Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/21**

Paper 2 Data Response and Essay **October/November 2022**

1 hour 30 minutes

5459822026

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 [ ].

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Section A

Answer this question.

1 **Governments and markets**

Prices, according to economists, are determined by supply and demand. In many times and places, however, prices have been set by governments. For example, in January 2020, the government of Argentina updated its list of maximum prices, setting guidelines for over 300 products. Consumers, via a smartphone app, can report any prices of these products that are above the maximum.

The World Bank has collected data on the extent to which the governments of developing economies have intervened in markets to set prices. Table 1.1 shows the results of this research.

Table 1.1: Government intervention in product markets to influence prices in developing economies

Product market	Percentage of governments intervening in the market to influence price	Examples
Energy	89	Petrol in Iran
Food	76	Bread in Benin Rice in Haiti
Building materials	13	Cement in Burkina Faso

Source: Adapted from 'In a fix', The Economist, 11 January 2020

Governments generally impose price controls for one of three reasons:

- to redistribute income in an economy: maximum prices help the poor afford the necessities of life, whereas minimum prices support the livelihoods of farmers
- to stabilise a market: governments use stocks to smooth fluctuations in the price of a commodity like cocoa, buying when there is excess supply in the market and selling when there is excess demand
- to control inflation: maximum prices have been used in many countries

Many economists have been critical of the use of price controls by governments. In a market without government intervention, a product's price acts as a signal of its scarcity and an incentive to overcome scarcity. However, minimum prices can lead to food rotting in warehouses while maximum prices can lead to hoarding and black markets.

Another reason not to impose price controls in an economy is that they can be very unpopular. For example, in Santiago, the capital city of Chile, an increase in the minimum price on the public transport system led to widespread unrest in 2019. In the same year, the government of Iran decided to raise the minimum price of fuel sharply and suddenly, leading to a great deal of protest.

A representative of the World Bank has stated that one reason not to impose price controls in an economy is that they can be hard to remove, expressing the view that 'it is better not to have them in the first place.'

Source: Adapted from 'In a fix', The Economist, 11 January 2020

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(a) Explain how 'a product's price acts as a signal of its scarcity'. [2]

(b) Explain **one** possible reason why the Government of Iran may have decided to raise the minimum price of fuel in 2019. [2]

(c) Explain, with the help of a diagram, how an effective minimum price would affect the market for a basic food, such as rice in Haiti. [4]

(d) 'Governments use stocks to smooth fluctuations in the price of a commodity like cocoa.'

Consider whether government action to smooth fluctuations helps the workings of the price mechanism. [6]

(e) Discuss whether maximum price controls will always be effective in controlling inflation. [6]

Section B

Answer **one** question.

2 **(a)** Explain **two** factors that will determine the price elasticity of demand for a particular brand of car and how this price elasticity of demand may change over time. [8]

(b) Discuss whether knowledge of price elasticity of demand or income elasticity of demand would be of greater use to a business that produces cars. [12]

3 **(a)** Explain, with the use of a diagram(s), how the production possibility curve of an economy could be affected by a decrease in the quantity of labour available, but an increase in its quality. [8]

(b) Discuss whether supply side policies will be successful in increasing the quantity and quality of the factor enterprise in a modern economy. [12]

4 **(a)** Explain, with the use of a diagram(s), **two** factors that could bring about a depreciation in the value of a country's exchange rate in a freely floating exchange rate system. [8]

(b) Discuss whether protectionist policies would be the most effective way to correct a current account deficit on the balance of payments in an economy. [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

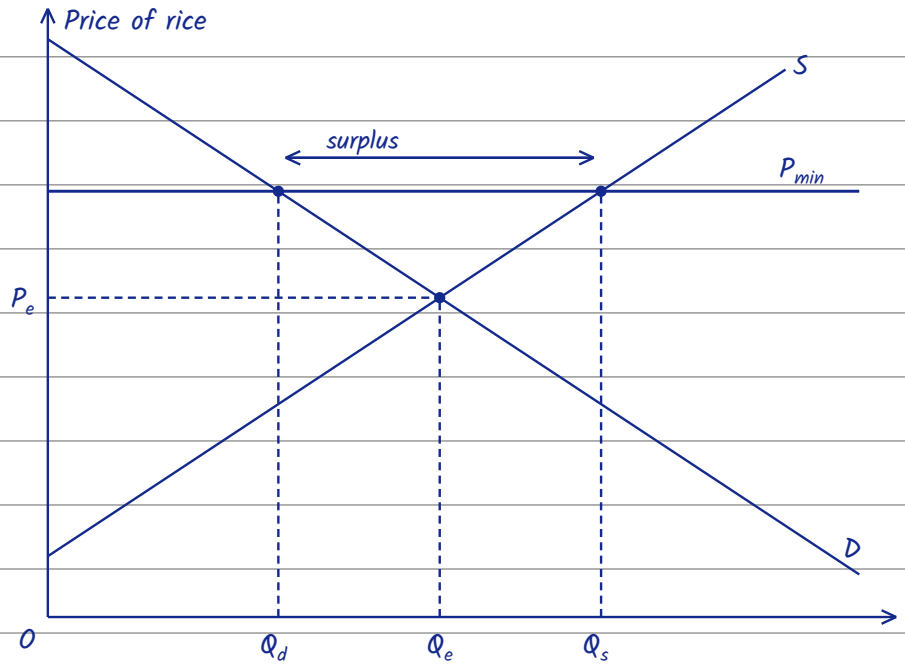
Answers for paper 9708/21

1(a) Resources are scarce, limited relative to unlimited wants, so price rations the available supply among competing buyers: only those willing and able to pay the price obtain the product. If demand rises relative to supply, the product becomes scarcer and its price is pushed up. The higher price signals the scarcity to buyers and sellers and acts as an incentive for producers to increase the quantity supplied.

1(b) To reduce the cost to the government of keeping fuel cheap. Petrol in Iran has been held at a very low price, which needs large subsidies. Raising the price cuts the subsidy bill, so the money saved can be reallocated to other spending, such as healthcare, or used to cut a budget deficit; it also discourages wasteful consumption of fuel.

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1(c)



A minimum price is a legal price floor below which the product cannot be sold. To be effective it must be set above the equilibrium price Pe. At Pmin farmers are guaranteed a higher price, so the quantity supplied extends to Qs, which raises the incomes of rice farmers. But consumers pay more and the quantity demanded contracts to Qd, so basic food is less affordable for the poor. There is an excess supply (surplus) of Qs – Qd, which the government may have to buy and store, so rice may rot in warehouses.

1(d)

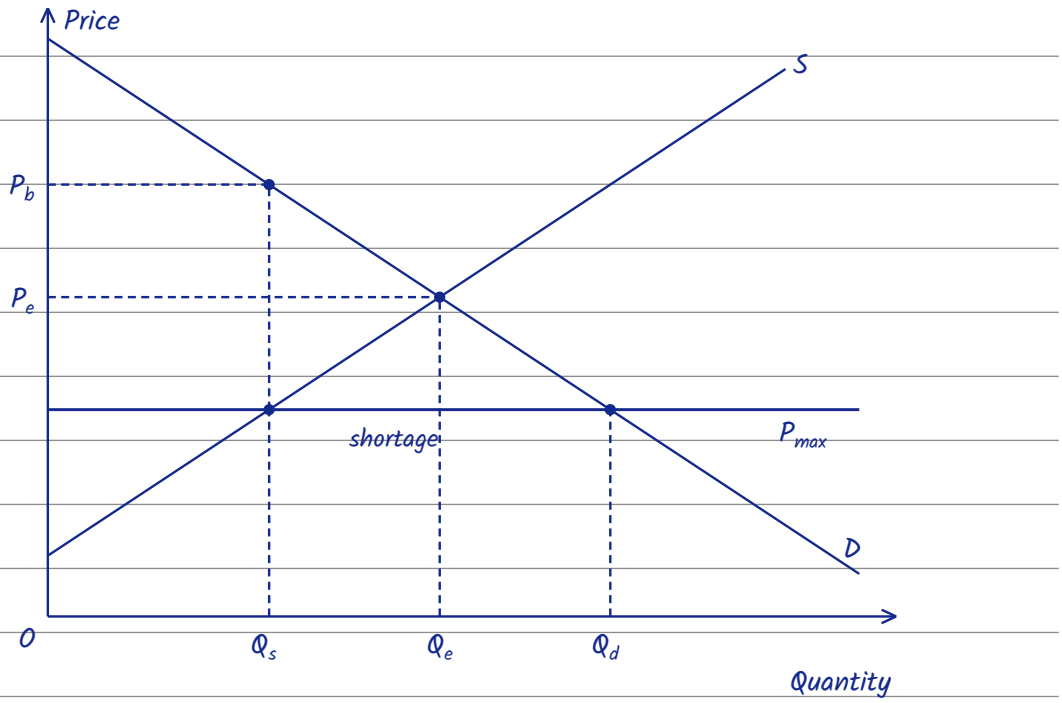
Government action can help the price mechanism. Cocoa supply varies with the weather, and demand and supply are price inelastic, so prices fluctuate sharply. With a buffer stock, the government buys cocoa and adds it to stocks when there is excess supply, preventing a price collapse, and sells from stocks when there is excess demand, preventing a price spike. Stable prices give farmers stable incomes and the confidence to invest, and consumers and chocolate makers can plan, so resources are not wasted moving in and out of cocoa in response to short-term price swings.

However, it may not help the price mechanism. If prices are held in a band they

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no longer fully reflect changes in the conditions of demand and supply, so the signalling function is weakened: a long-term fall in demand would not lead farmers to move resources to other crops. Rationing is done by the government's stock decisions rather than by price, and consumer preferences are not transmitted to producers. If the target price is set too high, stocks keep growing, which is costly to store and finance, and cocoa may deteriorate; if too low, the stocks run out. Overall, smoothing short-term fluctuations can help the price mechanism work better, but only if the target price follows the long-run trend, so it helps for temporary weather shocks but not permanent changes.

1(e) A maximum price is a legal price ceiling set below the equilibrium price. It can help control inflation directly: prices of essential goods such as petrol in Iran, bread in Benin and rice in Haiti cannot rise above the ceiling, so the measured rate of inflation is lower, especially when these goods have a large weight in the CPI. It also helps the poor afford the necessities of life and may reduce inflationary expectations and wage demands.



However, it will not always be effective. At Pmax the quantity demanded (Qd)

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exceeds the quantity supplied (Qs), so there is a shortage. Goods are allocated by queuing, rationing or hoarding, and black markets develop where the price can rise to Pb, above the equilibrium price, so the real price paid is higher than recorded.

Controls only cover some products: lower prices for controlled goods leave households more to spend elsewhere, which can add to demand-pull inflation in other markets. They do not tackle the cause of inflation, such as rising costs or money supply growth, and lower supply means pressure builds, so prices jump when the controls are removed.

So maximum prices will not always be effective. They may hold down inflation in the short run if they are enforced and cover key goods, but in the long run they cause shortages and black markets, so policies that tackle the cause of inflation are needed.

2(a) Price elasticity of demand (PED) measures the responsiveness of the quantity demanded of a product to a change in its price. PED = % change in quantity demanded ÷ % change in price.

The first factor is the availability and closeness of substitutes. The car market contains many manufacturers, and each brand, such as a particular family hatchback, competes with similar models from rival brands. If the price of one brand rises, many buyers switch to a rival model, so demand for a particular brand is likely to be price elastic, much more so than demand for cars in general. Over time PED is likely to become more elastic: new firms, such as electric car makers, enter the market and online comparison makes consumers more aware of alternatives. However, strong brand loyalty, for example to a luxury brand, can make demand less elastic, and loyalty may be built up over time by advertising.

The second factor is the proportion of income spent on the product. A car is one of the most expensive items a household buys, so a 10% price rise is a large amount of money and buyers are very sensitive to it, making demand price elastic.

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Over time, as incomes rise, the price of a car becomes a smaller proportion of income, so demand is likely to become less price elastic, especially for richer buyers.

The time period also matters: in the short run a buyer may not have time to search for alternatives, or may delay the purchase, but in the long run there is more time to find substitutes, so PED becomes more elastic.

2(b) Knowledge of PED tells a car producer how the quantity demanded will respond to a change in the price of its cars, so it can predict the effect of a price change on total revenue. If demand is price elastic, for example PED = −2, a 5% price cut raises quantity demanded by 10%, so total revenue rises and the firm should lower its price. If demand is price inelastic, a price cut reduces revenue, so the firm should raise its price. If PED is unitary, a price change leaves revenue unchanged.

PED also helps the firm judge how much of a tax rise, such as a tax on cars, it can pass on to buyers, and whether it can charge different prices in different markets.

Knowledge of income elasticity of demand (YED) tells the firm how demand will change as incomes in the economy change. Cars are normal goods, and luxury models have a YED greater than 1. If the economy is growing and incomes are rising, the firm can expect demand to rise, and to rise more than proportionately for luxury models, so it can plan ahead: invest in new capacity, hire workers and shift production from basic cars towards more luxurious models with more features. In a recession it can expect sales of luxury cars to fall sharply and plan to cut output or focus on cheaper models.

Which is of greater use? PED is more useful for short-term decisions on pricing, because price is something the firm controls directly. YED concerns changes in income, which the firm cannot control, but it is more useful for long-term planning of capacity and the product range, which is very important for car

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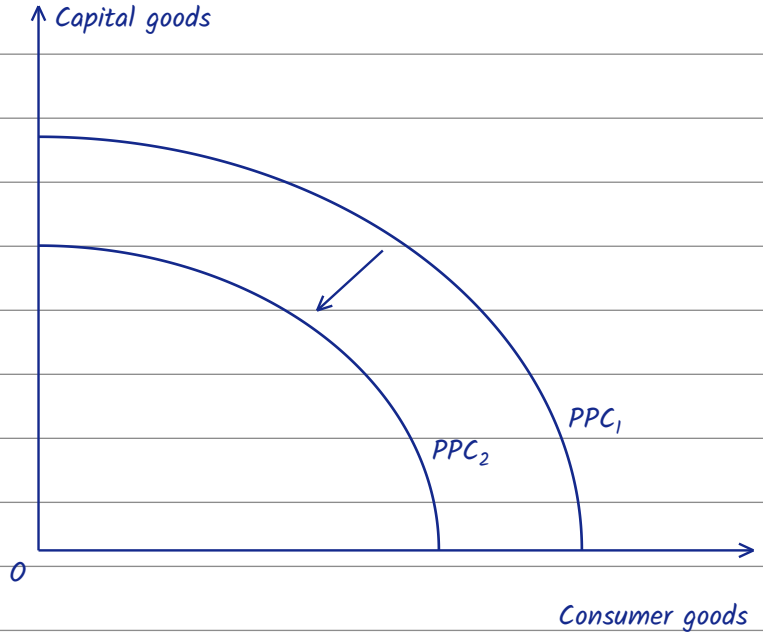
producers as new models and factories take years to develop.

However, both are limited. Estimates are based on past data and may be inaccurate, and PED and YED change over time, for example as new rivals enter. PED assumes ceteris paribus, but rivals may respond to a price cut by cutting their own prices. YED relies on forecasts of income growth, which are often wrong.

In conclusion, neither is always of greater use. For a car producer in a competitive market making pricing decisions, PED is more useful; for a producer of luxury cars planning investment in a fast growing economy, YED is more useful. Ideally the business uses both together.

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

Diagram 1: a decrease in the quantity of labour:

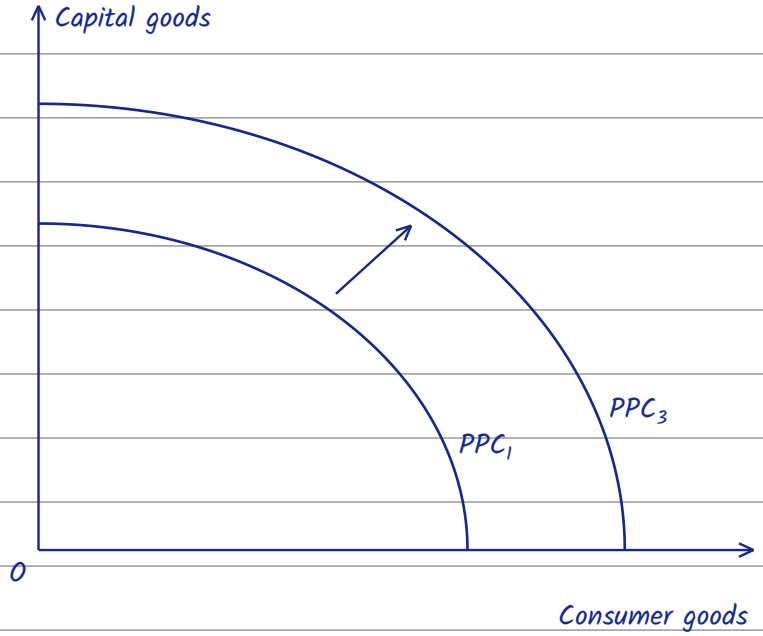


Labour is a factor of production. If the quantity of labour falls, for example because of emigration of workers, an ageing population or a fall in the participation rate, the economy has fewer resources. It can no longer produce as much of both goods, so its productive potential falls and the PPC shifts inwards (to the left)

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from PPC1 to PPC2.

Diagram 2: an increase in the quality of labour:



The quality of labour rises when workers have better education, training and skills, or better health. Each worker becomes more productive, so the same number of workers can produce more output. This raises the productive potential of the economy, so the PPC shifts outwards (to the right) from PPC1 to PPC3.

The overall effect depends on which change is larger. If the rise in productivity outweighs the loss of workers, the PPC shifts outwards overall; if the fall in the quantity of labour is greater, it shifts inwards; if they are equal, the PPC may end up in its original position.

3(b)

Enterprise is the factor of production that organises the other factors and takes the risk of production. Supply-side policies can increase its quantity and quality in several ways. Cutting income tax and corporation tax increases the reward for successful risk taking, so more people are encouraged to become entrepreneurs and existing firms keep more profit to reinvest. Deregulation, reducing red tape and simplifying the rules for setting up a business, lowers the cost and time of starting a firm, so more enterprises are created. Spending on education and

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training, such as business courses and reskilling, can improve the quality of enterprise, making entrepreneurs more innovative, better at managing and more willing to take risks. Financial support, such as start-up grants or cheap loans, helps more new enterprises survive.

However, these policies may not be successful. They take a long time to have an effect, especially education and training, and are costly, so they have an opportunity cost in other government spending. Lower taxes may not raise enterprise if people are motivated by other factors, and the benefit may go mainly to those already rich. Some entrepreneurs may become dependent on government support and so become inefficient, and the policies cannot guarantee that new enterprises succeed: many new firms fail within a few years. Privatisation might actually reduce the number of enterprises if large firms dominate the market. It is also questionable whether enterprise can be taught, since it depends on personal qualities such as creativity and attitude to risk.

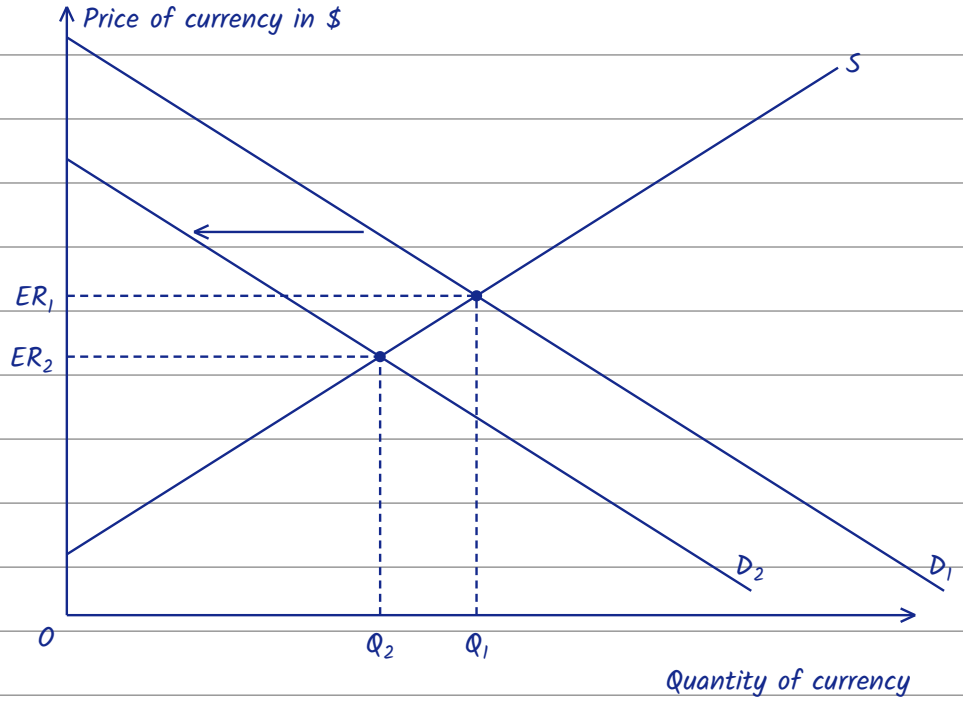
The success also depends on the economy. In a modern economy with good access to finance, technology and the internet, deregulation and lower taxes can lead to many new start-ups, especially in services and digital business. But if the economy is in recession and demand is low, few people will take the risk of starting a business whatever the incentives. Culture and attitudes to failure also matter.

In conclusion, supply-side policies can increase the quantity of enterprise, especially through deregulation and lower taxes, and can help its quality through education, but success is not guaranteed and will take time. They are most likely to succeed when combined with stable demand and good access to finance.

4(a) In a freely floating exchange rate system, the exchange rate is not fixed by the government; it is determined by the intersection of the demand for and supply of the currency on the foreign exchange market. A depreciation is a fall in its value caused by market forces.

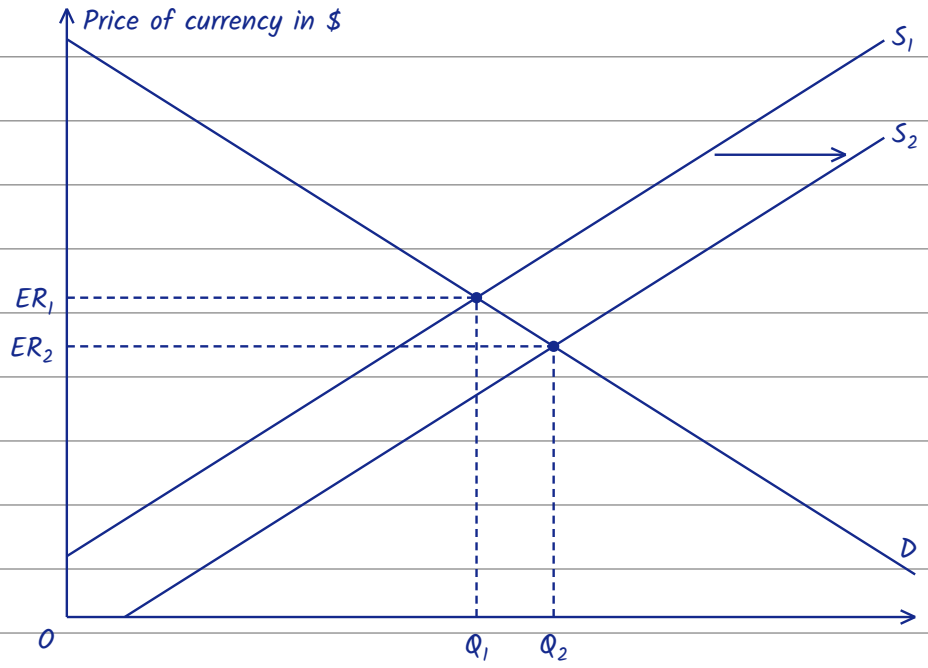
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Factor 1: a fall in demand for exports. Foreigners demand the currency to buy the country's exports. If exports fall, for example because the country's inflation rate is higher than its trading partners', so its goods become less price competitive, or because of a recession abroad, fewer foreigners need the currency. Demand shifts left from D1 to D2 and the exchange rate falls from ER1 to ER2.



Factor 2: a rise in imports or capital outflows. Residents supply the currency to buy foreign currency when they import goods or invest abroad. If imports rise, for example because incomes rise, or the central bank cuts interest rates so that hot money flows out to earn higher returns elsewhere, the supply of the currency increases. Supply shifts right from S1 to S2 and the exchange rate falls from ER1 to ER2.

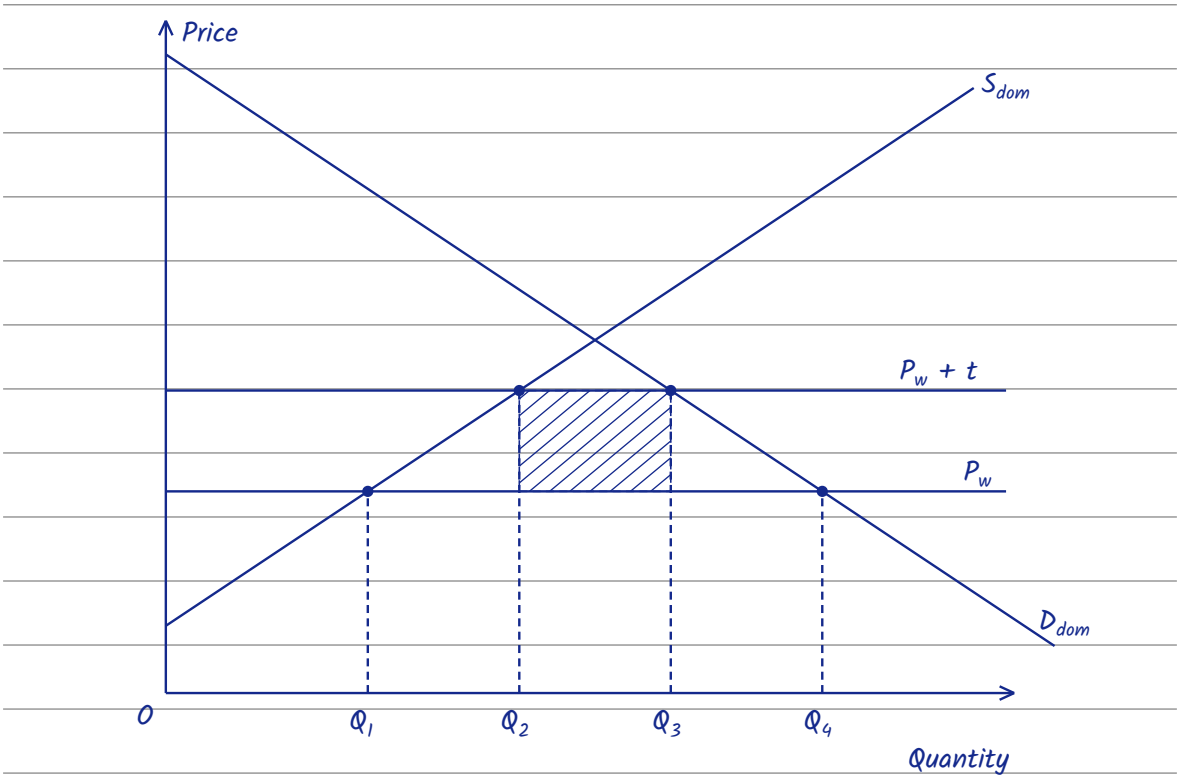
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A persistent current account deficit has both effects, so it contributes to a depreciation.

4(b) A current account deficit occurs when spending on imports and income paid abroad exceeds export revenue and income received. Protectionist policies can reduce it. A tariff, a tax on imports, raises their price from Pw to Pw + t in the diagram, so domestic consumption falls from Q4 to Q3 and domestic production rises from Q1 to Q2. Imports fall from Q1Q4 to Q2Q3, which reduces spending on imports. The government also gains tariff revenue (hatched).

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Quotas limit the volume of imports directly, embargoes ban certain imports completely, and excessive administrative burdens make it harder to get products into the country. Export subsidies lower the price of domestic products abroad, raising export revenue. All of these can improve the current account quickly and protect domestic jobs.

However, protection has limitations. If demand for imports is price inelastic, for example for oil or essential machinery, a tariff reduces the quantity of imports only a little, and spending on imports may barely fall. Some quotas are set above actual imports and are not restrictive, and firms may find ways round the red tape. Most importantly, trading partners may retaliate with their own tariffs or embargoes, so exports fall too and the deficit may not improve. Export subsidies are costly to the government and work only if demand for exports is price elastic. Protection also raises prices for consumers, including imported raw materials, which raises costs and makes exports less competitive, and it shelters inefficient firms. WTO rules limit its use.

Other policies may be more effective. A depreciation of the currency switches

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expenditure in a similar way without breaking WTO rules, and expenditure-reducing policies such as higher income tax cut spending on imports. Supply-side policies that raise productivity and competitiveness tackle the cause of a persistent deficit, although they take a long time.

In conclusion, protectionist policies are not usually the most effective way to correct a deficit. They can reduce it in the short run, especially if import demand is elastic and partners do not retaliate, but their costs are high. In the long run, improving competitiveness through supply-side policies is more effective, perhaps supported by a lower exchange rate.

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ECONOMICS **9708/22**

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INFORMATION

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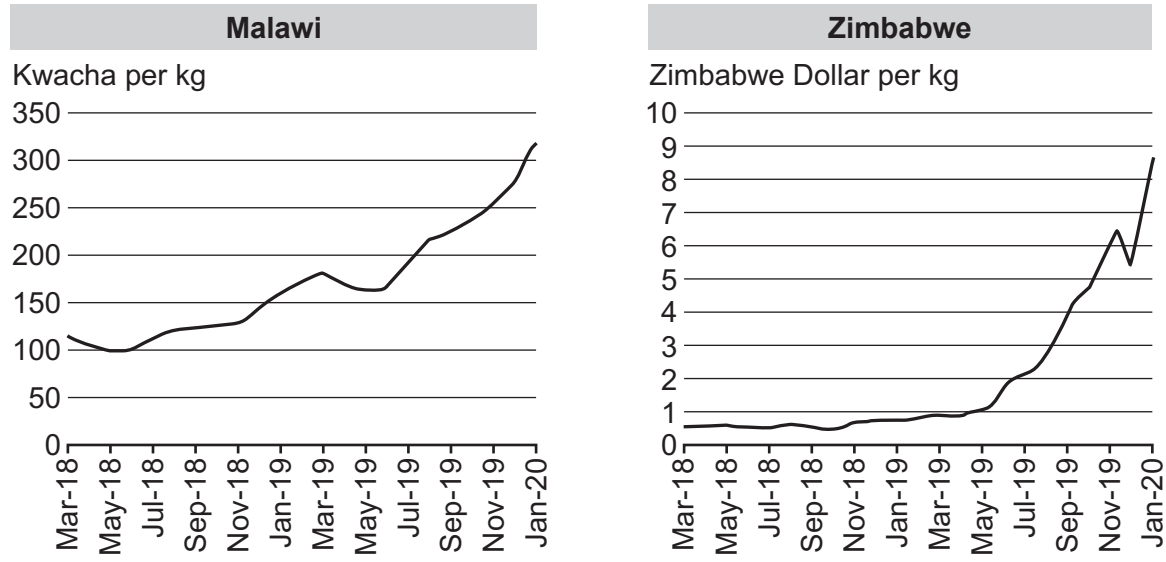
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Section A

Answer this question.

1 **Variations in the price of maize**



Source: FAO/GIEWS Food Price Monitoring and Analysis Tool.

Fig. 1.1: The price of maize in Malawi and Zimbabwe, March 2018 to January 2020

Table 1.1: Maize production in Malawi and Zimbabwe

	2015–2019 average (000 tonnes)	2019 (000 tonnes)	2020 forecast (000 tonnes)	Change 2019–2020 %
Malawi	2959	3392	3600	6.1
Zimbabwe	1313	1701	777	–54.3

Source: Adapted from Food and Agriculture Organisation of the UN. Country Briefs: Malawi and Zimbabwe 01/06/20

Extract 1: World export prices of maize fall sharply

Export prices of maize declined further in April 2020, with the United States (US) maize price nearly 10% down from April 2019. It is now at the lowest value in more than ten years. Large global supplies and good harvest prospects in South America continue to reduce prices. In addition, lower demand for maize from the biofuel and animal feed industries is depressing the price further.

Source: Food and Agriculture Organization of the United Nations 12/05/2020

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Extract 2: Zimbabwe takes steps to curb the rise in maize prices

Despite a falling world price for maize, the price of this staple food in Zimbabwe has continued to increase and is now at an exceptionally high level. The increased price mostly results from continued weakness in Zimbabwe's currency that has damaged the country's ability to import maize. In addition, the sharply reduced harvest of maize in Zimbabwe resulted in low domestic supplies. In an effort to tackle the soaring prices, the government has implemented several policies. To increase market supplies, the government removed a ban on imports of certain types of maize. It also increased producer subsidies on maize by 40%. Poorer households should benefit from access to this subsidised maize.

Source: Food and Agriculture Organization of the United Nations 17/02/2020

Extract 3: Malawi raises guaranteed minimum price for maize

Malawi's Ministry of Agriculture has released updated guaranteed prices for cereals produced on Malawi's farms in 2020. These are the minimum prices that farmers will receive for their crops. The guaranteed price for the food staple, maize, was raised by just over 10%. The government has begun purchasing maize at this increased price. This change in the minimum price is expected to increase the production of maize in 2020 and in the future to an average level of 3.7 million tonnes per year.

Source: Food and Agriculture Organization of the United Nations 10/04/2020

(a) Identify **one** possible cause of the decline in world export prices of maize. [1]

(b) Explain **one** change in a factor of demand that would lead to maize prices rising in Malawi despite the increase in domestic production. [2]

(c) With reference to Extract 2 explain **two** reasons why maize prices are rising in Zimbabwe despite the fall in the world export price of maize. [4]

(d) Explain, with the help of a diagram, how a rise in the minimum price of maize in Malawi will encourage production. [3]

(e) Consider, with the help of a diagram, whether a subsidy on maize production will benefit both the producers of maize and poorer households in Zimbabwe equally. [4]

(f) Discuss whether maximum prices on staple foods such as maize are likely to be effective in providing food for poorer households in Zimbabwe. [6]

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Section B

Answer **one** question.

2 In many economies, the use of cash is declining as people use contactless payments that transfer funds directly between bank deposits.

(a) Explain what represents money in a modern economy and how the use of contactless payments without the use of cash will affect the functions of money. [8]

(b) Discuss whether an expansionary monetary policy will be successful in correcting deflation. [12]

3 **(a)** Explain how a production possibility curve can be used to demonstrate scarcity, choice and opportunity cost. [8]

(b) Discuss the difficulties that might be encountered when adopting supply side policies to expand the productive capacity of an economy and consider whether these difficulties can be overcome. [12]

4 An economy adopts a freely floating exchange rate.

(a) Explain how this economy's exchange rate is likely to be affected when its inflation rate is much higher than inflation rates in its trading partners. [8]

(b) Discuss the advantages and disadvantages that result from a rise in an economy's terms of trade and consider whether a rise is likely to be of overall benefit to an economy. [12]

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Question number

Answers for paper 9708/22

1(a) Large global supplies of maize and good harvest prospects in South America (an increase in supply).

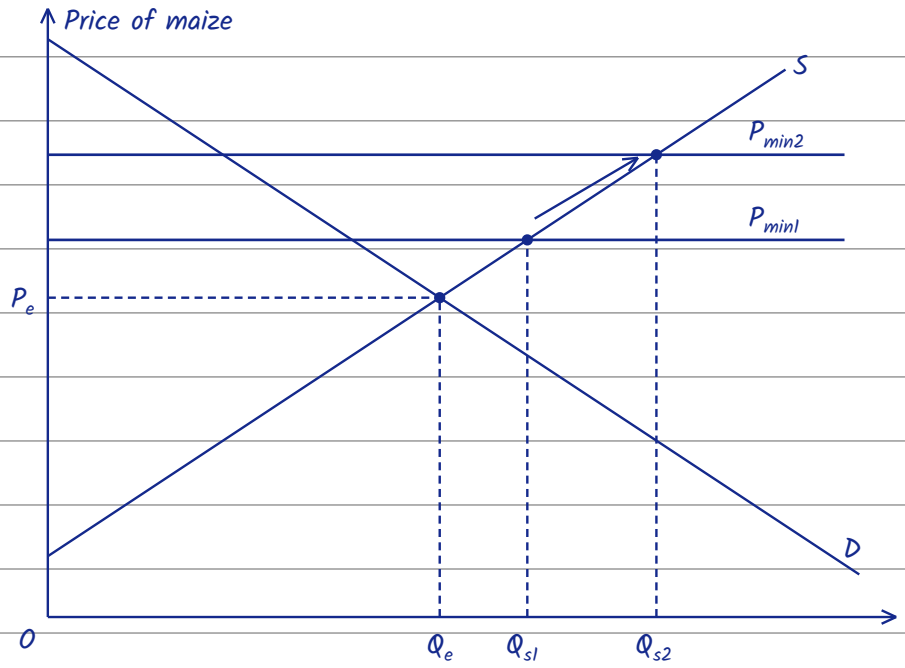
1(b) A rise in incomes in Malawi (or a rise in population, or a rise in the price of a substitute such as rice). Maize is a staple food, so demand increases and the demand curve shifts right by more than the increase in supply, so demand exceeds supply at the old price, causing a shortage that pushes the price up.

1(c) Weak currency: Zimbabwe's currency has continued to weaken, so it takes more Zimbabwe dollars to buy each tonne of imported maize. Imports become more expensive, so the country's ability to import maize is damaged and less maize is imported, reducing market supply and raising the domestic price even though the world (US dollar) price has fallen.

Reduced harvest: the sharply reduced harvest in Zimbabwe (production forecast to fall by 54.3%, from 1701 to 777 thousand tonnes) means low domestic supplies. The supply curve shifts left, creating excess demand at the old price, so the price of maize is bid up.

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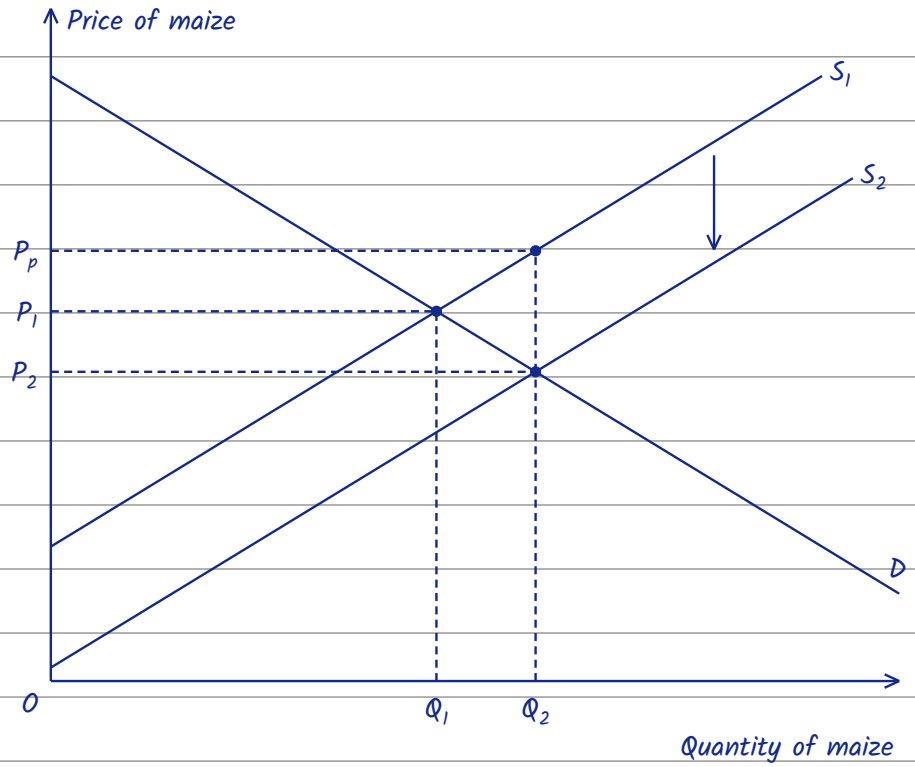
1(d)



The guaranteed minimum price is set above the equilibrium price Pe. The government has raised it by just over 10%, from Pmin1 to Pmin2. Because farmers are now guaranteed a higher price for every unit, maize becomes more profitable, so they are encouraged to produce more: there is an extension along the supply curve and the quantity supplied rises from Qs1 to Qs2 (towards the expected 3.7 million tonnes a year).

Question number

1(e)



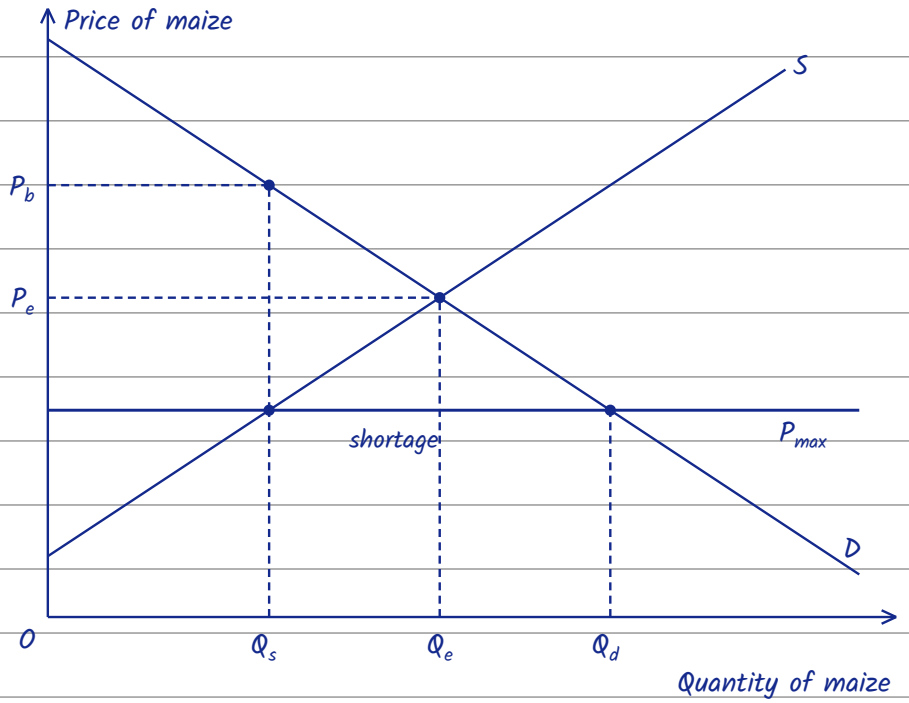
A subsidy is a payment to producers per unit, so the supply curve shifts right from S1 to S2 by the amount of the subsidy. The price paid by consumers falls from P1 to P2, benefiting poorer households, while the price received by producers, including the subsidy, rises from P1 to Pp, benefiting farmers.

The benefits are not always equal; they depend on the price elasticities. Maize is a staple food, so demand is likely to be price inelastic: the price falls a lot and most of the subsidy is passed on to consumers. If demand were price elastic, the price would fall only a little and producers would gain more. If supply is more elastic, consumers gain more. So the subsidy is likely to benefit poorer households more than producers, and the benefit is equal only if PED and PES are equal.

1(f)

A maximum price is a legal price ceiling set below the equilibrium price. It is intended to keep maize affordable so that poorer households in Zimbabwe, where prices are at an exceptionally high level, can buy enough of this staple food.

Question number



However, at Pmax the quantity demanded rises to Qd while the quantity supplied falls to Qs, because farmers earn less and some stop growing maize, so there is a shortage of Qd – Qs. Supply in Zimbabwe is already low because of the poor harvest, so the shortage could be severe. Without the price to ration maize, it is allocated by queuing or first come first served, and the poor may not get it. Black markets develop where maize sells at Pb, above the equilibrium price, so the poor may pay even more, and some maize may be hoarded.

These problems can be reduced. The government could ration maize with coupons to poorer households, so it goes to those in need, and combine the maximum price with policies to increase supply, such as the 40% producer subsidy and removing the import ban, which shifts supply right and reduces the shortage. But rationing is costly to administer and black markets are hard to police.

On balance, a maximum price on its own is unlikely to be effective, because it reduces supply when supply is already low. It is only likely to work if combined with rationing and measures to raise supply.

2(a) Money is anything that is generally acceptable in exchange for goods and services.

Question number

In a modern economy money consists of cash, notes and coins (the narrow measure of money), together with deposits in banks and other financial institutions, such as current accounts and savings deposits (the broad measure). Most money today is bank deposits, and whether a deposit counts depends on how liquid it is.

Contactless payments do not create a new type of money. They are just another method of transferring bank deposits from the buyer's account to the seller's, replacing the use of cash in exchange for goods and services. They rely on technology such as debit and credit cards that can be used without a personal identification number (PIN), and mobile phone apps.

Medium of exchange: this function is strengthened in some ways, because payments are quick, convenient and safe, and there is no need to carry cash, so transactions are easier and cheaper. But it is weakened for people without bank accounts, smartphones or reliable internet, such as some elderly or poorer people and those in rural areas, who may find it harder to buy goods, and if the system fails transactions stop.

Store of value: if people stop holding cash, they must keep more money on deposit in banks. Deposits can earn interest, which helps money keep its value, but they depend on confidence in the banks; if a bank fails, savings may be lost.

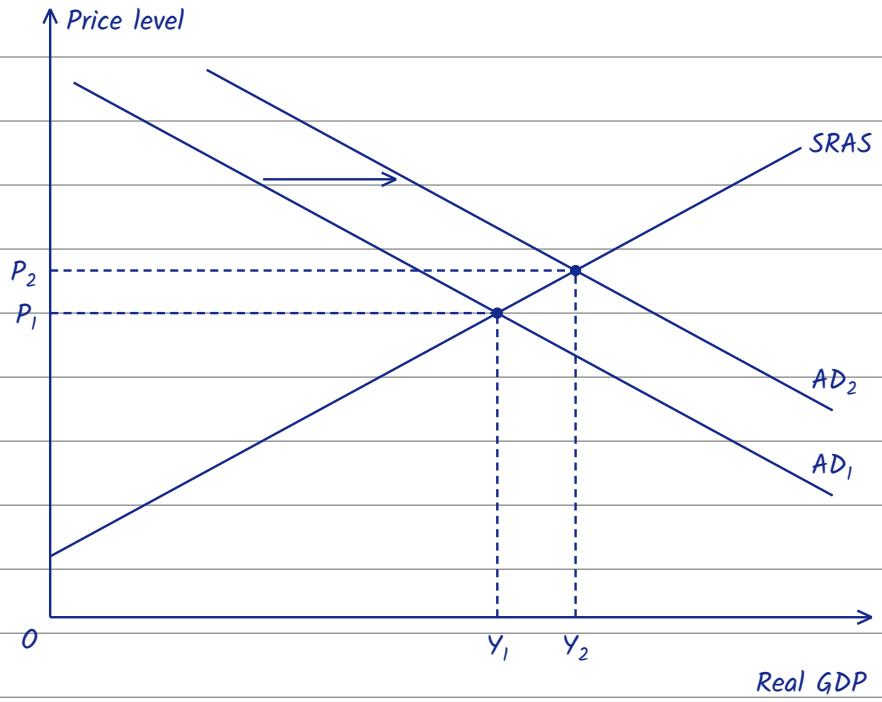
Standard of deferred payment: contactless credit cards and bank overdrafts make it easier to buy now and pay later, so this function is used more, though it may lead to more household debt. The unit of account function is unaffected, since prices are still measured in the same currency.

2(b)

Deflation is a sustained fall in the general price level, usually caused by weak aggregate demand. Expansionary monetary policy means reducing interest rates, increasing the money supply, for example through quantitative easing, and possibly allowing the exchange rate to fall.

Question number

Lower interest rates reduce the cost of borrowing and the reward for saving, so households borrow and spend more on cars and houses and consumption rises. Lower mortgage payments raise disposable income. Firms find investment projects more profitable, so investment rises. A lower interest rate also causes hot money to flow out, so the currency depreciates, making exports cheaper and imports dearer: net exports rise and import prices rise. As consumption, investment and net exports rise, AD shifts right from AD1 to AD2 and the price level rises from P1 to P2, correcting deflation.



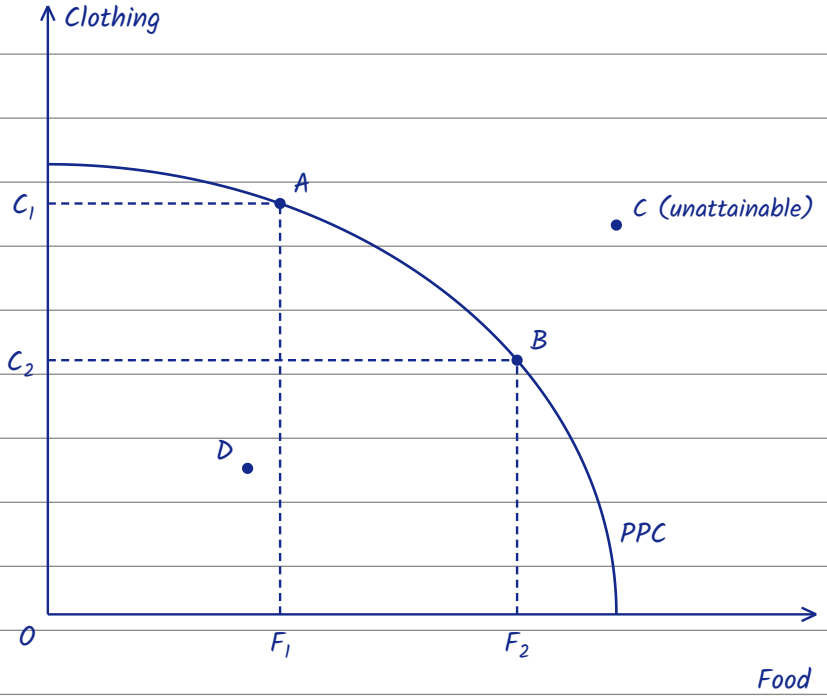
However, it may not succeed. During deflation, consumer and business confidence is usually low, and people delay spending because they expect prices to fall further, so demand may be interest inelastic: even a big cut in rates does not raise spending. If interest rates are already close to zero, they cannot be cut much further. Banks may not lend the extra money if they fear bad debts, so an increase in the money supply may just be held as reserves. Monetary policy also takes a long time, often a year or more, to have its full effect. The exchange rate effect depends on the PED for exports and imports: if the Marshall-Lerner condition does not hold, net exports may not rise.

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Its success also depends on the cause of deflation. If deflation is caused by an increase in aggregate supply, such as new technology lowering costs, it is benign, and there is less need to correct it.

In conclusion, expansionary monetary policy is likely to be successful in correcting mild deflation when interest rates have room to fall and confidence is not too low. In a deep deflation with very low interest rates and low confidence it is unlikely to be successful on its own, so it should be combined with expansionary fiscal policy, such as higher government spending, which raises AD directly.

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



Scarcity: scarcity means that resources are limited relative to unlimited wants. The PPC is a production frontier: the economy cannot produce beyond it because it has limited resources. Combinations outside the curve, such as C, are unattainable, so the economy cannot have all the food and clothing people want.

Choice: because resources are scarce, the economy has to choose what to produce.

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It can produce any combination on the curve, such as A (more clothing, less food) or B (more food, less clothing). Choosing between them is shown as a movement along the curve, eg from A to B. Point D, inside the curve, shows unemployed resources.

Opportunity cost: this is the next best alternative forgone when a choice is made. Moving from A to B, food output rises from F1 to F2, but clothing output falls from C1 to C2. The opportunity cost of the extra food is the C1 – C2 units of clothing given up. Because the PPC is concave, the opportunity cost of each extra unit of food rises, as resources are not equally suited to producing both goods.

3(b)

Supply-side policies aim to increase the quantity or quality of the factors of production and so shift the LRAS and PPC outwards. Examples include spending on education and training, infrastructure investment, cutting taxes to improve incentives, deregulation and privatisation.

Several difficulties may be encountered. Interventionist policies, such as education, training and infrastructure, are very costly, and the government may lack the funds, especially in a developing economy with a small tax base, or have to raise taxes or borrow, which has an opportunity cost. Many take a long time to work: a new school system or road network may take years before productivity rises.

Market-based policies may face opposition: cutting benefits or reducing trade union power is unpopular and can increase inequality, while tax cuts may not increase work effort if people prefer leisure. Privatisation may replace a state monopoly with a private one. There is also a risk of government failure, such as training in the wrong skills.

These difficulties can sometimes be overcome. A shortage of funds may be overcome through inward foreign direct investment, aid or loans from the World Bank, or through public-private partnerships in which private firms build infrastructure. The long time lag can be accepted if the government plans for the

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long term, and some policies, like deregulation, are cheap and quick to introduce. Inequality from tax cuts can be offset by targeting support at low income groups, and regulators can prevent privatised firms abusing monopoly power. Consulting businesses can make sure training matches what firms need.

However, not all difficulties can be overcome. Foreign investors may take profits abroad, borrowing creates debt that must be repaid, and political pressures make it hard to keep long-term policies going through elections. Supply-side policies also only raise output if there is enough demand.

In conclusion, the difficulties of cost and time are real, but many can be reduced by careful design, funding from abroad and combining market-based and interventionist policies. Supply-side policies are likely to expand productive capacity in the long run, but success depends on political commitment and on the level of development of the economy.

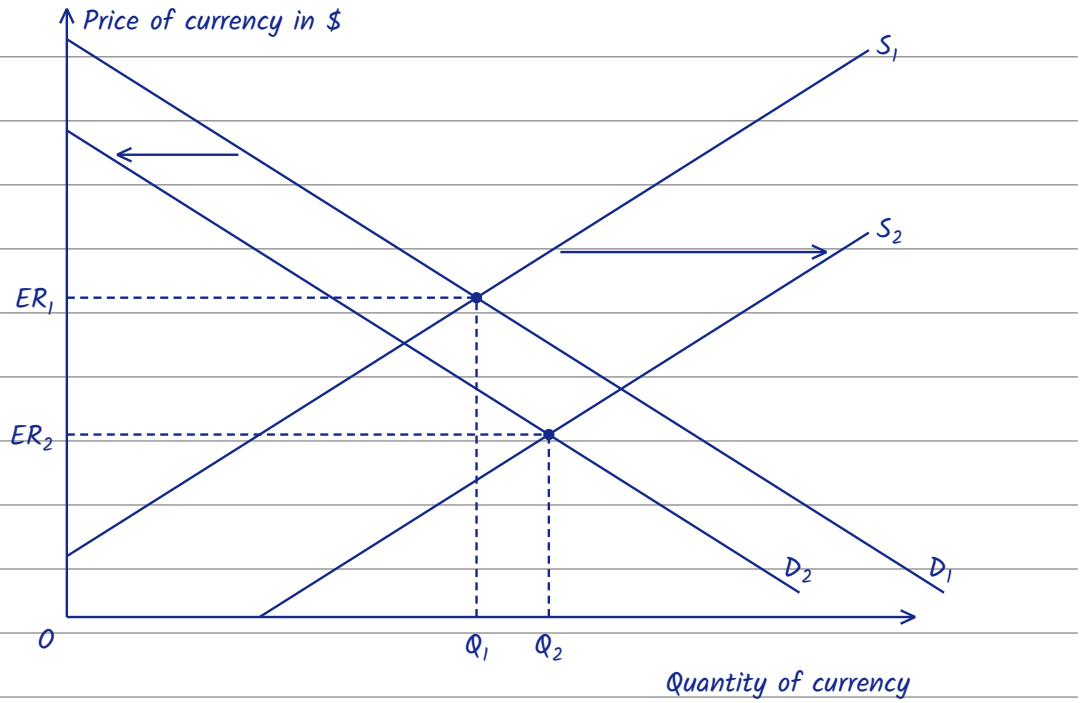
4(a) An exchange rate is the price of one currency in terms of another currency, eg £1 = $1.25. A freely floating exchange rate is determined by the market forces of demand for and supply of the currency, and is not fixed by the government.

If the economy's inflation rate is much higher than in its trading partners, its goods become relatively more expensive and foreign goods relatively cheaper.

Imports: domestic consumers and firms find that imported goods are now more price competitive than domestic goods, so demand for imports rises. To buy imports, they must sell the domestic currency to obtain foreign currency, so the supply of the domestic currency increases, shifting from S1 to S2.

Exports: foreigners find the country's exports relatively more expensive than goods from elsewhere, so demand for exports falls. Fewer foreigners need the currency to pay for them, so the demand for the currency falls, shifting from D1 to D2.

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Both changes cause the exchange rate to fall, from ER1 to ER2, a depreciation. The size of the fall depends on the price elasticity of demand for exports and imports. The depreciation tends to offset the higher inflation, restoring competitiveness, which is the idea behind purchasing power parity.

4(b) The terms of trade measure the price of a country's exports relative to the price of its imports: index of export prices ÷ index of import prices × 100. A rise means that each unit of exports buys more imports.

There are advantages. If the rise is caused by lower import prices, households can buy more imported goods with the same income, so the standard of living rises. Imported raw materials and components become cheaper, lowering firms' costs of production, which reduces cost-push inflation and may make some exports more competitive. A country can also obtain the same imports with fewer exports, freeing resources to produce goods for domestic use. If the rise is due to higher export prices, for example because of rising world demand for its commodities, export revenue rises.

There are also disadvantages. If the rise is caused by higher export prices, for

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example due to higher domestic inflation or an appreciation of the currency, the country's exports become less price competitive. Demand for exports falls and demand for cheaper imports rises, so domestic firms lose sales and there may be unemployment in export and import-competing industries. The current account of the balance of payments may worsen and economic growth may slow.

Whether the rise is of overall benefit depends on several things. First, the cause: a rise due to higher world demand for exports, or higher productivity, is beneficial; a rise due to high inflation is not. Second, the price elasticities: if demand for exports and imports is price inelastic, for example for oil or essential commodities, higher export prices increase export revenue and the current account improves; if demand is price elastic, export revenue falls and imports rise, so the economy loses. Third, the time period: in the short run demand is inelastic, but in the long run buyers find substitutes.

In conclusion, a rise in the terms of trade is likely to be of overall benefit if it results from rising demand for the country's exports or cheaper imports, and demand for its exports is price inelastic, as with many commodity exporters. It is unlikely to be beneficial if it is caused by domestic inflation and demand for its exports is price elastic.

Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/23**

Paper 2 Data Response and Essay **October/November 2022**

1 hour 30 minutes

4982184704

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 Pakistan's agriculture survives on subsidies

As in most developing countries, the agricultural sector in Pakistan is heavily dependent on subsidies. Agriculture is an important activity, employing 45% of the population. Domestic production is vital in providing food for its growing population. Farming in Pakistan is not very profitable and without subsidies, many farmers would be forced to leave their farms.

Despite subsidies, as shown in Table 1.1, the cost of production in Pakistan is much greater for a range of staple products than it is in India where farmers are more heavily subsidised.

Table 1.1: Cost of production after subsidies of selected products in Pakistan and India, 2018 (Pakistan Rupees per unit)

	Pakistan	India
Wheat	76	51
Cotton	127	88
Rice	124	68
Sugar cane	222	142
Maize	119	53

The higher cost of production in Pakistan has serious implications for Pakistan's participation in global trade in agricultural products. This problem is particularly critical as Pakistan seeks to increase exports to reduce a deficit on the current account of the balance of payments.

A complaint of farmers is that GST, a sales tax, is charged when they purchase fertilisers. In May, the government gave in to pressure and cut GST on fertilisers from 17% to 2%. Farmers' leaders want the tax to be completely removed from fertiliser sales. Their priority, however, is for a large increase in the subsidy paid to farmers to a level comparable to that paid to farmers in India. In Pakistan's current economic position this prospect appears to be remote.

Pakistan's farmers also complain about the subsidies that are paid to farmers in richer neighbouring countries. They strongly argue that these subsidies are unfair on farmers from developing countries and are holding back their economic development.

Source: Agriculture survives on subsidies, Amjad Mahmood, Dawn, 27 May 2019

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(a) Explain what might be the opportunity cost if the Pakistan government agreed to pay subsidies to Pakistan's farmers comparable to those paid to India's farmers. [2]

(b) **(i)** With reference to Table 1.1, state in which product group Pakistan's farmers are most disadvantaged. [1]

(ii) Explain how the lower level of subsidy currently paid to Pakistan's farmers is likely to affect Pakistan's trade in agricultural goods when competing with India in international markets. [3]

(c) Analyse, with the help of a diagram, how the sales tax on fertilisers affects the market for fertilisers in Pakistan. [4]

(d) Explain **two** other ways, apart from subsidies and reductions in sales tax, in which the government might support Pakistan's farmers. [4]

(e) Discuss whether agricultural subsidies should **not** be paid to farmers in countries which have lower opportunity costs in other areas of production. [6]

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Section B

Answer **one** question.

2 **(a)** Explain why demerit goods are over-consumed and merit goods are under-consumed. [8]

(b) Discuss the extent to which the introduction of a maximum price in a market will benefit consumers. [12]

3 **(a)** Explain the difference between a progressive direct tax and a regressive indirect tax, with an example of each. [8]

(b) Discuss whether an increase in direct taxes or an increase in interest rates is the more effective way of reducing inflation. [12]

4 **(a)** Explain how a higher rate of inflation in an economy compared to its trading partners and a decline in the exchange rate will each affect the terms of trade in an economy. [8]

(b) Since 2018, China and the United States (US) have been imposing tariffs on trade with each other.

Discuss the view that some will benefit and some will lose but the overall impact of these tariffs will be negative. [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

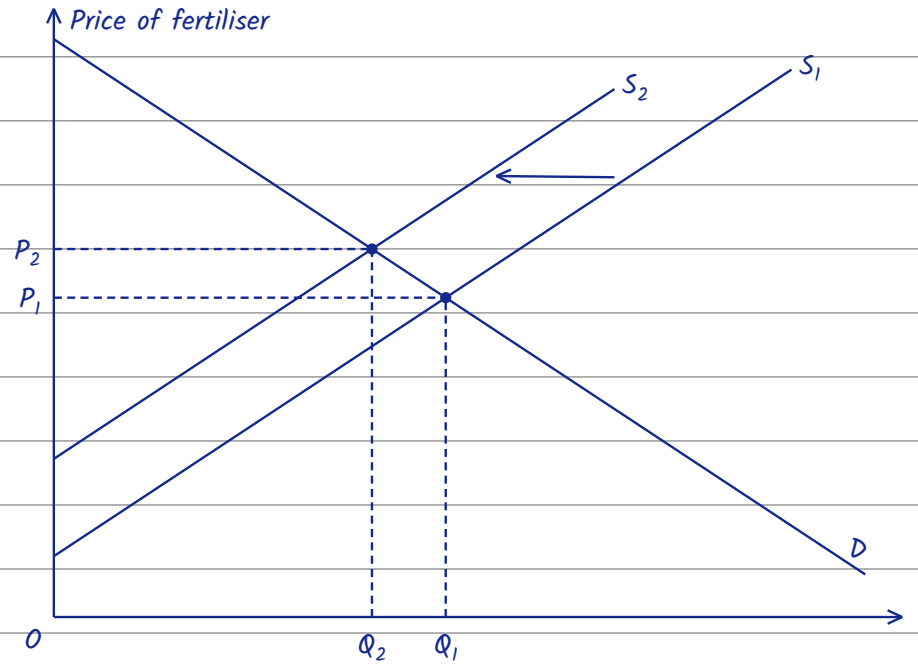
1(a) Opportunity cost is the next best alternative forgone. Paying much larger subsidies to farmers means the government has less to spend elsewhere, so the opportunity cost might be fewer schools, hospitals or roads that could have been built with the money.

1(b)(i) Maize.

1(b)(ii) With lower subsidies, Pakistan's farmers have higher costs of production than India's (eg rice 124 compared with 68 rupees per unit), so Pakistan's agricultural exports are less price competitive. Other countries buy from India instead, so Pakistan's exports fall, while cheaper Indian products may increase Pakistan's imports. This is likely to worsen Pakistan's trade deficit in agricultural goods.

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1(c)



GST is an indirect tax on fertiliser sales, which raises the cost of supplying fertiliser, so the supply curve shifts left (upwards) from S1 to S2. The price farmers pay rises from P1 to P2 and the quantity bought falls from Q1 to Q2. The size of the fall depends on the size of the tax, 17% compared with 2%, and on PED: demand for fertiliser is likely to be price inelastic, as farmers need it to grow crops, so the quantity falls only a little and most of the tax is passed on to farmers, raising their costs.

1(d)

A guaranteed minimum price for crops such as wheat: the government sets a price floor above the equilibrium and buys any surplus, so farmers are guaranteed a higher, stable income.

Education and training, or advice on modern farming methods: this helps farmers cut costs and improve crop yields, raising their productivity and making them more competitive with India.

1(e)

Subsidies benefit farmers by raising their incomes, so they stay on their farms; in Pakistan, agriculture employs 45% of the population, so this protects many jobs.

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They also lower the cost of production, which keeps the prices of staple foods affordable for a growing population and reduces dependence on imported food, helping the current account.

However, if a country has a lower opportunity cost in other areas of production, it has a comparative advantage in those goods, not in agriculture. Subsidies keep resources in farming when they could be used more efficiently elsewhere, so total output and living standards are lower than with specialisation and trade. Subsidies are also an extra burden on government spending, which is difficult in Pakistan's current economic position, they may invite retaliation from trading partners and they restrict trade.

On balance, subsidies should generally not be paid in such countries, except for a limited time, for food security or to protect the incomes of the poorest farmers while workers move to other industries.

2(a) Merit goods are goods that are better for consumers than they realise, such as education, healthcare and vaccinations. Demerit goods are goods that are worse for consumers than they realise, such as cigarettes, alcohol and sugary drinks.

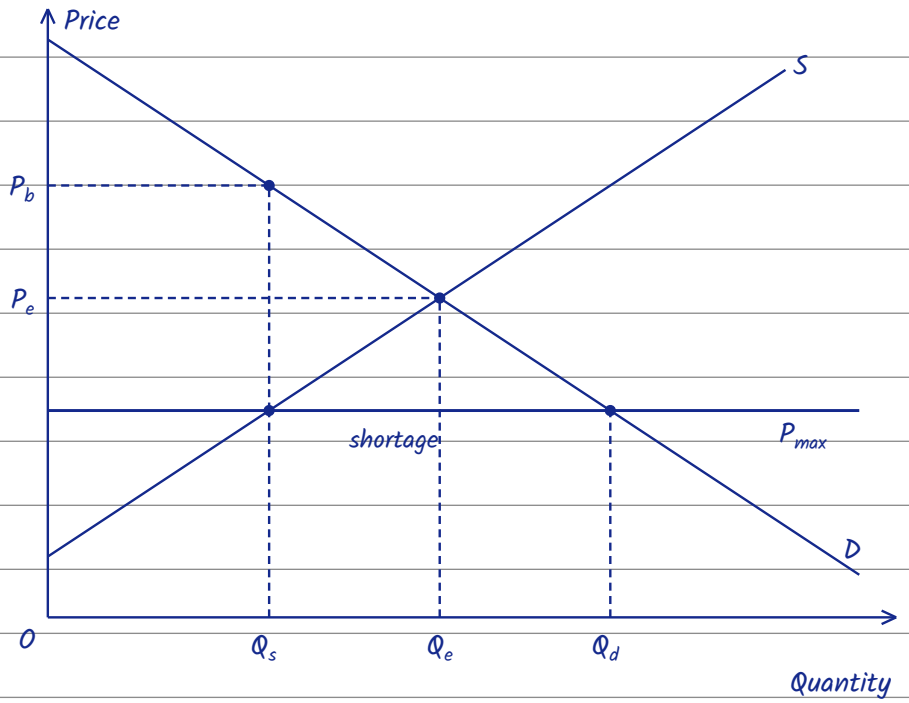
Demerit goods are over-consumed mainly because of imperfect information. Consumers are not fully aware of the risks to their health. For example, a young smoker may underestimate the risk of lung cancer and heart disease later in life, so values cigarettes more than they are really worth and buys more than is in their own best interest. Over-consumption is made worse by addiction, which makes it hard to stop, by poor education, by advertising, and by low prices of some demerit goods, such as cheap alcohol. They also often create negative externalities, for example passive smoking, which consumers ignore.

Merit goods are under-consumed, also because of imperfect information. Consumers do not appreciate the full benefits. For example, a teenager may not realise how much more they will earn over their life if they stay in education, or a parent may

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underestimate the benefit of vaccinating a child, so they consume less than is in their best interest. Under-consumption is made worse because of low incomes and the high prices of merit goods, such as private healthcare or university fees, which people on low incomes cannot afford even if they know the benefits. Consumers may also focus on the short-term cost rather than the long-term benefit, and ignore the positive externalities, such as a healthier, better educated workforce. So in a free market, resources are misallocated: too much is produced of demerit goods and too little of merit goods, which is a market failure.

2(b) A maximum price is a legal price ceiling above which a product cannot be sold. To have any effect it must be set below the equilibrium price, at Pmax in the diagram.



Consumers can benefit. The price falls from Pe to Pmax, so those who are able to buy the product pay less. Maximum prices are usually set on essential products such as staple foods, rents, water and power supplies, so the poorest households gain access to necessities they could otherwise not afford. Lower spending on these goods frees up income to buy other essential items, raising living standards

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and reducing inequality. It can also stop firms with monopoly power exploiting consumers.

However, many consumers may not benefit. At Pmax the quantity demanded rises to Qd but the quantity supplied falls to Qs, because producers earn less, so there is a shortage of Qd – Qs. Fewer consumers actually obtain the product, from Qe down to Qs. Since price no longer rations the good, it is allocated by queuing, first come first served or favouritism, and consumers lose time waiting. An informal (black) market develops: because some consumers are willing to pay Pb for the limited supply, profiteers resell the product, so consumers may end up paying even more than the equilibrium price. Producers may also cut quality, for example landlords may not repair rented housing, and in the long run some leave the market, so supply falls further.

The extent of the benefit depends on several things. If demand and supply are price inelastic, the shortage is small and most consumers gain from the lower price. It depends how far below equilibrium the maximum price is set, and whether the government enforces it, rations the good fairly with coupons, or increases supply, for example by subsidising producers or supplying from its own stocks. It also depends on the time period: the shortage tends to grow in the long run as supply becomes more elastic.

In conclusion, a maximum price benefits those consumers who can obtain the product at the lower price, especially poorer consumers of essentials, but harms those who cannot get it or must pay black market prices. The overall benefit is greatest in the short run and when it is combined with rationing and measures to increase supply; on its own it often benefits consumers less than intended.

3(a) A direct tax is a tax on income or wealth that is paid directly to the government by the person or firm on whom it is levied. An indirect tax is a tax on spending on goods and services, collected from sellers, who pass it on to consumers in the

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price.

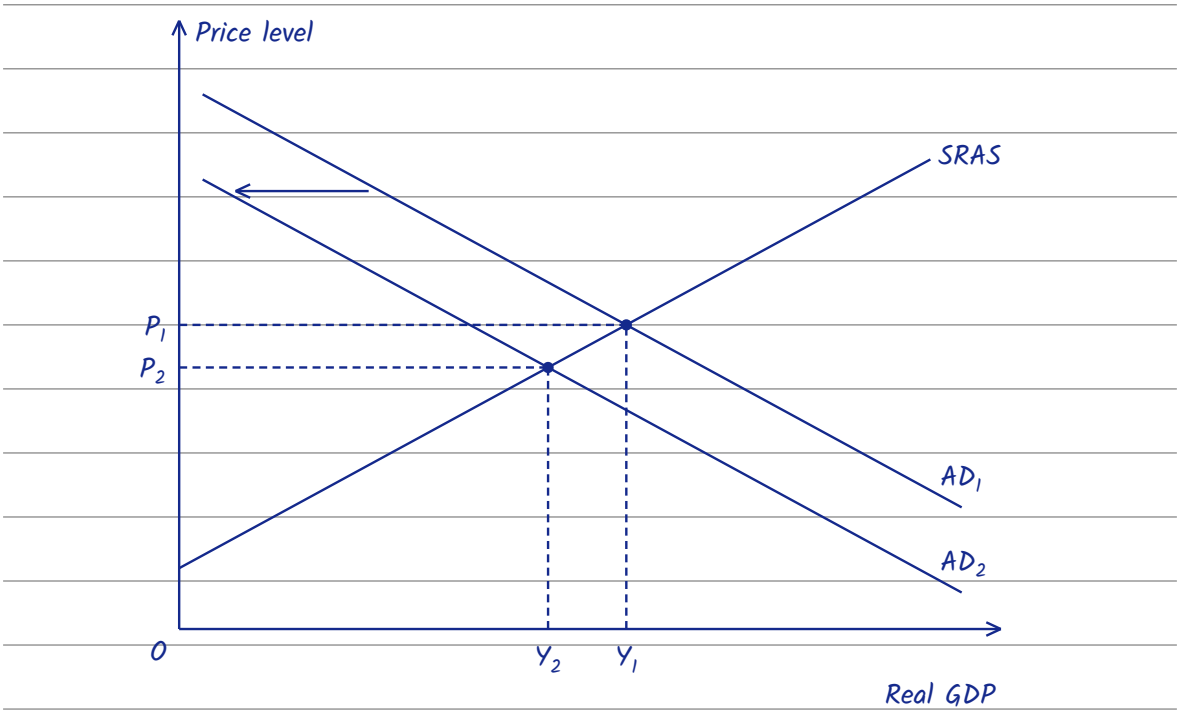
A progressive tax is one where the proportion of income paid in tax rises as income rises. Income tax is an example of a progressive direct tax. For example, income up to $10 000 may be taxed at 0%, income from $10 000 to $40 000 at 20% and income above $40 000 at 40%. As a person's income rises, the marginal rate of tax (the proportion of each extra dollar taken in tax) rises, so it is higher than the average rate of tax, which therefore rises with income. The burden of the tax falls more heavily on higher income groups, which reduces income inequality.

A regressive tax is one where the proportion of income paid in tax falls as income rises. GST, or VAT, or an excise duty on cigarettes or petrol, is an example of a regressive indirect tax. It is paid at the same rate on a product whatever the income of the buyer. A poor person and a rich person buying the same litre of petrol pay the same tax, but this is a much higher proportion of the poor person's income. Also, low income households spend a larger share of their income, while richer households save more, so as income rises the average rate of tax falls; the marginal rate of tax on extra income is lower than the average rate. The burden falls more heavily on lower income groups, which increases inequality.

So the difference is that the burden of a progressive direct tax rises with income, while the burden of a regressive indirect tax falls as income rises.

3(b) Both policies aim to reduce aggregate demand and so reduce demand-pull inflation, shifting AD left from AD1 to AD2 so that the price level is lower, at P2 rather than P1 in the diagram; in practice this means prices rise more slowly.

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An increase in direct taxes, such as income tax, reduces disposable income, so consumption falls; a rise in corporation tax reduces firms' retained profits, so investment falls. This reduces AD directly. If the tax is progressive, the burden falls more on higher income groups, who spend more on luxuries, so it may be seen as fair, and it also raises tax revenue, reducing a budget deficit. However, higher income tax reduces the incentive to work and corporation tax reduces the incentive to invest and take risks, so in the long run economic growth and productive capacity may be lower. Tax changes are slow to plan and pass, and are politically unpopular, and if consumers react by saving less, consumption may not fall much. An increase in interest rates raises the cost of borrowing and the reward for saving, so households spend less on credit and firms invest less; mortgage payments rise, reducing disposable income. Higher rates may also cause the currency to appreciate, making imports cheaper. Interest rates can be changed quickly by an independent central bank, so the effects are likely to come sooner than a change in direct taxes, and the policy is credible, reducing inflation expectations. However, it has similar costs: lower investment slows growth and raises unemployment, and a stronger currency hurts exporters. It may be

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	ineffective if interest rates are already very low or confidence remains high, so demand is interest inelastic, and it can take a year or more for the full effect. Which is more effective depends on the type of inflation. If inflation is cost-push, caused by rising oil prices or wages, both policies reduce output and employment without tackling the cause, so both may be ineffective and supply-side policies are needed. If it is demand-pull, interest rates are usually more effective because they can be changed quickly and in small steps; direct taxes are more effective if the boom is driven by high income consumers, or if interest rates are already high. In conclusion, an increase in interest rates is generally the more effective way to reduce demand-pull inflation, because it is faster and more flexible, but neither is effective against cost-push inflation, and a combination of policies may be best.
4(a)	The terms of trade measure the ratio of a country's export prices to its import prices: terms of trade = index of average export prices ÷ index of average import prices × 100. An improvement (a rise) means export prices rise relative to import prices; a deterioration means they fall relative to import prices. Higher inflation than trading partners: if the general price level is rising faster at home than abroad, the prices of the country's exports rise relative to those of other countries, so the relative price of exports increases. At the same time the prices of imports, set in countries with lower inflation, rise more slowly, so the relative price of imports falls. The index of export prices rises faster than the index of import prices, so the terms of trade improve. For example, if export prices rise by 10% and import prices by 2%, the index rises from 100 to (110 ÷ 102) × 100 = 107.8. Decline in the exchange rate: a depreciation makes the country's exports cheaper in foreign currency, so the relative price of exports falls. It makes imports more expensive in domestic currency, so the relative price of imports rises. Each unit of exports now buys fewer imports, so the terms of trade deteriorate. For example, if

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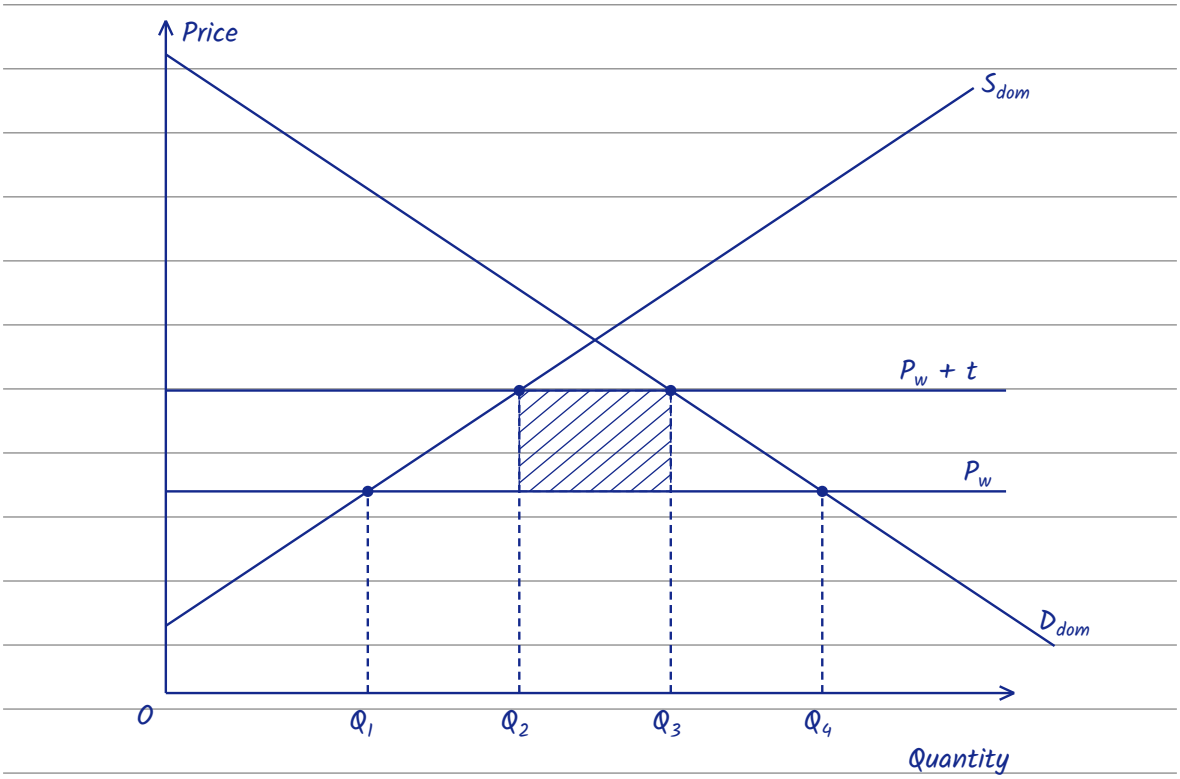
import prices rise by 10% and export prices are unchanged, the index falls to (100 ÷ 110) × 100 = 90.9.

So the two changes work in opposite directions: higher relative inflation improves the terms of trade, while a fall in the exchange rate worsens them, although an improvement caused by inflation is not necessarily good, since exports become less competitive.

4(b) A tariff is a tax on imports. Since 2018 the US and China have each placed tariffs on many of the other's goods, so imports from the other country become more expensive.

Some groups benefit. Domestic producers that compete with imports, for example US steel producers, face less competition, so they sell more at a higher price, and output, profits and employment in these industries rise: in the diagram domestic production rises from Q1 to Q2. Infant industries may be protected while they grow, and declining (sunset) industries can contract more gradually. Imports fall from Q1Q4 to Q2Q3, which may reduce the US current account deficit with China, and each government gains tariff revenue (hatched area).

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Others lose. Consumers pay higher prices, Pw + t, and have less choice; consumption falls from Q4 to Q3. Firms that use imported components, such as US car makers buying Chinese parts, face higher costs, so their prices rise and they become less competitive. Because both countries have imposed tariffs, exporters lose too: US farmers have lost sales of soya beans to China, and Chinese manufacturers have lost sales in the US. Protected firms face less competition, so they have less incentive to be efficient and resources are misallocated away from comparative advantage.

Will the overall impact be negative? Usually yes. Compared with free trade, tariffs reduce specialisation according to comparative advantage, so world output and living standards fall. The jobs saved in protected industries may be fewer than the jobs lost in export industries and in firms using imported inputs, and higher prices hit lower income consumers most. Retaliation means the benefit to the balance of payments is small, as both imports and exports fall. Trade may also simply be diverted to other countries, such as Vietnam, rather than returning home. However, the impact depends on the price elasticities and on the time period: if firms find

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new suppliers and markets, the losses may be smaller in the long run, and tariffs might be justified if used to protect strategic industries.

In conclusion, the view is largely correct: some import-competing producers and governments benefit, but consumers, exporters and firms using imported inputs lose, so the overall impact on both economies, and on the world economy, is likely to be negative.