU at a lower price even after the tariff, making it more price competitive.

Policy 2: the governments could fund research and development and training in better farming methods, such as higher-yield seed varieties. This raises productivity, which lowers the cost per tonne and can also improve the quality of the rice, increasing both its price and its non-price competitiveness in the EU.

1(d) Factor 1: the price elasticity of demand for Cambodian and Myanmar rice in the EU. The tariff raises the price of their rice in the EU. If demand is price inelastic, for example because EU consumers do not see EU rice as a close substitute and 'may not mind paying a bit more', quantity demanded falls by a smaller percentage than the rise in price. Export volumes would fall only a little, so farm incomes,

Question number

jobs and the current account of the two economies would be only slightly affected.

Factor 2: the extent to which they can find other markets. If farmers can redirect the rice to other buyers, for example in nearby Asian countries, total exports are maintained and the impact is small. If they cannot, export earnings fall sharply: the EU takes 43% of Cambodia's rice exports, so lower output would cause unemployment in rural areas, a fall in national income through the multiplier, and a bigger current account deficit (already 13.6% of national income in 2018). As the EU is the most profitable market, even switching markets is likely to reduce incomes to some extent.

The tariffs are described as substantial, so the impact is likely to be significant unless demand is very inelastic.

1(e) Tariff-free access for all producers would let rice be produced where it is cheapest, according to comparative advantage. Countries such as Cambodia, Myanmar, Thailand and Vietnam can produce rice at a lower opportunity cost than EU farmers, so world output rises. EU consumers gain from lower prices and more choice, and EU resources can move into industries where the EU is more efficient. It would also support growth and reduce poverty in developing countries through trade instead of aid.

On the other hand, cheap imports have already cut EU producers' market share from 61% to 29%. Removing all tariffs, including those of about US$200 per tonne on Thai and Vietnamese rice, would cause more job losses in the eight EU rice-growing countries, adding to structural unemployment and to workers leaving rural areas. The EU may also want to keep some domestic rice production for food security, and would lose tariff revenue.

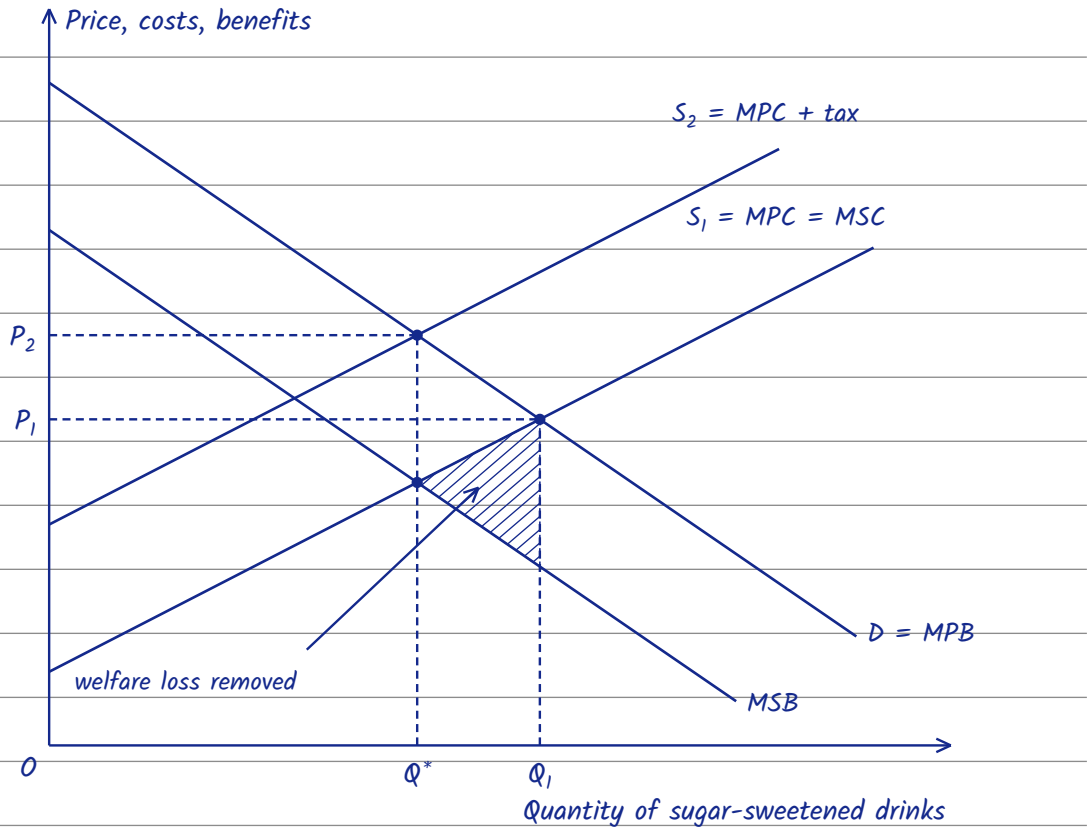
On balance, if EU rice farming is a 'sunset' industry that cannot compete, protecting it only delays the inevitable and makes consumers pay more. Free access for all is justified on efficiency grounds, but it should be phased in with

Question number

support to help EU farmers retrain. Giving access to all producers would, however, remove the advantage currently given to the least developed countries, so the EU might prefer to keep that preference.

2(a) A demerit good is a good that is more harmful to the consumer than they realise, because of information failure: consumers underestimate the costs of consuming it. As a result it is over-consumed in a free market.

Consumers of sugar-sweetened drinks underestimate the risks of obesity, diabetes and tooth decay, so their private benefit (MPB) is above the true social benefit (MSB). The free market produces Q1 at price P1, where MPB = MPC, which is more than the socially optimum output Q^*, where MSB = MSC. The hatched area shows the welfare loss from over-consumption.



A tax on producers increases their cost of production per unit, so the supply curve shifts to the left from S1 to S2 (vertical distance = the tax). The price rises from P1 to P2 and quantity consumed falls from Q1 to Q^*. If the tax equals the gap

Question number

between MPB and MSB at the optimum, consumption falls to the level where MSB = MSC, the welfare loss is removed and resources are reallocated from sugary drinks to other uses, so the allocation of resources improves. Producers may also cut the sugar content of drinks to avoid the tax.

2(b) A minimum price is set above the equilibrium price, so the cheapest products, for example cheap strong alcohol, become more expensive. This directly reduces quantity demanded, especially by heavy consumers who buy the cheapest products, and it can be implemented quickly. However, demand for demerit goods such as alcohol is often price inelastic because they are habit-forming, so consumption may fall only a little. The higher price also creates excess supply, and the extra revenue goes to producers, not the government. It can encourage unauthorised markets, smuggling or cross-border buying, and it must be monitored and enforced. It is also regressive, taking a larger share of the income of the poor.

An alternative policy is an education and information campaign, such as health warnings and lessons in schools about diet and alcohol. This tackles the cause of the problem, the information failure, so consumers value the good correctly. Demand shifts to the left, so consumption and price both fall, there is no incentive for informal markets, and the change in preferences can be long-lasting. However, campaigns are costly, take a long time to work, and their effect is uncertain: some people ignore the message, especially for addictive goods, and producers' advertising may work against it.

Comparing the two, the minimum price works faster and its effect on price is certain, but its effect on quantity depends on the price elasticity of demand, which is likely to be low, and it can be undermined by informal markets. Education changes behaviour more slowly, but because it corrects the information failure, it works on demand directly and does not create excess supply or enforcement problems. The minimum price is more effective for young people with

Question number	
	low incomes who buy the cheapest products, while education reaches all consumers. In conclusion, a minimum price is more likely to succeed in the short run, but an education campaign is more likely to improve public health in the long run because it changes preferences permanently. The most successful approach would combine both, using the minimum price for quick results while education takes effect.
3(a)	Cross elasticity of demand (XED) measures the responsiveness of the quantity demanded of one good, A, to a change in the price of another good, B, other things being equal. XED = % change in quantity demanded of A ÷ % change in price of B Substitutes have a positive XED. If the price of B (for example Pepsi) rises, consumers switch to A (Coca-Cola), so the quantity demanded of A rises. Both changes are in the same direction, so the value is positive; for example a 10% rise in the price of B causing a 5% rise in demand for A gives XED = +0.5. The larger the positive value, the closer the substitutes. Complements have a negative XED. If the price of B (printers) rises, fewer printers are bought, so less of the jointly demanded good A (ink cartridges) is needed and its quantity demanded falls. The changes are in opposite directions, so the value is negative. The larger the negative value, the stronger the complementary link. Unrelated goods have an XED of zero. A change in the price of B (for example bread) has no effect on the demand for A (for example cars), so the % change in quantity demanded is zero and XED = 0. So the sign of XED shows whether goods are substitutes, complements or unrelated, and its size shows how strong the link is.
3(b)	Income elasticity of demand (YED) would help an entrepreneur predict how sales

Question number

will change as incomes fall. Normal goods have a positive YED, and luxuries such as foreign holidays and restaurant meals have a YED above 1, so their demand falls by a larger percentage than incomes: if incomes fall by 4% and YED is +2.5, demand falls by 10%. Inferior goods, such as own-brand food and bus travel, have a negative YED, so their demand rises in a recession. The entrepreneur can use this to change the product range, cut output and stocks of luxuries, avoid investing in new capacity, or move into inferior goods whose sales will grow.

Price elasticity of demand (PED) tells the entrepreneur how a change in price will affect sales and total revenue. If demand is price elastic, a price cut raises total revenue, so discounts could help keep revenue up in the recession. If demand is inelastic, raising the price would raise revenue, which could help cover costs. In a recession consumers become more price conscious, so knowing PED helps the entrepreneur set prices to protect revenue and market share.

In a severe recession the main change is the fall in income, which the entrepreneur cannot control, so YED shows which products face the biggest falls in demand and is useful for decisions about what to produce and where to invest.

PED is useful for the shorter-term decision of how to price, but a price cut cannot offset a large leftward shift in demand for a luxury. Both have limitations: they are estimates based on past data, they assume other things are equal, and they can change in a recession, for example demand often becomes more price elastic as consumers look for bargains. The entrepreneur also needs information on costs, since higher revenue from a price cut does not guarantee higher profit.

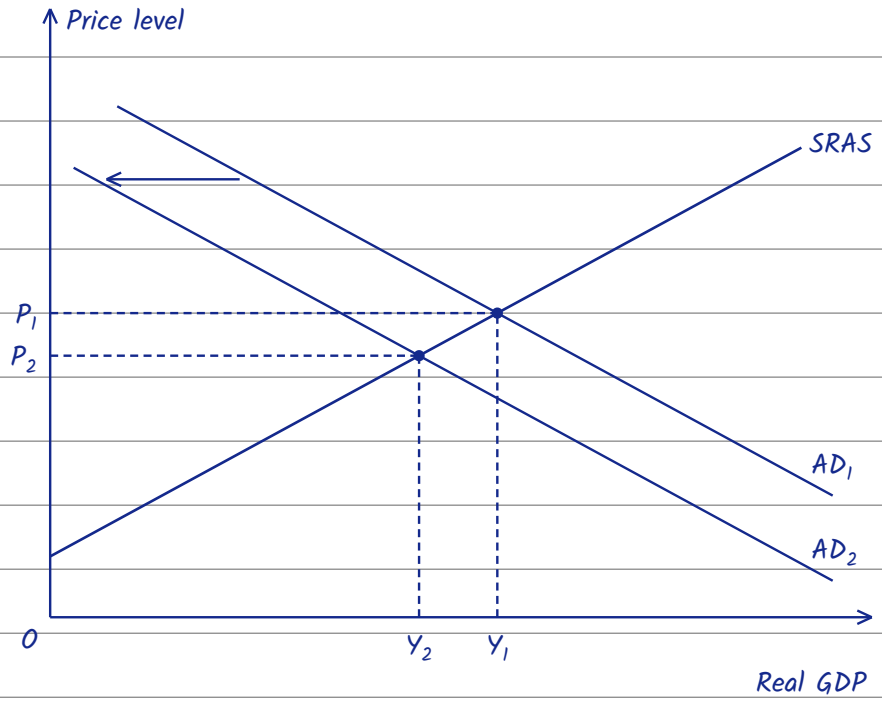
In conclusion, both concepts are useful and work best together, but in a severe recession YED is more useful, because the fall in incomes is the main cause of changing demand and YED shows the entrepreneur which goods to produce in the first place.

4(a) Deflation is a sustained fall in the general price level over a period of time, so the

Question number

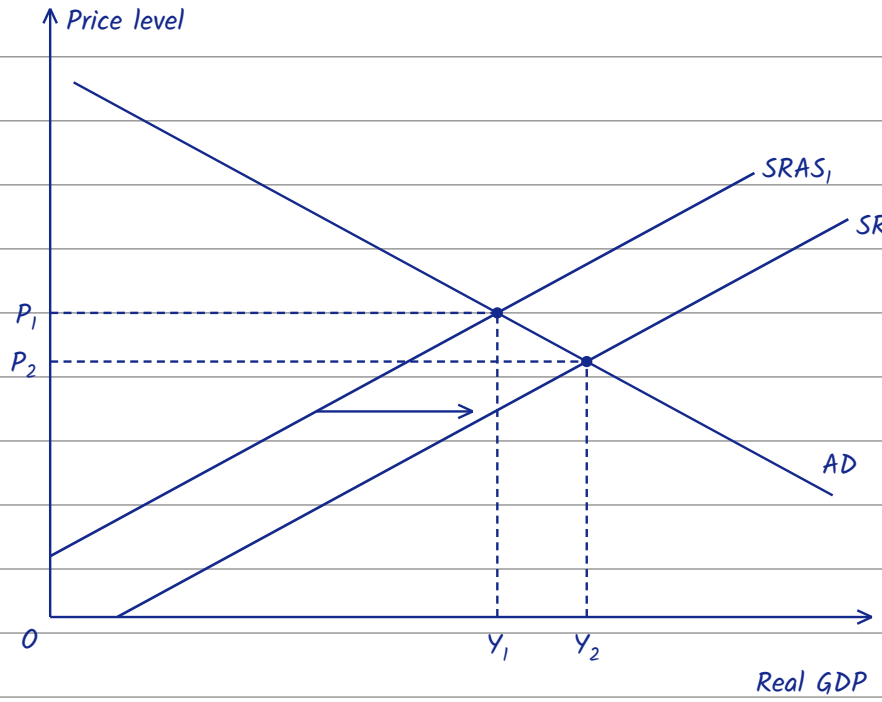
inflation rate is negative, for example the consumer prices index falling by 1% a year. It is different from disinflation, which is a fall in the rate of inflation while prices are still rising.

Deflation can be caused by a fall in aggregate demand. A fall in consumer confidence, higher interest rates, cuts in government spending or a fall in exports during a world recession reduce AD, so AD shifts left from AD1 to AD2. The price level falls from P1 to P2 and real GDP falls from Y1 to Y2. If AD keeps falling, prices fall year after year, which is deflation together with rising unemployment.



Deflation can also be caused by an increase in aggregate supply. Lower costs of production, such as a fall in world oil prices or new technology that raises productivity, shift SRAS to the right from SRAS1 to SRAS2. The price level falls from P1 to P2 while real GDP rises from Y1 to Y2. If costs keep falling, the general price level falls continuously, so this is a less harmful kind of deflation.

Question number



4(b) Monetary policy to tackle deflation would cut interest rates and increase the money supply, for example through quantitative easing. Lower interest rates reduce the cost of borrowing and the reward for saving, so consumption and investment rise, and lower rates cause the exchange rate to depreciate, making exports cheaper and imports dearer. AD shifts to the right and the price level rises. It is quick to change, is decided by an independent central bank, and does not increase the budget deficit.

However, in a deflation interest rates are often already close to zero, so they cannot be cut much further. Because prices are falling, real interest rates are high even when nominal rates are low. If consumers expect prices to keep falling they delay purchases, and with low confidence firms do not want to borrow and banks are reluctant to lend, so extra money is not spent, like 'pushing on a string'. There are also long time lags.

Fiscal policy would increase government spending, for example on infrastructure, or cut taxes. Government spending is a direct injection into the circular flow, so it raises AD even when consumers and firms are pessimistic, and the multiplier

Question number

increases national income by more than the initial spending. It can also be targeted at the regions or groups most affected. However, it increases the budget deficit and national debt, which may already be high in a recession, there are time lags in planning projects, and tax cuts may be saved instead of spent if households expect prices to fall. Borrowing could crowd out private investment, although this is less likely when interest rates are low.

The choice depends on the cause and severity of the deflation. If it is caused by rising aggregate supply, neither policy may be needed because output is growing. If it is caused by a large fall in AD and interest rates are already near zero, monetary policy is weak, as Japan found with years of falling prices despite very low interest rates, so fiscal policy is more effective. If government debt is very high, monetary policy and quantitative easing may be the only option.

In conclusion, I would advise a government facing serious deflation caused by weak demand to rely mainly on expansionary fiscal policy, because it raises AD directly, supported by monetary policy that keeps interest rates low so that borrowing for the fiscal stimulus remains cheap.

Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/23**

Paper 2 Data Response and Essay **May/June 2021**

1 hour 30 minutes

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You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **two** questions in total:
  - Section A: answer Question 1.
  - Section B: 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 40.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **4** pages.

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Section A

Answer this question.

1 Luxembourg's answer to resource misallocation in the transport market

Congestion is unfortunately a very familiar feature of most road transport networks. It occurs when there is too much traffic relative to road capacity or more simply, when demand exceeds supply. Congestion means longer journey times and wasted fuel, which adversely affects car drivers and bus passengers. Roads are scarce resources, but usually there is no price for using them. This represents a misallocation of resources.

Fig. 1.1 shows the changes in passenger journeys by public transport in Great Britain (GB) since 1997/98. The government has tried various policies to encourage more use of bus transport in the capital city, London, as well as in the rest of GB. These policies include privatisation along with increased bus subsidies and higher taxes on car users. All have failed to improve the allocation of resources and the cost of all travel continues to rise at a faster rate than the cost of living (See Fig. 1.2). The price of using cars has risen by less than other forms of transport since 2010 and some experts have suggested that a minimum price for fuel should be introduced.

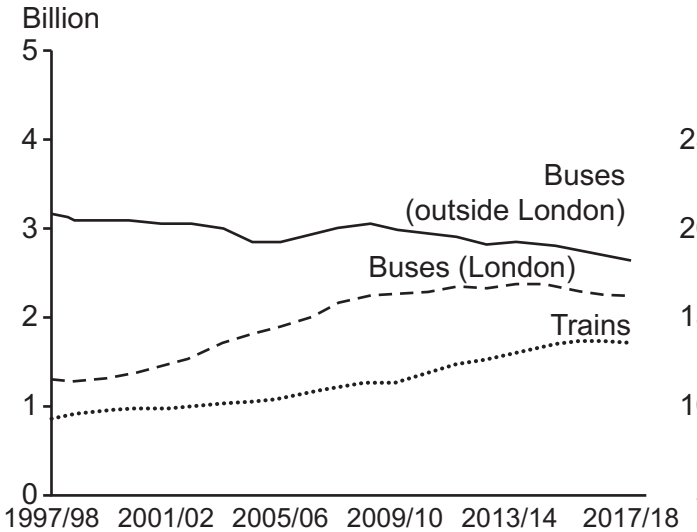


Fig. 1.1: Passenger journeys by type of public transport in Great Britain, 1997/98–2017/18 (billions)

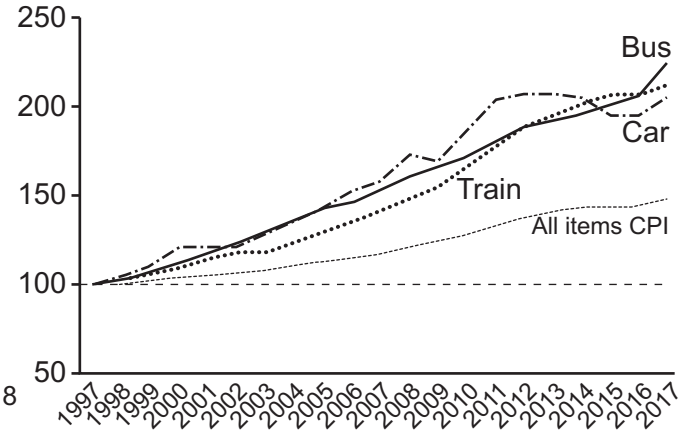


Fig. 1.2: Transport components in the Consumer Prices Index, 1997/98–2017/18 (base year 1997 = 100)

It is therefore interesting to see what Luxembourg, a relatively small European country, plans to do about its transport problems. From March 2020, the Luxembourg government has decided that all prices for public transport use (including buses and trains) will be removed, making travel by public transport free to consumers. The cost to its government is forecast to be almost US$1 billion per year.

Luxembourg's radical policy is one that should be given serious consideration in Great Britain and in other countries that face similar resource misallocation in their transport markets.

Source: Transport Statistics for Great Britain, 2018

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(a) **(i)** Use the information in Fig. 1.1 to describe the changes in the number of journeys by bus in Great Britain from 1997/98 to 2017/18. [2]

(ii) Using the information in Fig. 1.2, explain **one** of the changes you have identified. [2]

(b) Explain how opportunity cost can be applied to the Great British government's decision to subsidise public transport. [2]

(c) Explain whether public transport in Luxembourg has become a free good as a result of all prices being removed. [2]

(d) Discuss whether a minimum price for fuel would be effective in reducing the congestion caused by the demand for roads exceeding supply. [6]

(e) Discuss whether making public transport free to consumers is the best way to allocate resources in public transport markets. [6]

Section B

Answer **one** question.

2 Market research has estimated that the cross-elasticity of demand for hotels in Barbados with respect to the price of flights to Barbados is –2.5, and that the cross-elasticity of demand for flights to Antigua with respect to the price of flights to Barbados is +0.5.

(a) Explain what is meant by cross-elasticity of demand and what these values mean in terms of the effect of changes in the price of flights to Barbados on

(i) the demand for hotels in Barbados, and

(ii) the demand for flights to Antigua. [8]

(b) Growing pressures on the budget and on the environment from increasing tourist numbers to Barbados led the government to announce a new indirect tax on incoming tourists in June 2018.

Discuss the likely effectiveness of the new indirect tax in raising tax revenue and reducing tourist numbers. [12]

3 **(a)** Explain what is meant by aggregate supply and explain **one** reason why the aggregate supply curve of an economy would shift outwards in

(i) the short run, and

(ii) the long run. [8]

(b) Discuss whether an increase in aggregate demand would be of overall benefit for an economy. [12]

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4 **(a)** Explain how a free trade area differs from a customs union and explain **two** reasons why countries move towards tariff-free trade. [8]

(b) Discuss the view that the gains from tariff-free trade are greater for countries who are net importers than for countries who are net exporters. [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 9708/23

1(a)(i) Bus journeys outside London fell over the period, from about 3.2 billion in 1997/98 to about 2.7 billion in 2017/18. In contrast, bus journeys in London increased, from about 1.3 billion to a peak of about 2.4 billion in 2013/14, before falling slightly to about 2.3 billion in 2017/18.

1(a)(ii) Fig. 1.2 shows that bus fares rose much faster than the general price level: the bus index rose from 100 to about 225 by 2017, compared with about 148 for all items CPI, and faster than the cost of using a car. So the real and relative price of bus travel rose, and passengers switched to cars, which are a substitute. This explains the fall in bus journeys outside London.

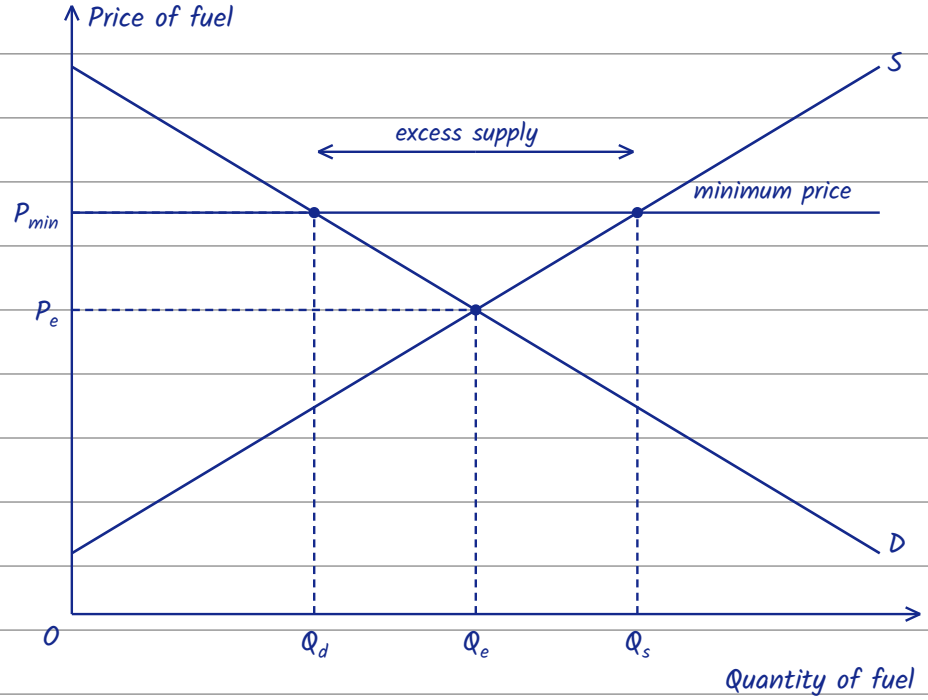
1(b) Opportunity cost is the next best alternative forgone when a choice is made. The money the government spends on subsidising public transport could have been spent on something else, such as new hospitals or schools, so the benefits of those hospitals or schools are the opportunity cost of the subsidy.

1(c) A free good is one that is not scarce, needs no factors of production and so has no opportunity cost, such as air. Public transport in Luxembourg is not a free good: it still uses scarce resources such as drivers, buses, trains and fuel, costing the government almost US$1 billion a year. It is free to consumers at the point of use, but it still has an opportunity cost, paid for through taxation.

1(d) A minimum price for fuel set above the equilibrium price, at Pmin, raises the cost

Question number

of driving. The quantity of fuel demanded falls from Qe to Qd, so motorists make fewer car journeys or switch to public transport, which should reduce congestion.



However, the demand for fuel is price inelastic in the short run, because many people need to drive to work and have few alternatives, so quantity demanded falls only slightly. Congestion is concentrated in cities at peak times, but a minimum price raises the cost of all driving, including on uncongested rural roads, so it is poorly targeted. It also creates excess supply (Qs – Qd), so suppliers may sell fuel below the minimum price in informal markets, and the government must enforce it. Since the cost of using cars has risen by less than other transport since 2010, a very high minimum price might be needed, which would be unpopular and regressive.

In conclusion, a minimum price for fuel would only be partly effective in reducing congestion. A congestion charge on busy roads at peak times would target the problem more directly.

1(e) Making public transport free reduces its price to zero, so quantity demanded rises. Because buses and trains are substitutes for cars, some drivers switch, reducing

Question number

congestion and pollution. These negative externalities mean car use is over-consumed, while public transport has external benefits, so free travel can move the market closer to the socially optimum allocation. It also helps low-income households.

However, the zero price removes the price signal. At peak times demand may be greater than capacity, causing overcrowding, and much of the extra use may come from people who would otherwise walk or cycle. If car users care more about convenience than price, the cross elasticity is low and few switch. The policy also has a large opportunity cost of almost US$1 billion a year.

An alternative is to subsidise fares to reduce them without making them zero, or set maximum fares, combined with a congestion charge on road users. This keeps a price signal, makes car users pay for the external costs they cause, and raises revenue to improve services.

On balance, free public transport is not the best way to allocate resources in most countries: lower subsidised fares combined with road pricing are likely to be more efficient, although free travel may work in a small, high-income country like Luxembourg.

2(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, other things being equal.

XED = % change in quantity demanded of good A ÷ % change in price of good B

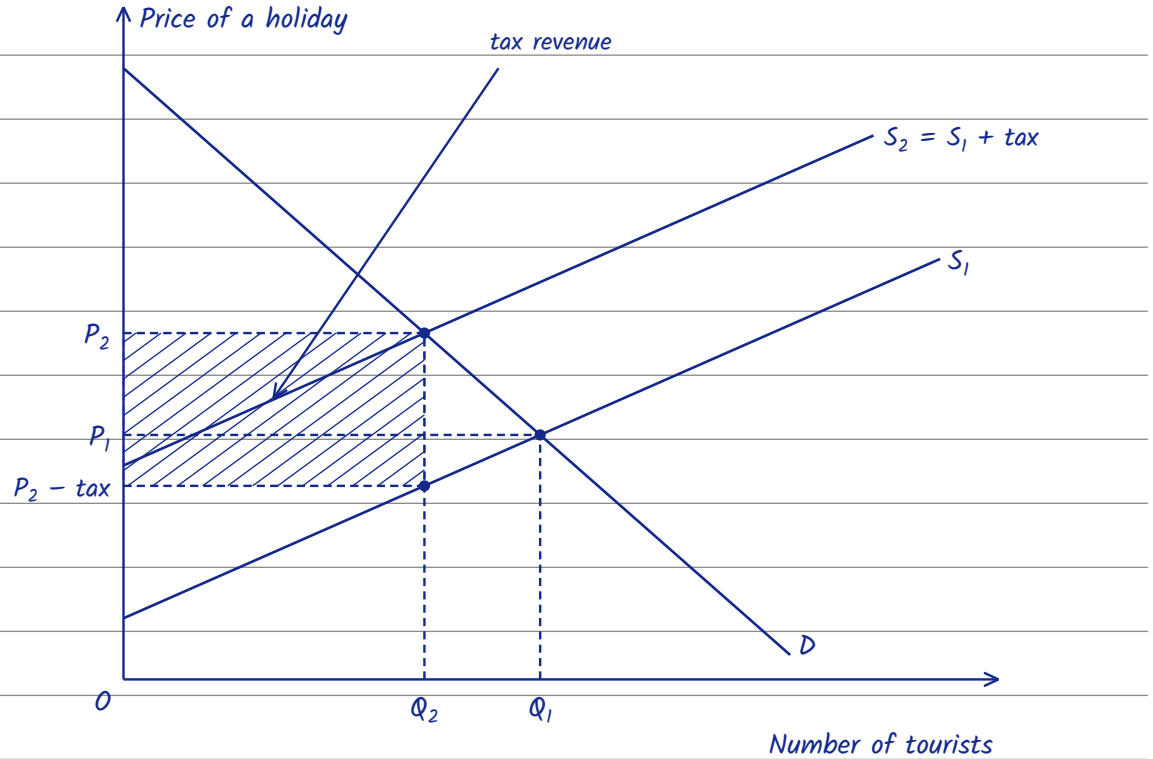
(i) The XED for hotels in Barbados with respect to the price of flights to Barbados is −2.5. The negative sign shows that hotels and flights are complements: they are in joint demand, because tourists who fly to Barbados need somewhere to stay. A rise in the price of flights reduces the number of tourists, so demand for hotels falls. As the value is greater than 1, demand for hotels is very responsive: a 10% rise in the price of flights would cause a 25% fall in

Question number

demand for hotels, so they are strong complements.

(ii) The XED for flights to Antigua with respect to the price of flights to Barbados is +0.5. The positive sign shows that flights to Antigua are a substitute: when flights to Barbados become dearer, some tourists choose Antigua instead, so demand for flights there rises. As the value is less than 1, the response is small: a 10% rise in the price of flights to Barbados would raise demand for flights to Antigua by only 5%, so they are weak substitutes and most tourists do not see Antigua as a close alternative.

2(b) An indirect tax on incoming tourists raises the price of a holiday in Barbados. In the diagram supply shifts up by the amount of the tax from S1 to S2, the price paid by tourists rises from P1 to P2 and the number of tourists falls from Q1 to Q2. The government's tax revenue is the tax per tourist × Q2, the hatched area.



How effective the tax is depends mainly on the price elasticity of demand. If demand is price inelastic, for example because Barbados is seen as unique, tourists have high incomes and the tax is small compared with the total cost of the

Question number

holiday, the number of tourists falls only a little. Tax revenue will then be large, but tourist numbers and environmental pressures will hardly fall. Most of the tax will be paid by tourists. If demand is price elastic, because there are substitutes such as Antigua, numbers fall a lot, which helps the environment but raises little revenue, and more of the burden falls on hotels and tour firms. So the two aims conflict: the more successful the tax is at reducing numbers, the less revenue it raises.

Other factors also affect the outcome. Tourism demand depends heavily on incomes in the tourists' home countries and on exchange rates, so a boom abroad could increase tourist numbers despite the tax. As hotels are strong complements to flights (XED −2.5), changes in air fares may have a bigger effect than the tax. Fewer tourists would also reduce spending in the economy, lowering incomes and jobs through the multiplier, and therefore other tax revenues, which reduces the net gain to the budget.

As the tax is likely to be small compared with the total cost of a holiday, demand will probably be inelastic. The government could reach the second aim more directly with a limit on visitor numbers or higher charges at peak times, and use the revenue to reduce environmental damage.

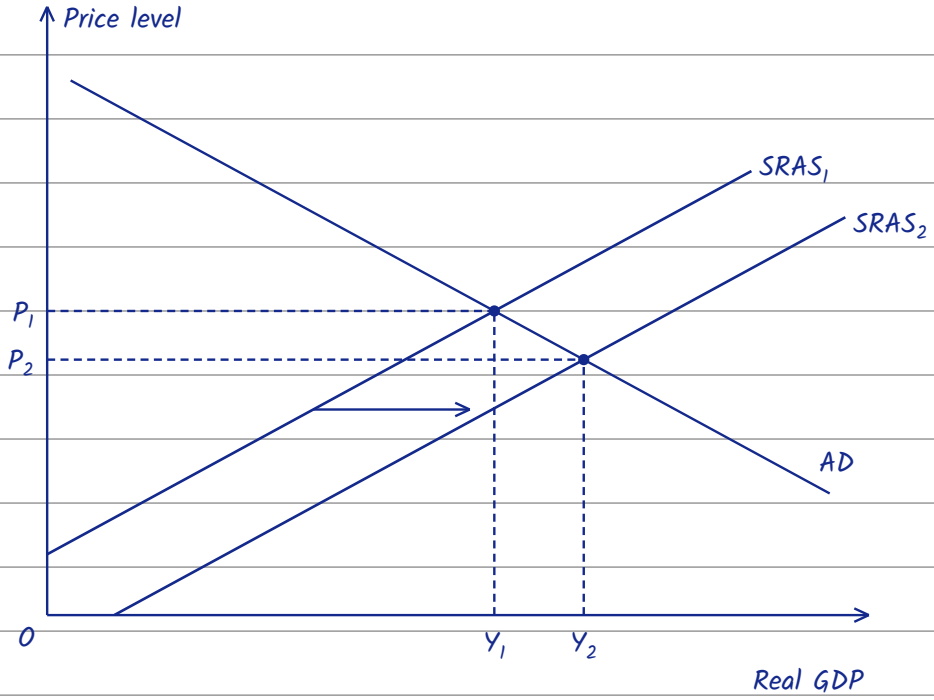
In conclusion, the tax is likely to be effective at raising tax revenue but much less effective at reducing tourist numbers, unless it is set at a high rate.

3(a) Aggregate supply is the total output of goods and services (real GDP) that all firms in an economy are willing and able to supply at each general price level in a given period. In the short run some factor prices, such as money wages, are fixed, so SRAS slopes upwards. In the long run all factor prices can change, and LRAS depends on the quantity and quality of the factors of production, that is, the economy's productive capacity.

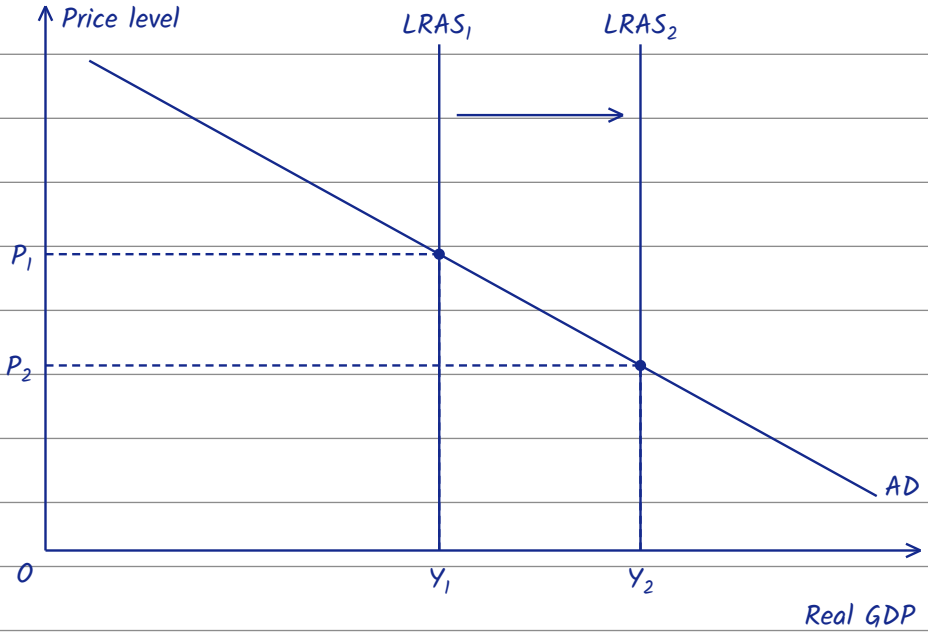
(i) Short run: a fall in costs of production, such as a fall in world oil prices. Firms

Question number

can produce each level of output more cheaply, so they are willing to supply more at every price level. SRAS shifts outwards (to the right) from SRAS1 to SRAS2, so real GDP rises from Y1 to Y2 and the price level falls from P1 to P2.

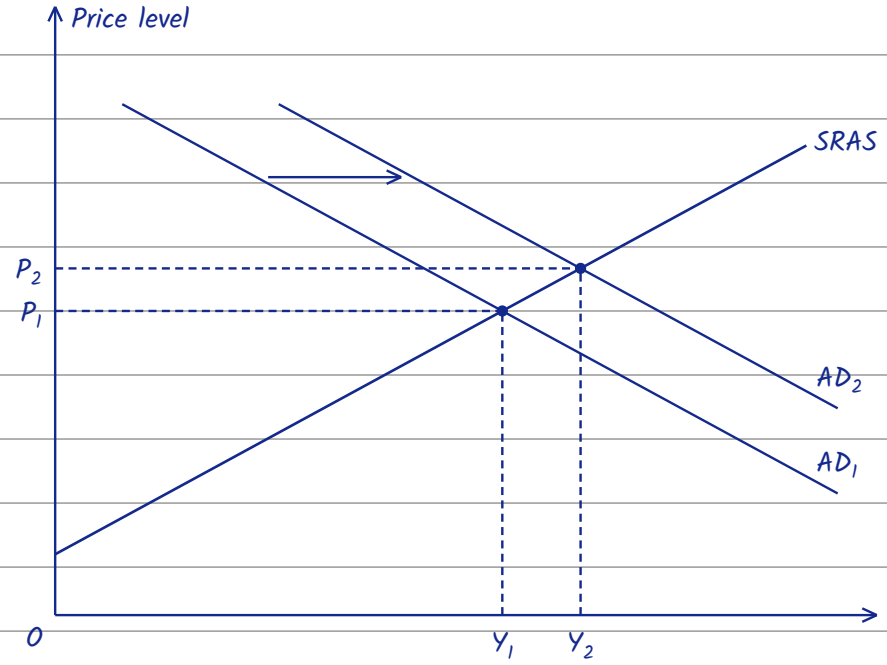


(ii) Long run: better education and training of the labour force. This raises the quality of labour and its productivity, so more can be produced with the same resources. The productive capacity of the economy increases, so LRAS shifts outwards from LRAS1 to LRAS2 and potential output rises from Y1 to Y2.



Question number

3(b) Aggregate demand is AD = C + I + G + (X − M). An increase in any of these components shifts AD to the right from AD1 to AD2.



If the economy has spare capacity, the rise in AD increases real GDP from Y1 to Y2, and through the multiplier national income rises by more than the initial injection. Firms sell more and earn higher profits, which through the accelerator encourages investment, increasing future productive capacity. Workers benefit as cyclical unemployment falls and wages rise, raising living standards. The government receives more tax revenue and spends less on unemployment benefits, so the budget deficit falls.

However, the price level also rises from P1 to P2. As the economy gets closer to full capacity the SRAS curve becomes steeper, so further increases in AD mainly cause demand-pull inflation. Inflation reduces the real incomes of people on fixed incomes and savers, creates uncertainty for firms, and makes exports less competitive. Higher incomes also increase spending on imports, which may cause a current account deficit, and the central bank may raise interest rates in response, reducing investment.

Question number

Whether the overall effect is beneficial depends on the size of the output gap: with high unemployment almost all of the increase becomes extra output, but at full employment it is mostly inflation. It depends on the size of the increase, as a gradual rise is easier to absorb than a sudden one. It also depends on which component rises. An increase in investment adds to capacity and so also shifts LRAS to the right, and an increase in exports improves the current account, whereas a consumer boom financed by debt or a rise in government spending financed by borrowing is less sustainable.

In conclusion, an increase in aggregate demand is of overall benefit when the economy has spare capacity and the increase is moderate and led by investment or exports, but when the economy is close to full employment the costs of inflation and a worsening current account are likely to outweigh the benefits.

4(a) A free trade area is a group of countries that remove tariffs and quotas on trade between themselves, but each member keeps its own separate tariffs against non-members. A customs union also has free trade between members, but in addition all members charge a common external tariff on imports from non-members, as in the EU, and may share common trade policies.

Reason 1: specialisation. Without tariffs, each country can specialise in the goods in which it has a comparative advantage, that is, those it can produce at the lowest opportunity cost. Resources are used more efficiently, so total world output rises and countries can consume beyond their own production possibility curves, which raises living standards.

Reason 2: cheaper, better quality products and more choice. Removing tariffs lowers the price of imports and gives firms access to a larger market, so they can gain economies of scale and lower their average costs. Increased competition from abroad also forces domestic firms to become more efficient, so consumers benefit from lower prices, better quality and a wider range of goods.

Question number

4(b)

For net importers, tariff-free trade means imports are cheaper. Consumers gain from lower prices, better quality and wider choice, which raises their real incomes. Firms that import raw materials and components have lower costs, which reduces cost-push inflation and can make their own products more competitive. Competition from imports also forces domestic producers to become more efficient. However, domestic industries that cannot compete may close, causing structural unemployment, and a growing current account deficit may lead to a depreciation of the currency or the need to borrow from abroad. The government also loses tariff revenue.

For net exporters, tariff-free access to foreign markets increases the demand for their exports. Output and employment in export industries rise, and through the multiplier national income and economic growth increase. Firms gain economies of scale from larger markets and the current account surplus grows. However, a net exporter becomes dependent on foreign demand, so a recession abroad would hit its economy hard. Strong export demand near full capacity can cause demand-pull inflation, and a surplus may cause the currency to appreciate, reducing future competitiveness.

The statement is unusual, because governments usually focus on the gains from exports. Yet the purpose of trade is to consume more: exports are what a country gives up in order to pay for imports. In terms of consumer welfare and lower costs, net importers can gain a great deal. In terms of output, jobs and growth, net exporters tend to gain more, at least in the short run.

The size of the gains also depends on what is imported. If imports are capital goods and technology, a net importer gains long-term growth, but if they are consumer goods that replace domestic production, it may lose jobs. It depends on whether the economy has spare capacity, on how high the tariffs were before they were removed, and on whether the net importer can finance its deficit.

Question number

In conclusion, the statement is only partly justified. Net importers gain more in terms of consumer welfare, but net exporters usually gain more in terms of income and employment, so which group gains more depends on the goods traded and the state of each economy.