Surname	StemUp Model Solution	Centre Number	Candidate Number
First name(s)			2

GCE AS/A LEVEL

Z22-2520U10-1

2520U10-1

MONDAY, 16 MAY 2022 – MORNING

ECONOMICS – AS unit 1
Introduction to Economic Principles

1 hour 15 minutes

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1-15	**15**	
16	**10**	
17	**10**	
18	**12**	
19	**8**	
Total	**55**	

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01

ADDITIONAL MATERIALS

In addition to this paper you may require a calculator and a ruler.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

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SECTION A

For each question in Section A, write the letter (A, B, C, D or E) that corresponds to your answer in the box provided.

You are advised to spend approximately **30 minutes** on this section.

1. In 2019, the department store, John Lewis, saw demand for landline phone handsets fall by 20%.

This would be most likely to cause: [1]

A An increase in consumer surplus in the market for landline phone handsets

B An increase in John Lewis' total revenue

C An increase in the price of landline phone handsets

D A decrease in producer surplus in the market for landline phone handsets

E A decrease in demand for mobile phones

D

2. There is ..... **effect** when the price of a good falls, because the product is now relatively cheaper than an alternative item. [1]

A a substitution

B an income

C a demand

D a supply

E an inflationary

A

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3. Which one of the following is an example of expansionary fiscal policy? [1]

A The UK Government decreases capital expenditure

B The Bank of England increases the value of its asset purchases (QE)

C The UK Government increases the basic rate of income tax

D The Bank of England decreases the base interest rate

E The UK Government decreases the rate of corporation tax

E

4. The data below shows the number of women in work in Wales over a 20-year period.

Year	1998	2003	2008	2013	2018
Women in Work in Wales (000s)	544	631	643	645	688

Using 1998 as the base value, calculate to the nearest whole number, the index value for women in work in 2018. [1]

A 26

B 79

C 100

D 126

E 144

D

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5. Baijiu is a popular Chinese alcoholic drink. Two popular brands are Shunxin and Maotai.

Shunxin has an income elasticity of demand of −1.25 whilst Maotai has an income elasticity of demand of +0.4.

If average income in China falls by 2% what will be the result? [1]

	Shunxin	Maotai
A	Sales decrease by 2.5%	Sales increase by 0.8%
B	Sales increase by 0.625%	Sales decrease by 0.2%
C	Sales increase by 2.5%	Sales decrease by 0.8%
D	Sales increase by 2.5%	Sales increase by 0.8%
E	Sales decrease by 2.5%	Sales decrease by 0.2%

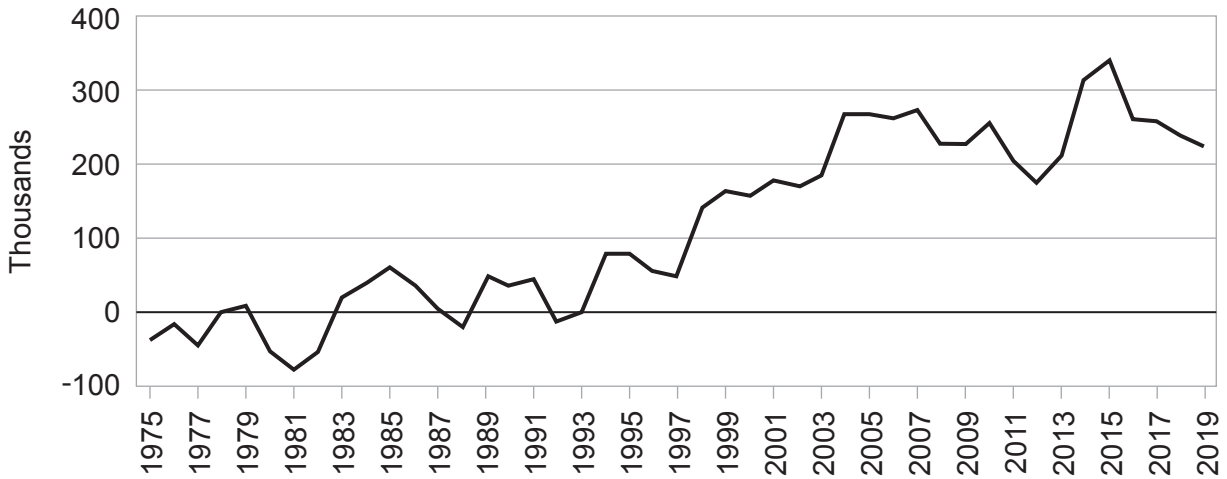
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6. The chart below shows annual net migration to the UK from 1975 to March 2019.



(Source: ONS, Long Term International Migration by Citizenship Data)

The most likely consequence of the trend shown in the data above is that in the UK the: [1]

A Aggregate demand (AD) curve will have shifted inwards

B Long run aggregate supply (LRAS) curve will have shifted outwards

C Production possibility frontier (PPF) will have shifted inwards

D Long run aggregate supply (LRAS) curve will have shifted inwards

E Laffer curve will have shifted outwards

B

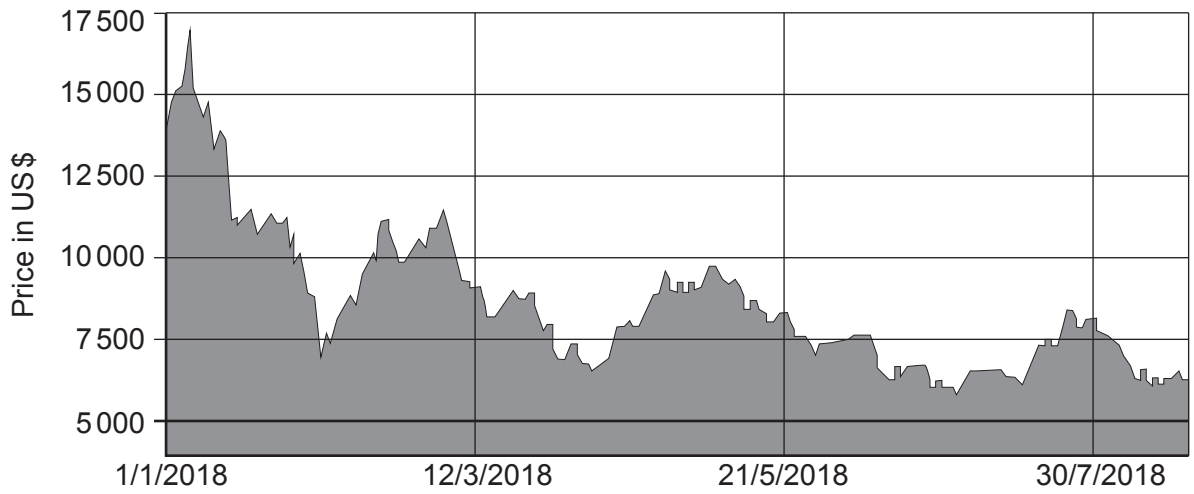
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7. Bitcoin is a so-called 'cryptocurrency' that is exchanged like any other currency on the foreign exchange market. The graph below shows the value of Bitcoin in US $ during the first half of 2018.



What is the most likely cause of this trend? [1]

A Investors sold more physical assets to buy Bitcoin

B Consumer confidence in cryptocurrencies fell

C There was increased speculative demand for Bitcoin

D The supply of Bitcoin decreased creating scarcity

E Major businesses in China and the US started to accept Bitcoin as payment

B

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8. The following data relate to the country of Comena.

	$ bn
Government expenditure on goods and services	6.2
Imports of goods and services	14.5
Investment expenditure	13.3
Exports of goods and services	14.7
Consumer expenditure	26.3
Wages and salaries	27.6
Profits of companies	13.0
Land rental	5.4

Calculate aggregate demand in the economy. [1]

A $46.0 bn

B $53.9 bn

C $73.6 bn

D $60.5 bn

E $92.0 bn

A

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9. The country of Simonia has a budget deficit of $50 bn. It also has a trade deficit of $50 bn. During the year, the government increases its spending by $20 bn and the trade deficit increases to $70 bn.

Assuming there is no change to any other component of aggregate demand (AD), what is the impact on AD in Simonia? [1]

A AD increases by $140 bn

B AD increases by $40 bn

C AD doesn't change

D AD decreases by $40 bn

E AD decreases by $140 bn

C

10. In a 2019 survey, 70% of Netflix subscribers said that they would cancel their subscription to the streaming service in response to a 20% price increase.

If true, this implies that demand for Netflix is: [1]

A Perfectly price inelastic

B Relatively price inelastic

C Unitary price elastic

D Relatively price elastic

E Perfectly price elastic

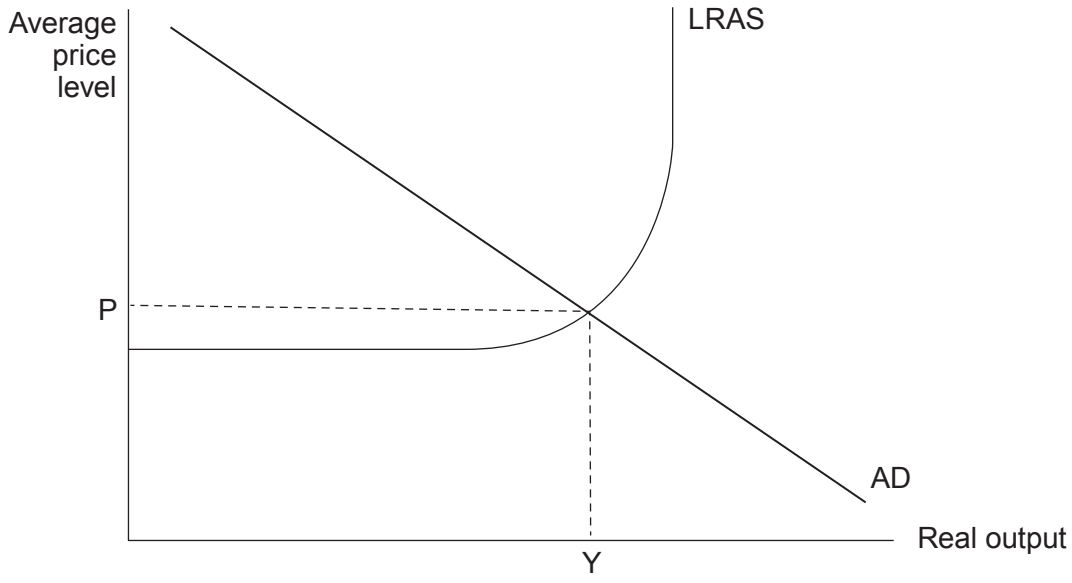
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11. The aggregate demand and aggregate supply diagram below represents an economy in equilibrium.



The level of savings in the economy decreases. All other things being equal, this will lead to: [1]

	Equilibrium level of real output	Equilibrium level of average prices
A	Decrease	No change
B	Increase	Increase
C	Decrease	Decrease
D	Increase	Decrease
E	No change	Increase

B

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12. If the Bank of England decreases the UK's base interest rate, this is most likely to cause: [1]

A A decrease in investment

B A depreciation of the pound sterling

C A negative wealth effect due to falling house prices

D An increase in government spending

E A decrease in the average price level

B

13. The table below shows the values of injections into and withdrawals from the circular flow of income for an economy.

Injections (£m)		Withdrawals (£m)	
Government spending	1 000	Taxation	900
Investment	650	Saving	500
Exports	825	Imports	1 050

From the data it can be concluded that this economy has a: [1]

A Trade surplus

B Government budget surplus

C Net injection into its circular flow

D Current account surplus on the balance of payments

E Net withdrawal from its circular flow

C

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14. George's Paints PLC and RuthBrush PLC are the country's leading manufacturers of industrial paints and their products compete directly with each other in the market.

Which one of the following statements would you expect to be correct? [1]

A The products of George's Paints PLC and RuthBrush PLC have a high positive cross elasticity of demand

B The products of George's Paints PLC and RuthBrush PLC have a low positive cross elasticity of demand

C The products of George's Paints PLC and RuthBrush PLC have a high negative cross elasticity of demand

D The products of George's Paints PLC and RuthBrush PLC have a low negative cross elasticity of demand

E The products of George's Paints PLC and RuthBrush PLC have a cross elasticity of demand equal to zero

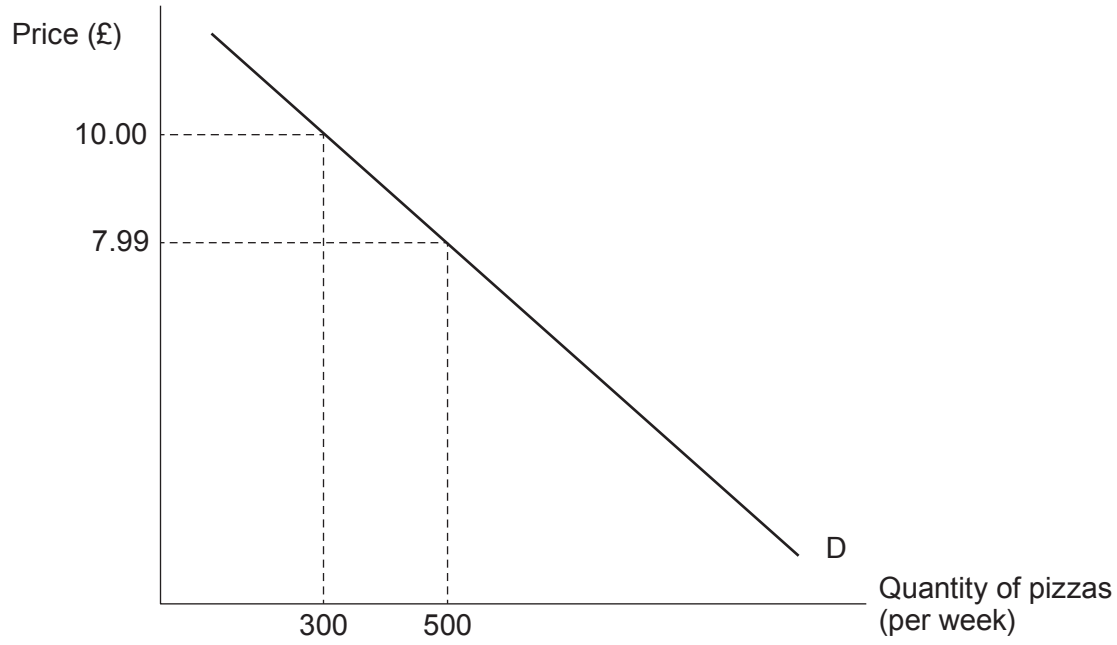
A

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15. The diagram below shows a demand curve faced by a pizza delivery company in Newport.



If the company cuts the price of its pizzas from £10.00 to £7.99, this will: [1]

A Keep total revenue the same because demand is unitary price elastic

B Increase total revenue because demand is price inelastic

C Increase total revenue because demand is price elastic

D Decrease total revenue because demand is price inelastic

E Decrease total revenue because demand is price elastic

C

15

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SECTION B

Answer **all** the questions in the spaces provided.

16. In 2018 a report by Public Health Wales called 'Futures for Wales', outlined the long-term challenges which threaten the Welsh economy.

For example, it stated that Wales' ageing population poses a huge challenge to the Health Service. By 2066, a 65-year-old man can expect to live to the age of 90 and a 65-year-old woman to the age of 92. According to the report, elderly people put a greater strain on the NHS and social care services because they have increasingly complex care needs, and patients are more likely to need lengthier and more frequent hospital stays.

There are also expected to be fewer working age people to pay taxes to fund those services as the birth rate declines. The report suggests that the Government will soon have a choice to make: providing the same level of service and raising taxes **or** providing fewer services and not changing tax rates.

(a) Using an example from the data, describe the concept of opportunity cost. [2]

Opportunity cost is the value of the next best alternative forgone when a choice is made. If the Government keeps the same level of NHS and social care for the ageing population, the opportunity cost is the higher taxes people pay, i.e. the goods they could otherwise have bought (or other services such as education).

(b) Using the data, consider whether the population changes will lead to an outward shift in Wales's production possibility frontier (PPF). [8]

A PPF shows the maximum combinations of two goods an economy can produce when all its factors of production are fully and efficiently employed. Labour is a factor of production, so the size of the workforce determines Wales's productive potential: an outward shift means more potential output.

The PPF could shift outwards. People are living longer (a 65-year-old woman is expected to live to 92 by 2066), so the population grows. If healthy older people work for longer, e.g. as the state pension age rises, the quantity of labour increases. Retired people may also provide childcare, letting parents enter or re-enter the labour force, so labour supply rises and the PPF shifts out.

However, the report says the birth rate is falling, so there will be fewer working age

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people: the labour force shrinks even as the population grows. Elderly people with complex care needs and lengthy hospital stays are unlikely to add to output. Higher taxes to fund care may reduce the incentive to work, and resources may be diverted from capital investment to care, so the PPF could shift inwards. It depends on how many older people stay in work and whether productivity or migration offsets this, but on the data an outward shift seems unlikely.

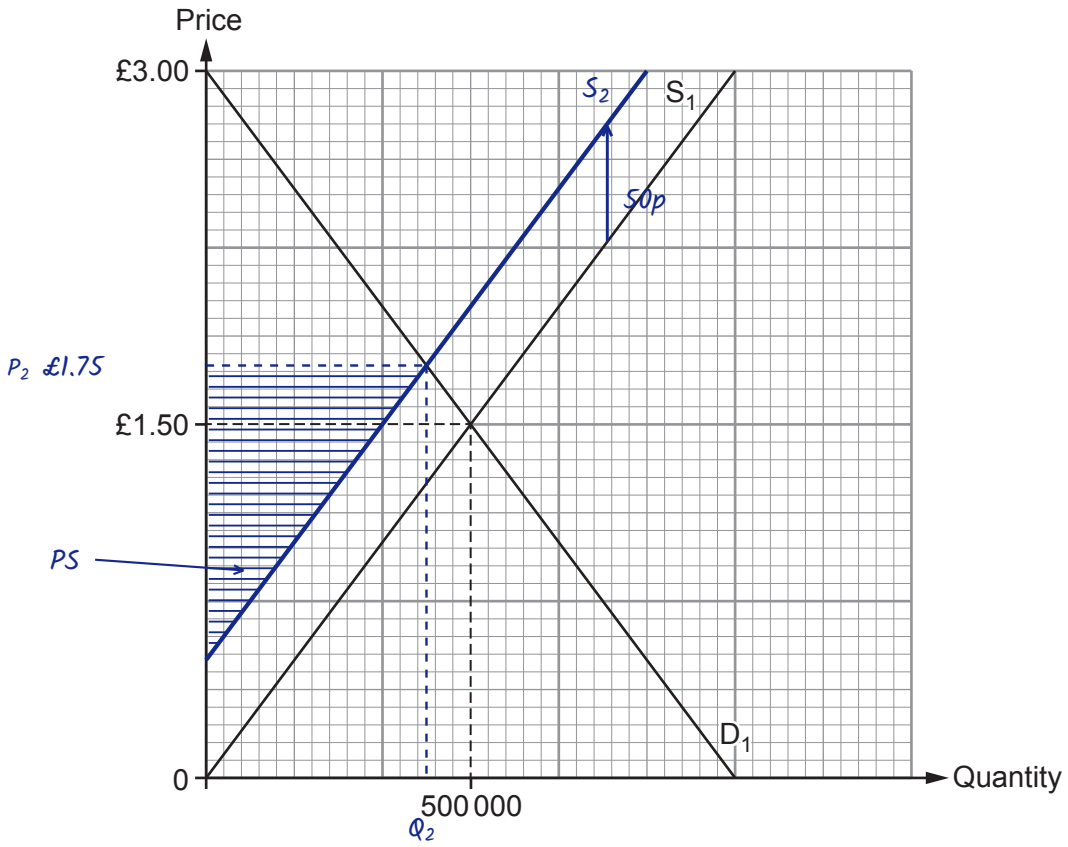
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17. The diagram below shows the UK market for vanilla ice cream.



(a) Calculate the consumer surplus in the UK vanilla ice cream market. [1]

CS = ½ × (£3.00 - £1.50) × 500 000

= ½ × £1.50 × 500 000 = £375 000

A drought in Madagascar, the world's largest producer of vanilla pods, causes the price of vanilla extract to increase significantly. Vanilla extract is used to flavour vanilla ice cream. As a result, the production costs for vanilla ice cream manufacturers increase by 50p per unit.

(b) (i) Adapt the diagram above to reflect the 50p per unit increase in the production costs for vanilla ice cream. [2]

(ii) On the diagram, shade in the producer surplus in the UK vanilla ice cream market **after** the change. [1]

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(c) Consider whether vanilla pods and vanilla ice cream should be considered complementary goods. [6]

Complementary goods are in joint demand: they are consumed together, so a rise in the price of one reduces demand for the other. They have a negative cross elasticity of demand, XED = %ΔQd of good A ÷ %ΔP of good B.

They could be seen as complements. The drought raises the price of vanilla pods, which raises manufacturers' costs by 50p per unit, so supply of vanilla ice cream shifts left. Its price rises from £1.50 to about £1.75 and quantity demanded contracts below 500 000. So a rise in the price of vanilla pods causes a fall in the quantity of ice cream bought: XED is negative, which usually indicates complements.

However, they are not true complements. Consumers do not buy vanilla pods and vanilla ice cream together, and the utility from ice cream does not increase if they also buy a pod. The pods are a raw material: the link works through costs and supply (derived demand), not joint demand. A negative XED does not prove a complementary relationship, so they should not be classed as complements.

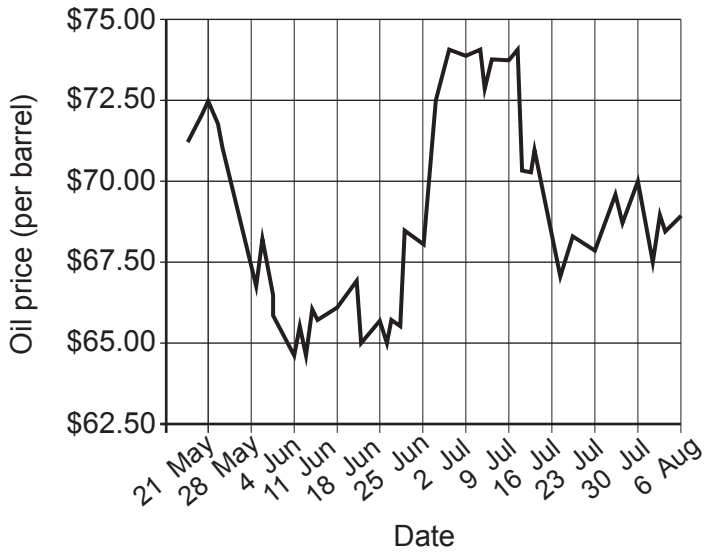
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18. The graph below shows oil price (per barrel) for the 3 months between May and August 2018. The price volatility was caused by many factors including a US-China trade row and a large increase in oil production in Saudi Arabia.



(a) Explain why volatile prices can lead to market failure. [2]

Market failure is an inefficient allocation of resources. Volatile prices create uncertainty, so the signalling function of the price mechanism breaks down: producers do not know how much to produce or invest, so they produce too much or too little, not the socially optimum output.

(b) Using a maximum-price diagram, discuss the effects on consumers and firms of introducing a maximum-price of $67 per barrel of oil. [10]

A maximum price is a legal ceiling set below equilibrium. From late June to July 2018 the price was above $67, peaking at about $74, so the ceiling binds: as the diagram shows, price falls from P_e to $67, quantity demanded extends to Q_d and quantity supplied contracts to Q_s.

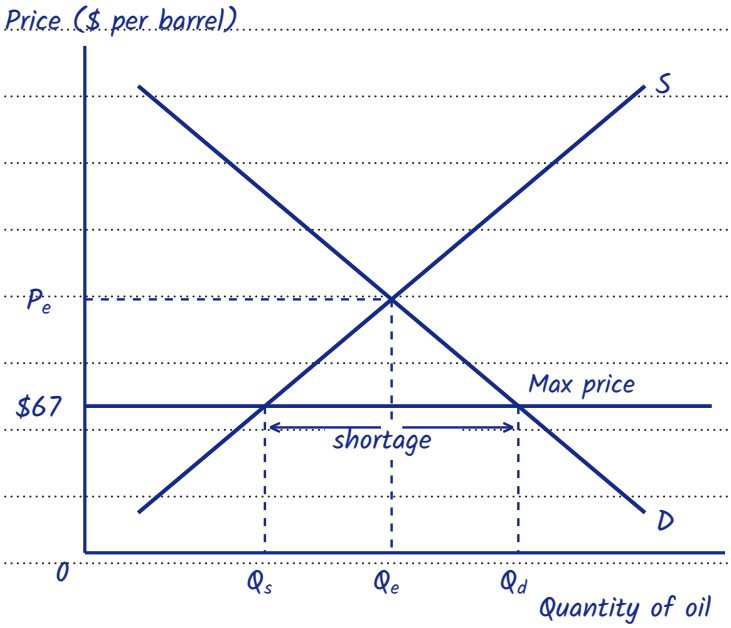
Consumers gain from the lower price: their purchasing power rises, so households can afford heating, cooking fuel and petrol, raising living standards. Oil-using firms such as airlines see their costs of production fall, so they can cut prices and gain sales, or raise profit margins.

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Oil producers lose: revenue falls from $P_e \times Q_e$ to \$67 × Q_s, so producer surplus and profits fall. This may reduce investment and push high-cost firms out of the market.



However, the ceiling creates a shortage of $Q_d - Q_s$. Consumers may queue or get no oil, so many lose consumer surplus despite the lower price, and some may be unable to get to work. Oil-using firms may not obtain the oil they need, delaying production. A black market may develop, with oil sold well above \$67 or of poor quality.

The significance depends on elasticity. Demand is price inelastic as oil is a necessity, but if supply is fairly elastic (Saudi Arabia was able to raise output sharply), the shortage will be large. It also depends on timing: the US-China trade row may make this period unrepresentative, and when the price fell below \$67 in June the ceiling had no effect. Low income households gain most as oil is a larger share of their income. Overall, consumers who obtain oil and oil-using firms gain in the short run, but producers lose and shortages mean the policy likely does more harm than good.

12

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19. Corporation tax is a major source of tax revenue for most countries. In the UK, for example, corporation tax raised nearly £56 bn in the financial year 2016–17. It is a direct tax which firms must pay as a proportion of their profit.

Corporation tax is often reported in the media because of allegations of tax avoidance by major transnational businesses. For example, it was widely reported that Amazon UK Services paid just £4.6 m in corporation tax in 2017. An Amazon UK spokesperson said it paid all the tax it was required to "in the UK and every country where we operate".

The table below shows selected countries' corporation tax rates in 2017.

Country	Corporation tax rate
Ireland	12.5%
Switzerland	17.95%
UK	19%
Sweden	22%
Austria	25%
Germany	29.65%

Using a Laffer curve diagram, and with reference to the data, explain how decreasing the corporation tax rate could increase tax revenue for the UK Government. [8]

The tax rate is the percentage of profit firms pay as corporation tax (19% in the UK in 2017), while tax revenue is the total collected: the tax rate × the tax base (taxable profits). The Laffer curve shows that revenue rises as the rate increases up to a revenue-maximising rate t^*, but above t^* higher rates reduce revenue because they reduce the incentive to earn and declare profits in the country.

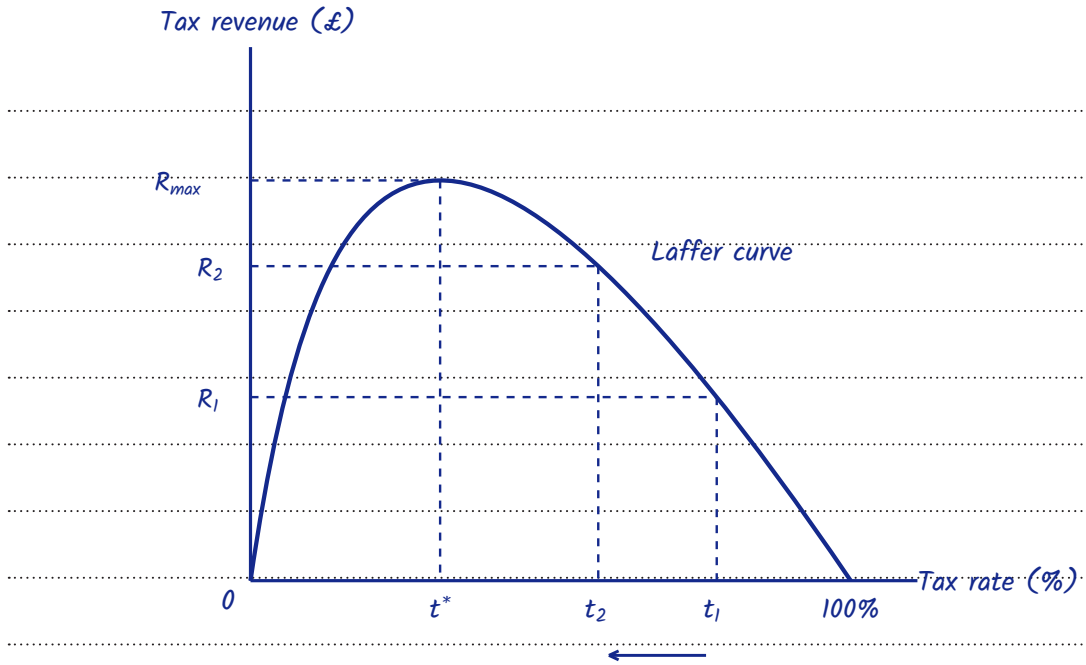
The UK's 19% rate is higher than Ireland (12.5%) and Switzerland (17.95%). As profits are internationally mobile, the revenue-maximising rate may be below 19%, so the UK could be at t_1, to the right of t^*.

If the UK cut the rate from t_1 to t_2, as the diagram shows, the UK becomes more attractive to transnational firms, so more businesses locate and invest here and firms that outsource production abroad may reshore. This enlarges the tax base, so revenue rises from R_1 to R_2.

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A lower rate also reduces the incentive for tax avoidance, such as shifting profits to low-tax countries like Ireland. Amazon UK Services paid just £4.6 m in 2017; with a lower rate it may declare more profit in the UK and pay more than £4.6 m, so total revenue could exceed the £56 bn raised in 2016 to 17.

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