



Skoolumy

**CAMBRIDGE A LEVEL ECONOMICS TOPICAL ESSAY
QUESTIONS**

DEMAND, SUPPLY AND CONSUMER SURPLUS

PAST QUESTIONS

1. The Market for Precious Metals

The prices of precious metals such as gold, platinum and palladium are determined by supply and demand. This can result in dramatic price changes. Fig. 1 shows their price movements, as index numbers, during 2002.

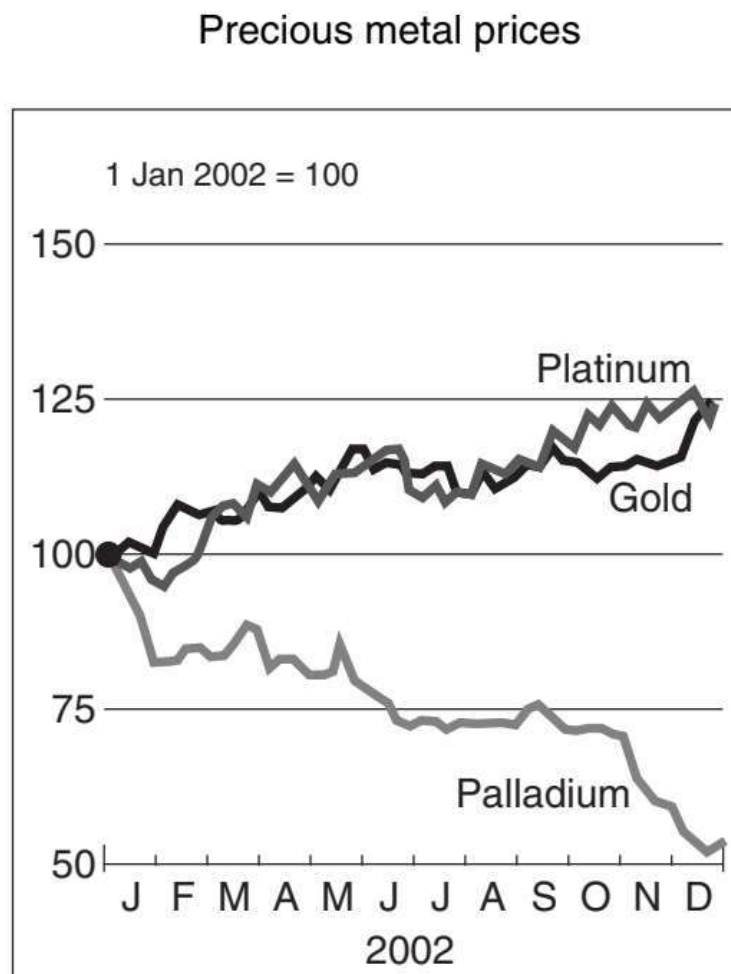


Fig. 1

Many influences were at work in the markets during this period. Demand for gold as an investment increased as economic conditions became uncertain, interest rates fell and stock markets collapsed. Platinum prices were affected by increasing sales of diesel cars, which must use platinum in their catalytic converters, and the reduction of exports of platinum by Russia. Supplies of precious metals can easily be increased from stocks, but when these are low it is more difficult to expand supply.

Palladium is a substitute for platinum in catalytic converters for cars using petrol (gasoline). Palladium and platinum prices have behaved very differently, as shown in Table 1.

Table 1 Prices of palladium and platinum (US\$ per ounce)

	December 2000	January 2003
Palladium	US\$ 1100	US\$ 250
Platinum	US\$ 600	US\$ 700

South Africa is a leading supplier of precious metals. In 2002 gold and platinum made up 25% of its export earnings. The price changes of the metals helped push up the exchange rate of the South African currency by 40% against the US\$.

(a) Show how Fig. 1 supports the view that the prices of precious metals change dramatically.[2]

(b) Explain one reason for the increased demand for gold in 2002. [2]

(c) Draw a diagram to show why the price of platinum rose in 2002. [3]

(d) How may the price behaviour of palladium and platinum, shown in Table 1, have been linked? [3]

(e) Discuss the possible effects on the South African economy of the rise in the prices of gold and platinum. [6]

2. There is increasing concern about the impact of foreign holidays on the environment of the host country.

Explain, with the aid of a demand and supply diagram, two factors that might cause an increase in the demand for foreign holidays. [8]

3. 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.

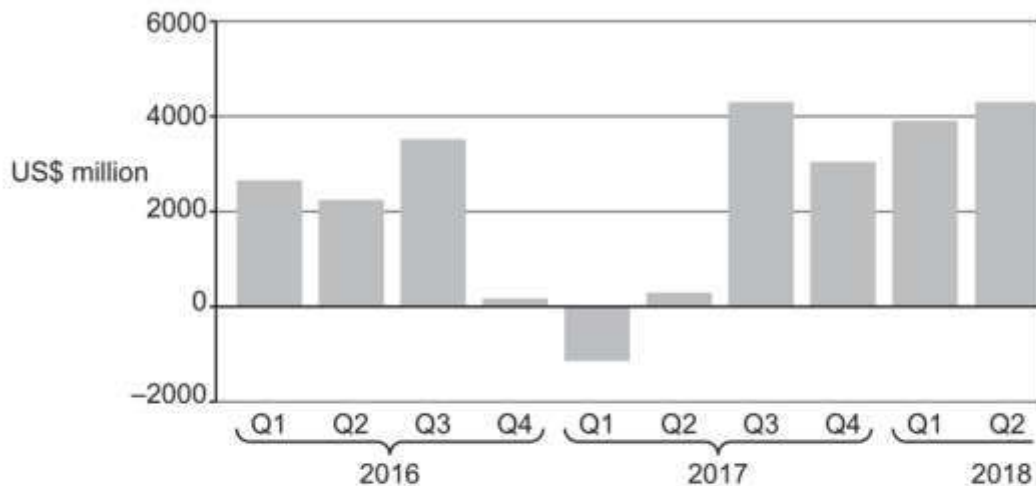


Fig. 1.1 Vietnam's current account balance, Q1 2016 to Q2 2018 (US\$ million)

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

(a) 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]

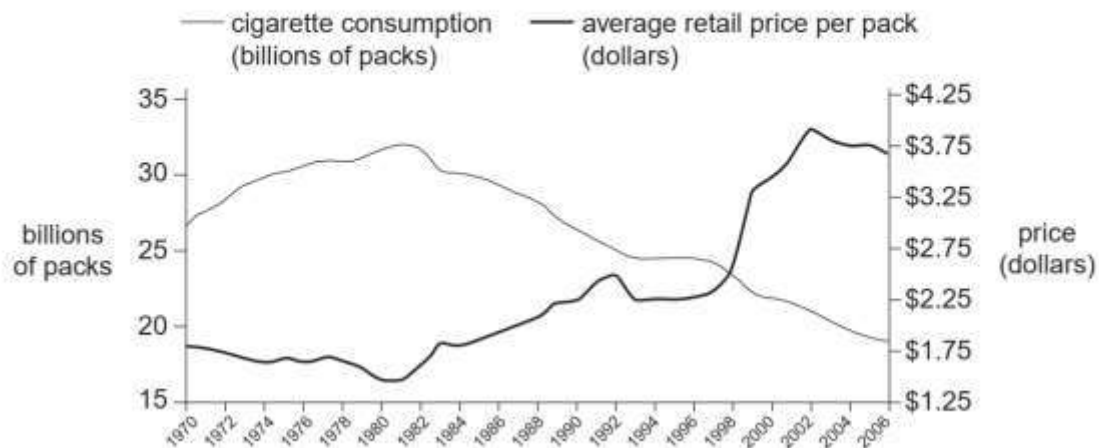
(b) Explain how complying with administrative burdens on trade will affect Vietnam's supply of fruit and vegetables for export. [2]

4. Economic Aspects of Cigarette Smoking

Smoking cigarettes is a controversial matter that illustrates a number of economic issues. As with most products, the key influence on the level of consumption is the product's price.

United States

Fig. 1 US cigarette consumption and cigarette prices 1970–2006



Malaysia

A study of cigarette smoking in Malaysia estimated the short-run and long-run price elasticity of demand (PED) and the income elasticity of demand (YED) for cigarettes between 1990 and 2004. The results are shown in Table 1.

Table 1: Demand elasticities for cigarettes in Malaysia

Short-run PED	Long-run PED	YED
−0.08	−0.57	+1.46

Europe

In Europe, taxation of cigarettes is particularly heavy. In 2006 it was 76.4% of the final selling price in Germany, 77.1% in the UK and 80.4% in France. European countries are increasingly banning smoking in enclosed public areas and

workplaces. Some anti-smoking campaigners are calling for the smoking of cigarettes anywhere to be made illegal.

How far does the data in Fig. 1 confirm that the normal demand curve relationship exists between the price and the quantity demanded of cigarettes? [3]

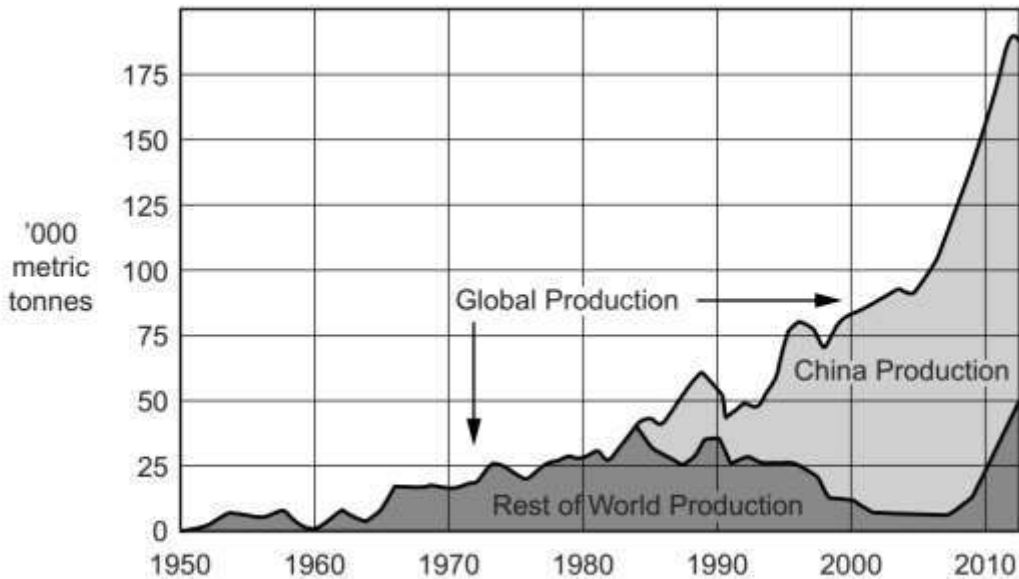
5. China and Rare Earth Elements (REEs)

Rare earth elements (REEs) are a group of 17 minerals, some with unusual names such as gadolinium and praseodymium that have become increasingly important in recent years. They are vital in the production of glass, petrol, flat-screen televisions, laptops, lasers, satellites, energy-saving light bulbs, jet engines and wind turbines. As many as eight REEs are used in an electric car and military hardware depends on them. World demand for REEs is expected to continue to increase.

There are problems with mining these minerals. They are found in many countries but are not concentrated enough to make it easy to exploit them economically. In the 1980s and 1990s China invested heavily in machinery and training labour for mining REEs. The entry of China into REEs mining pushed prices down to a level that forced many rivals in the United States out of production. Most countries rely totally on imports for their supplies of REEs.

Mining them produces undesirable side-effects, such as radioactivity, air pollution and spoilt landscapes. Mining also uses highly toxic chemicals that can pollute the water supply. China, as shown in Fig. 1, is now the dominant global supplier. It also has the largest reserves.

Fig. 1 Global production of REEs, 1950 to 2012



Source: Kaiser Research Online

China imposes export taxes on REEs of up to 25% and sets export quotas that were reduced in August 2010 from 28 417 metric tonnes to 7 976 metric tonnes per annum.

(a) Describe China's changing contribution to the global production of REEs between 1950 and 2012. [3]

(b) Explain two possible reasons why demand for REEs is likely to continue to grow. [4]

6. The British Broadcasting Corporation

The British Broadcasting Corporation (BBC) is a world-famous radio and television broadcaster.

In 2005 the services the BBC provided to the UK were part of the public sector and financed mainly by a compulsory annual licence fee of £121 on those households owning a television. There were heavy fines for those who did not pay.

The BBC has an obligation to provide programmes that are educational and cultural, as well as the more popular programmes such as comedy and sport.

One economist has argued that the BBC should receive more finance, that BBC broadcasting is a public good, and that it has greater value for viewers than they have to pay for. To support his view he produced two diagrams. Fig. 1 shows the demand for BBC services among the 23 million television-owning households in the UK and Fig. 2 shows where this economist placed BBC broadcasting among a selection of public goods in 2005.

Fig. 1 Demand for BBC services in the UK

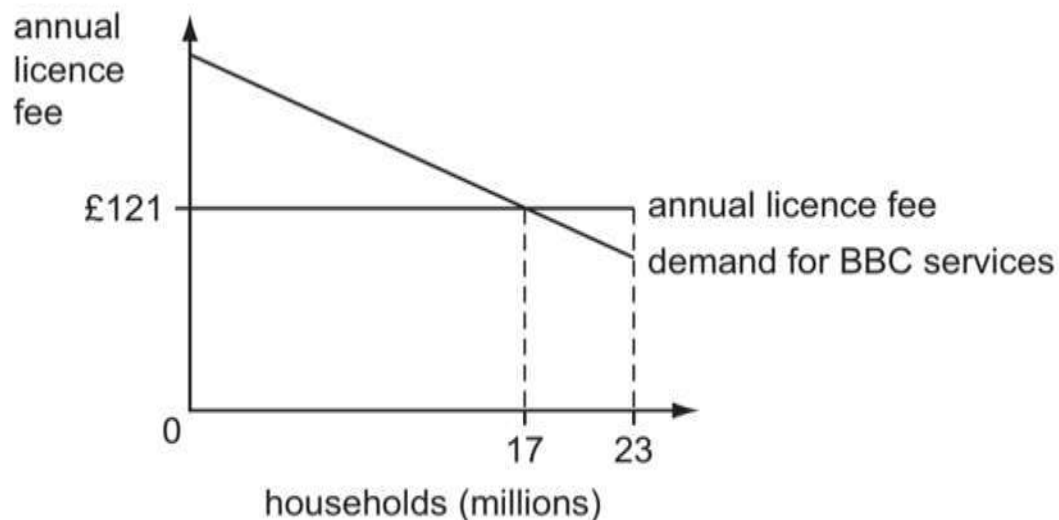
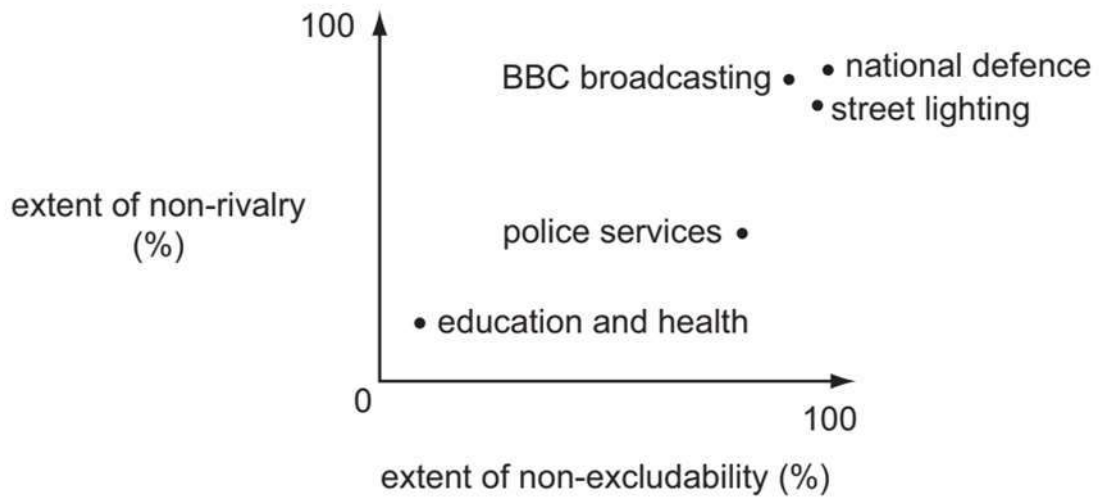


Fig. 2 Selected public goods



(a) Explain how an increase in the licence fee to receive television programmes may affect the market for television sets. [4]

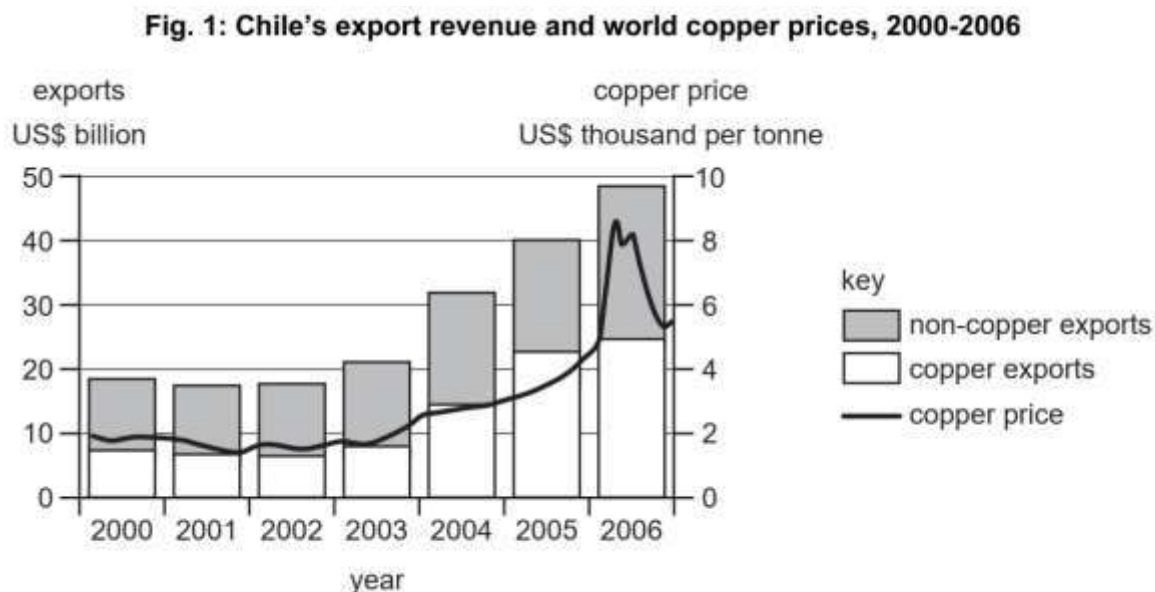
(b) How does Fig. 1 support the view that the BBC creates more value than viewers pay for? [4]

7. 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]

8. The importance of copper production in Chile

Chile is a major producer and exporter of copper. For Chile, copper is a vital export and makes a major contribution to its trade. The Central Bank of Chile forecast a visible trade surplus of US\$17 billion for 2006, two thirds higher than in 2005. Changes in world copper prices in 2006, a year of global growth, were an important influence on Chile's trade performance. However, one problem that Chile faced in 2006 was a strike for higher wages and better conditions at Escondida, the world's largest copper mine, where 8% of world copper was mined.

Figure 1 shows the contribution of copper to Chile's export revenue and changes in world copper prices.



(a) Compare the price of copper in the middle of 2003 and the middle of 2006. [2]

(b) Explain one change in demand and one change in supply that might have caused this movement in the price of copper. [4]

9. Explain, with the aid of a diagram, how consumer surplus will be affected by the introduction of an indirect tax. [8]

10. Artificial Intelligence

Artificial Intelligence (AI) is a form of technological progress. It involves computers or computer-controlled robots engaging in tasks usually performed by humans. Many businesses invest in AI to reduce their costs, to increase their efficiency by reducing human errors and to raise business revenues and profits.

The COVID-19 pandemic has accelerated this process – from increased use of contactless card payment systems to large-scale investment in driverless taxis. In China, a leading internet search company plans to follow some of its rivals in the United States (US) by starting a driverless taxi service in 100 cities by 2030.

Nevertheless, the pace of growth in AI has raised concerns that this will result in increased unemployment. One study suggests that up to 38% of US jobs are at risk from automation by the mid-2030s. To date, Japan has between 200 and 300 AI companies. It is also the leading supplier of industrial robots and third, behind China and the US, in spending on research and development into AI.

Just a few years ago, the growth of the internet created similar fears. Despite these concerns, the technology created millions of jobs and contributed as much as 10.5% towards US GDP in 2020. As a result, some economists suggest that the movement towards AI will fundamentally change the world and the way we work and live but will not lead to large rises in unemployment. AI technology may create more jobs than it destroys.

Nonetheless, the danger remains that automation will lead to a society of winners and losers. These newly created jobs will require new skills and significant investment in training young people and retraining adults. Therefore, governments may need to implement targeted policies to ensure that any changes to structural unemployment are only short-lived. However, rising national debt alongside projections of low economic growth, as shown in Table 1.1, may reduce the ability of governments to deliver such policies.

Table 1.1: Selected macroeconomic indicators for Japan and the US, 2020 to 2025

	Japan			US		
	Central government debt (% of GDP)	Unemployment rate (%)	Real GDP growth (% change from previous year)	Central government debt (% of GDP)	Unemployment rate (%)	Real GDP growth (% change from previous year)
2020	254.1	2.8	-4.6	133.9	8.1	-3.4
2021	256.9	2.8	2.4	133.3	5.4	6.0
2022*	252.3	2.4	3.2	130.7	3.5	5.2
2023*	250.8	2.3	1.4	131.1	3.0	2.2
2024*	251.0	2.3	0.8	131.7	3.0	1.7
2025*	251.3	2.3	0.6	132.5	3.1	1.7

*forecast

Source: IMF, 2021

With the help of a demand and supply diagram, consider the impact of additional investment in AI on the price and output of a US carmaker. [4]

11. From 2030, most new car production in the United Kingdom (UK) will be of electric cars.

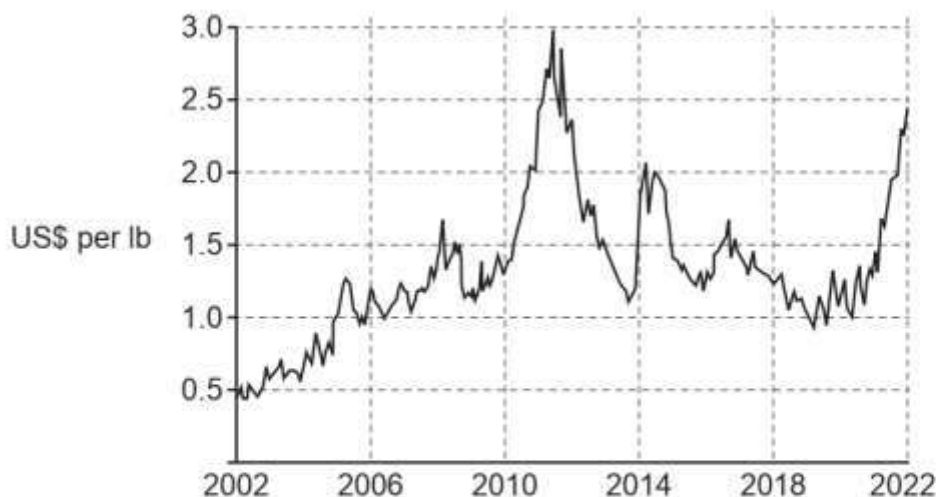
Excluding the price of electric cars, explain the determinants of demand for electric cars and consider which of these determinants is likely to be of greatest significance at the present time. [8]

12. Explain the determinants of supply for an agricultural product, such as rice, and consider which of these determinants is likely to be of the greatest significance at the present time. [8]

13. With the help of a diagram(s), briefly explain how the cause of a movement along the demand curve differs from the cause of a shift in the demand curve and consider the impact on the demand for one good of price changes in other goods. [8]

14. Global coffee bean prices reach a new high

Coffee is big business, especially in the United States (US). The global market was worth nearly US\$110bn in 2020, with production around 10m tonnes of coffee beans. 95% of this production came from thousands of small-scale producers in South America, Central America, Asia and Africa. If present trends continue, production is forecast to triple by 2050. The Arabica coffee bean price was at a 10-year high in January 2022, having more than doubled in 2021. Fig. 1.1 shows the world price of coffee in United States dollars (US\$) per pound (lb) weight. A pound is 454 grammes.



Source: tradingeconomics.com, 18 February 2022

Fig. 1.1: Arabica coffee bean price, 2002 to 2022

So how can this huge price increase be explained? The main cause was a series of weather events affecting Brazil, the world's largest producer of high quality Arabica coffee beans. Its market share is 35% of total global supply. There was severe

drought in early 2021 that reduced the number of ‘cherries’, which contain the beans on coffee bushes. The crop yield was further damaged by frosts that followed the drought. As a result of these weather events, Brazil produced its smallest volume of quality coffee beans for ten years.

In addition, the production of cheaper low-quality Robusta coffee beans in Vietnam was badly affected by storms which stripped the bushes of their ‘cherries’. Overall, there was a very large decrease in the global supply of all coffee beans.

Supply issues affecting major producing countries like Brazil and Vietnam mean that the volume of coffee beans produced regularly fluctuates between ‘high’ years and ‘low’ years. Producers try to reduce their risks through buffer stock schemes in order to maintain a regular income stream. This type of scheme is particularly important for the many small-scale subsistence producers who have no other source of income.

The dramatic weather events of 2021 have been exceptional, although a few large-scale producers in Brazil who survived the immediate impact of drought and frost should gain from the huge rise in the price of coffee beans. But what about the thousands of other producers elsewhere who lack power in the market? The most likely outcome is that they will once again become victims of the unpredictable global market for coffee beans.

(a) Use a demand and supply diagram to show why there was a ‘huge’ increase in the price of Arabica coffee beans in 2021. [2]

(b) Assess the extent to which coffee bean producers will gain from the huge increase in coffee bean prices in 2021. [6]

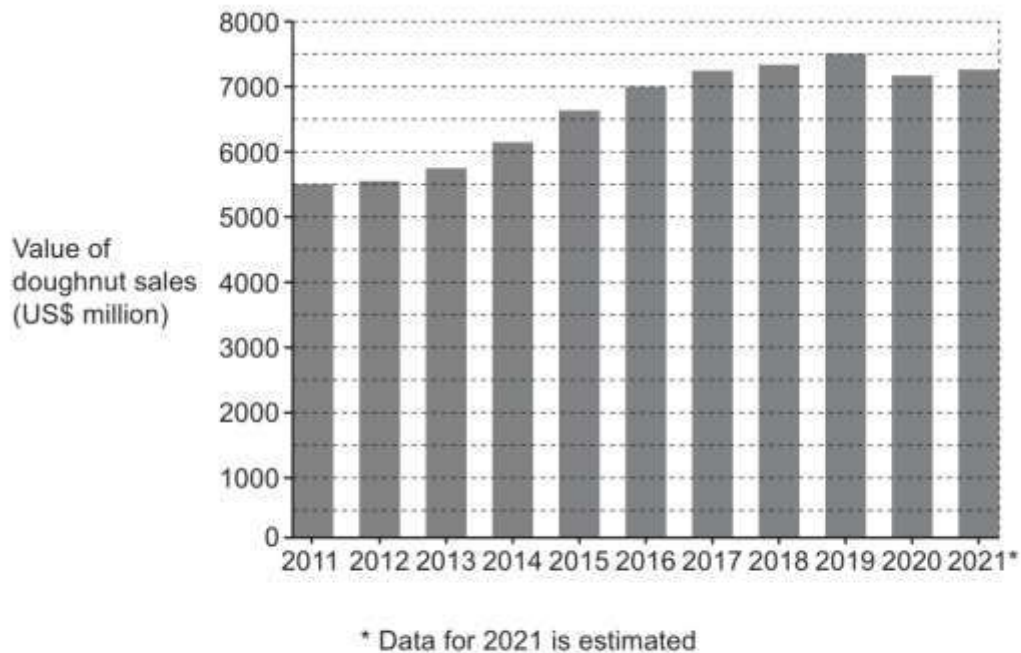
(c) Assess the likely impact of the fluctuations in coffee bean prices on the economies of major producers such as Brazil and Vietnam. [6]

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

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

17. Are doughnuts demerit goods?

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



Source: ibisworld.com, March 2021

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

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

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

sugary foods would result in children consuming the equivalent of 62 million fewer doughnuts a year in the UK.

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

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

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

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

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

19. With the help of a diagram, explain what could cause an increase in demand for a product and consider whether the impact of an increase in demand on the price of the product will be the same in the short run and the long run. [8]

20. Electric cars create challenges for oil producers

Oil companies are facing uncertainty in 2020 as the COVID-19 pandemic causes a collapse in demand for their product, but car producers are predicting the pandemic will help accelerate the use of electric cars. Looking ahead, cuts in investment by oil companies as their revenues fall could reduce supply enough to cause a rise in oil prices. This makes electric cars more attractive just as car producers increase production.

Table 1.1 Selected data from the oil and car industries, 2014 to 2020

	2014	2015	2016	2017	2018	2019	2020
Average real global price of oil (US\$ per barrel)	93.2	48.5	43.3	50.8	65.2	57.0	39.7
Global sales of electric cars (millions)	N/A	0.6	0.8	1.3	2.1	2.2	2.3

Sources: Macrotrends.net and World Economic Forum

However, the rise of electric car sales could slow within the next few years due to a worldwide shortage of the supply of lithium needed for car batteries. Demand for lithium could triple by 2025 to one million tonnes per year and then double again to two million tonnes per year by 2030. A typical lithium mine produces 30000 tonnes per year which means the market needs approximately four new mines per year to meet demand. However, it usually takes about six years to discover, develop and put a lithium mine into production.

Rising global sales of electric cars are impacting on world oil producers. The boom years for the oil industry are over as economies start to deal with climate change. This will have significant implications for petrostates (countries whose economies are almost totally reliant on oil and gas).

Volatile oil prices, as illustrated in Table 1.1, have already left many petrostate governments struggling. The governments of most Middle Eastern oil producing countries cannot maintain a balanced budget at the 2020 average oil price of around US\$40. Years of unstable oil revenues have left these countries with significant levels of national debt.

Venezuela offers a cautionary tale. Serious mismanagement has caused its oil output in 2020 to drop to about 10% of its 2000 level. Gross domestic product

(GDP) has fallen by more than 75% in the past 5 years and more than 5 million people have left the country.

The solution is diversification. Wealthy Middle East states, such as Oman and Saudi Arabia, are investing in renewable energy and international tourism. Attempts at change by less wealthy petrostates such as Venezuela are hampered by a lack of capital at home and because they are often unable to attract international investors. As a result, they tend to focus on short-term rather than long-term economic growth.

Ultimately, many petrostates are likely to need outside support to diversify their economies. In addition to financial aid, it is suggested that wealthy countries should also offer technical assistance such as retraining workers, help designing new tax systems and support with the adoption of renewable energy.

Sources: Adapted from: Matthew Green and Simon Jessop, Reuters, 19 May 2020

and: STV news PA Media, August 2021 and: energymonitor.ai/policy, April 2021

(a) Using the data in Table 1.1, calculate the percentage change in the average real global price of oil between 2014 and 2020. [2]

(b) Explain why the price of oil on the world market fell in 2020. [2]

(c) With the help of a diagram, explain why the supply problem referred to may lead to increases in the price of electric cars in the future and consider one policy that may be used to overcome this supply problem. [4]

MARK SCHEME

Table A: AO1 Knowledge and understanding and AO2 Analysis

Level	Description	Marks
3	- A detailed knowledge and understanding of relevant economic concepts is included, using relevant explanations. Explanations are supported by examples, where appropriate. - The response clearly addresses the requirements of the question and explains economic issues, and fully develops these explanations. - Analysis is developed and detailed and makes accurate and relevant use of economic concepts and theories. Where necessary, there is accurate and relevant use of analytical tools such as diagrams and formulae, and these are fully explained. - Responses are well-organised, well-focused and presented in a logical and coherent manner.	6–8
2	- Knowledge and understanding of some relevant economic concepts is included, using explanations and examples that are limited, over-generalised or contain inaccuracies. - The response addresses the general theme of the question and the relevant economic issues, with limited development. - Analysis is generally accurate with some development but little detail. Uses analytical tools such as diagrams and formulae where necessary. Use of these tools is partially accurate or not fully explained. - Responses are generally logical and coherent but are sometimes lacking in focus or organisation.	3–5
1	- A small number of relevant knowledge points are included and the response is limited by significant errors or omissions. - The response has little relevance to the question. - Analysis where provided is largely descriptive. Use of analytical tools such as diagrams and formulae, where necessary, may contain significant errors or be omitted completely. - Responses show limited organisation of economic ideas.	1–2
0	No creditable response.	0

Table B: AO3 Evaluation

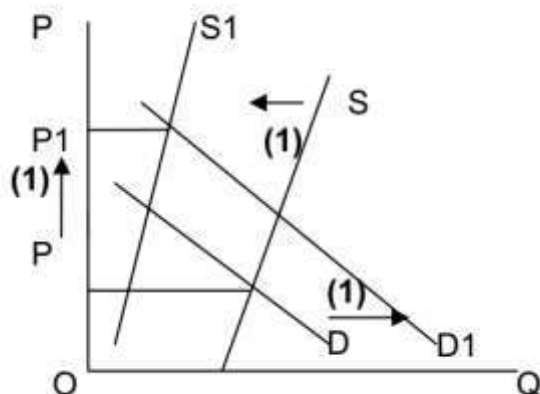
Level	Description	Marks
2	- Provides a justified conclusion or judgement that addresses the specific requirements of the question. - Makes developed, reasoned and well-supported evaluative comment(s).	3–4
1	- Provides a vague or general conclusion or judgement in relation to the question. - Makes simple evaluative comment(s) with no development and little supporting evidence.	1–2
0	No creditable response.	0

1. (a) Wide variation in price per time period (1), supporting use of data (2)

(b) Uncertainty/stock market collapse-safer investment (2), low interest rates-better return (2)

Recognition (1) + explanation (1)

(c)



(d) Recognition of price divergence or substitutes (1), high relative palladium price caused replacement by platinum (1) and demand for palladium fell leading to price fall (1), switch to platinum raised its demand and price (1)

An alternative linkage is through changing nature of demand for vehicles, i.e. rise in D for diesel – rise in D for platinum (1) leading to rise in P (1) (inferred) fall in D for petrol vehicles – fall in demand for palladium (1) plus substitution effect leads to fall in P (1)

(e) Benefits: export revenue, balance of trade, employment, improved terms of trade, purchasing power for imports, attract investment problems: higher ER, export price rise, switch to other suppliers, external costs of increased mining, sustainability

Up to 4 for each side (max 2 for list)

2. Up to 2 marks for Knowledge and Understanding

For correct diagram:

- Vertical axis correctly labelled: P/Price, horizontal axis correctly labelled: Q/Quantity and Demand and Supply curves correctly drawn and labelled (1 mark)
- Shift of the demand curve correctly drawn and labelled (1 mark)

Up to 6 marks for Application

Application of two factors to an increase in the demand for foreign holidays

- Explanation of first factor (Up to 3 marks)
- Explanation of second factor (Up to 3 marks)

3. (a) For an explanation of one possible demand reason (Up to 2 marks)
(1 mark for identification, 1 mark for further development)

Demand factors could include:

- increase in income
- more effective advertising
- population growth
- tastes have changed in favour of the products, e.g. healthy living

For an explanation of a one possible supply reason (Up to 2 marks)

(1 mark for identification, 1 mark for further development)

Supply factors could include:

- use of more land
- more favourable weather conditions
- reduction in costs of production
- improved technology

(b) Higher costs of production will shift supply to the left and decrease the amount available to export. (Up to 2 marks)

Possible effects could include:

- fruit and vegetable exporters could face additional costs in satisfying administrative burdens on trade
- these could include strict hygiene and food safety regulations
- this could bring about an increase in the price of the products
- regulations could, however, lead to a higher quality of products being supplied

4. Normally price and quantity are inversely related (1), true in majority of years in both directions (1), clear exceptions 1992/3 and 2002 onward (1)

5. (a) Prior to the mid-1980s China was not a supplier (1). Growth to become dominant supplier (1), elaboration (1), e.g. by the mid-1990s China had overtaken rest of the world production, by 2012 China will out produce the rest of the world more than twofold. China's share increased 1985–2007 (1) but fell 2008–12 (1).

(b) Their extensive use means that economic growth and higher living standards are liable to raise the level of worldwide demand (2). Their use in high technology products means more demand as technology is more widely applied in high income elastic goods (2). The move to conservation and greener technologies will boost demand in energy saving and generation (2). Price has fallen, so demand likely to grow (2).

6. (a) Licence is a complement or in joint demand or has negative XED (1), higher licence cost reduces demand for TVs (1), + 2 from:

lowers TV price (1),

lowers quantity traded (1),

lowers revenue/profit (1),

Credit diagram if changes shown. [4]

(b) Understanding of consumer surplus (2), identification of expenditure and consumer surplus areas in words or diagram (2).

Credit net benefit approach. [4]

7. For Knowledge and Understanding

For correct diagram:

Axes correctly labelled: P/Q (1 mark)

Existence of consumer surplus (1 mark)

2 marks maximum

For Application

How consumer surplus is affected by a decrease in the price of a luxury product with many substitutes: elastic PED. (Up to 3 marks)

How consumer surplus is affected by a decrease in the price of an essential product with few substitutes: inelastic PED (Up to 3 marks)

6 marks maximum

8. (a) Higher in 2006 (1), 4 fold (1) or by \$6000 per tonne (1) or by 300% (1)

(b) Demand increased (1) increasing global growth, new uses, dearer alternatives (1)

Supply decreased (1), strike action, resource exhaustion, rising production costs (1)

Accept other valid influences.

9. Consumer surplus is the excess the consumer is prepared to pay over the amount actually paid for a good and is shown by the area between the demand curve and price line. An indirect tax is levied on a good and will usually raise the price of a good and reduce the quantity demanded by shifting the supply curve to the left. The result will be a reduction in consumer surplus as a result of the reduced consumption and higher price. The effect will depend upon the price elasticities involved.

For knowledge of consumer surplus up to 2 marks

For a labelled diagram showing impact of indirect tax up to 4 marks

For explaining a reduction in consumer surplus up to 2 marks

10. Correctly labelled diagram showing initial equilibrium (1).

Rightward shift in Supply curve establishing new equilibrium a lower P and increased output (1).

Explanation of changes with clear reference to diagram provided. Correct shift (1).

Correct new equilibrium (1).

11. up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

Knowledge and understanding of income, price and availability of substitutes and fashion, taste and attitudes.

For an explanation of what is meant by the role of income, price and availability of substitutes, complements, fashion, taste, and attitudes as determinants of demand. **(1x3)**

AO2 Analysis (max 3 marks)

For analysis of the significance at the present time of **at least 2** of these determinants. e.g., attitudes may have a great significance because of an increased awareness of the impact on the environment. e.g., income may have a great significance if economies are in recession. e.g., if petrol prices rise leading to a fall in demand for petrol-driven cars then the demand for electric cars may rise.

Up to 2 marks for any developed point.

AO3 Evaluation (max 2 marks)

For a clear consideration which of the determinants is likely to be the most significant **at the present time. Reserve 1 mark for a justified conclusion.**

Please use a text box to show the mark split e.g., 3 2 1

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

12. up to 3 marks for AO1 Knowledge and understanding, up to 3 marks for AO2 Analysis, and up to 2 marks for AO3 Evaluation.

AO1 Knowledge and understanding (max 3 marks)

A knowledge and understanding of the determinants of supply for an agricultural product, such as rice (there should be at least two determinants):

- physical factors, e.g. climate and soil
- institutional factors, e.g. land tenure and land reforms
- infrastructural factors, e.g. irrigation and storage facilities
- the price of rice and the prices of other agricultural products.

AO2 Analysis (max 3 marks)

An analysis of the importance of these determinants of supply for an agricultural product, such as rice. For example, if rice is relatively easy to store, the supply will be more elastic.

AO3 Evaluation (max 2 marks)

Offers a valid judgement on which of these determinants of supply for an agricultural product, such as rice, is likely to be of the greatest significance at the present time (1) to reach a conclusion. (1)

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

13. up to 3 marks for AO1 Knowledge and understanding, up to 3 marks for AO2 Analysis, and up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

- An accurate demand (and supply) diagram/or 2 separate diagrams clearly demonstrating a movement and a shift (1). NB: it is not essential to show the supply curve or changing price and output.
- Explanation that a movement occurs due to a change in price (1) and that a shift occurs due to a change in a non-price factor (1).

AO2 Analysis (max 3 marks)

Candidates may analyse the impact on the demand for one good as a result of whether they are substitutes or complements of other goods (of any valid relationships between goods):

This will include an analysis of the **impact** on demand for one good because of e.g.:

- Price changes and the availability of complements (a negative value indicates a complement) e.g. a rise in the price of the complement would be expected to reduce the demand for the 'other good'.
- Price changes and the availability of substitutes (a positive value indicates a substitute) e.g. a rise in the price of the substitute would be expected to increase the demand for the 'other good'.
- For example, an increase in the price of a complement good is likely to reduce the demand of the good (1) due to the nature of the joint demand between both goods (1).
- For example, a rise in the price of a substitute good is likely to increase the demand for the other good (1) if the consumer now sees the other good as a direct replacement (1).

- **Note:** Diagrams are not essential.

Note: Maximum of 2 marks if only one relationship is analysed.

References to changes in income/fashion/tastes/attitudes **must not** be rewarded.

AO3 Evaluation (max 2 marks)

Up to 2 marks for considering the overall impact of these two factors depending on the size and values of the XED coefficients on the demand for one product (1) leading to a valid conclusion about the overall size of the impact of changes in the price of 'other goods' (1).

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

14. (a)

- Supply and demand diagram with correct axes and showing shift to the left of the supply curve (1).
- New equilibrium price and quantity (1).

Guidance: No explanation is required.

(b) Up to 3 marks for explanation/analysis of the gains to coffee bean producers:

- If the demand for coffee is price inelastic in demand, then coffee producers would be expected to gain (in terms of increased revenue).
- For example, increased revenue per lb. of coffee sold; increased funds available to invest and innovate in better methods of storing coffee beans in the event of future storms.

- Producers in Brazil and Vietnam and with existing stocks of coffee that survived the frost and storms would expect to increase their own sales at the expense of those rivals unable to produce a large enough yield of coffee.
- Similarly, producers in countries not affected by climatic problems should benefit from increased sales and revenue.

Up to 3 marks for explanation/analysis of the extent to which coffee bean producers will not gain:

- If the demand for coffee is price elastic in demand, then coffee producers would not be expected to gain (in terms of reduced revenue).
- For example, those producers unable to produce a sufficiently large enough yield may make losses which may ultimately result in business closures.
- Similarly, depending on the strength of the XED, total revenue may fall if the huge price increase in 2021 results in sufficient numbers of consumers switching their preferences to substitute goods e.g. tea.

Up to 3 marks maximum for each perspective, with an overall maximum of 4 marks.

Up to 2 marks for evaluation:

- That clearly considers whether or not coffee bean producers will gain from the huge increase in coffee bean prices in 2021.
- Comes to a reasoned conclusion as to whether advantages outweigh disadvantages or vice versa (reserve 1 mark)

Note: No mark for eval can be awarded if only one perspective considered.

(c) Up to 3 marks for explanation/analysis of potential benefits to economies of major producers:

- Rising coffee prices will result in higher taxes paid to governments which can be used to finance other internal projects – e.g. improvements to education and development of infrastructure and reduce a country's reliance on coffee bean production.
- This would not only lead to increased economic growth in the short term but also increase the potential for long run increased productive capacity through a more diversified economy.

Up to 3 marks for explanation/analysis of potential costs to economies of major producers:

- Unpredictability of coffee bean prices may reduce business confidence with producers preferring to save the higher revenues to cross-subsidise those time periods where prices have fallen.
- Therefore, increases in investment may be minimal and have an overall smaller contribution to economic growth. Time periods where coffee bean prices are low may result in business closures and lead to rises in unemployment within the industry and the wider economy.

Up to 3 marks maximum for each perspective, with an overall maximum of 4 marks.

Up to 2 marks for evaluation:

- That clearly considers both potential advantages and disadvantages of fluctuating coffee bean prices on the economies of major producers. For example, the relevance of the long-term nature of climate change (1).
- Comes to a reasoned conclusion as to whether advantages outweigh disadvantages or vice versa (1).

Note: No mark for eval can be awarded if only advantages or disadvantages are considered.

15. up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

For a clear understanding of consumer surplus i.e., the difference between the price a consumer is willing to pay for a product and its market price (1).

For a clear understanding of producer surplus i.e., the difference between the price a producer is willing to accept and what is actually paid (1). Both clearly shown on an accurately labelled diagram (s) (1)

AO2 Analysis (max 3 marks)

An accurately labelled diagram(s) showing a shift to the left in the supply curve (1) which explains and shows the extent of the change in consumer surplus for a product with an elastic price elasticity of demand (1) compared to a product with an inelastic price elasticity of demand (1)

AO3 Evaluation (max 2 marks)

Following suitable analysis of PED, it can be concluded that the overall impact is that consumer surplus will always fall (1) with a conclusion that the extent of the fall is dependent on the value of the price elasticity of demand (1).

AO1 Knowledge and understanding 3

AO2 Analysis 3

16. up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

The equilibrium point is where the quantity demanded equals the quantity supplied (1) and there is no tendency to change in a market (1) with an accurately labelled diagram showing the equilibrium price and equilibrium quantity (1)

AO2 Analysis (max 3 marks)

Note: there are two possible approaches to answering this question. If both the approach focused on demand-side (inferior and normal goods) and the supply-side approach are attempted, then only the best response should be marked including marks for evaluation.

EITHER:

The demand curve will be expected to shift in this situation. Whether it shifts to the left or to the right will depend on the nature of the product and will shift to the left if it is an inferior good or to the right if it is a normal good. This should be the basis of the discussion.

For an accurately labelled diagram demonstrating at least one of the appropriate shift(s) in the demand curve i.e., to the right and / or the left (1) that clearly shows the change in the equilibrium price and the equilibrium quantity for both a normal and inferior good (1) and is accompanied by a clear explanation of both shifts (1)

If only one shift (normal or inferior goods) is **explained**, then a maximum of **2 marks**.

Note: it is acceptable to use the same diagram for both knowledge and understanding and analysis

OR:

The supply curve will be expected to shift to the left in this situation.

For a fully accurately labelled diagram that is clearly micro based and focused on the impact on a single product (1) that is used to clearly explain the resulting change in the price depending on whether demand is price elastic or price inelastic) (1) and quantity supplied (depending on whether supply is price elastic or price inelastic/use of buffer stocks/ effect of improved productivity) (1)

AO3 Evaluation (max 2 marks)

EITHER:

The extent of the change will be determined by whether the good is a normal good or an inferior good / the value of PED / the value of YED / the value of PES / the size of the actual change in income. A discussion focused on **the extent** of change (1) followed by a justified conclusion (1)

OR:

The extent of the change will depend on the importance of wage costs to an individual firm / the significance of PES (1) A discussion focused on the extent of change followed by a justified conclusion (1)

AO1 Knowledge and understanding 3

AO2 Analysis 3

17. (a)

Extrapolation of data (1)

Calculation of percentage change (1)

Guidance:

Data: 2011 cUSm 5500 2019 cUSm 7500

% change is $2000/5500 \times 100\% = 36\%$ (accept 35–38%)

(b)

- More workers working from home (1)
- This has led to less employees in city centres, therefore less demand for doughnuts (1)
- Shopping trips have been less frequent and therefore less demand for doughnuts (1)

Maximum 2 marks

18.

(a) up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2

Analysis

up to 2 marks for AO3 Evaluation.

AO1 Knowledge and Understanding (max 3 marks)

Knowledge of what is meant by income elasticity of demand (1)

Formula for calculation of income elasticity of demand (1)

Meaning of elastic/inelastic income elasticity of demand (1)

AO2 Analysis (max 3 marks)

Analysis of the significance of the size and sign of the coefficient for normal goods with relevant examples (1)

Analysis of the significance of the size and sign of the coefficient for necessity goods with relevant examples (1)

Analysis of the significance of the size and sign of the coefficient for inferior goods with relevant examples (1)

Analysis of the significance of the size and sign of the coefficient for superior goods with relevant examples (1)

**Award maximum of 1 mark for two types of good but with no examples.
Award maximum of 2 marks for three types of good but with no examples.**

AO3 Evaluation (max 2 marks)

For a brief comment such as

- Classification is dependent on income level of individual/household in case of inferior goods or necessities or superior goods
- A necessity for a low-income household could be a normal good for another household
- YED is an estimate calculated over separate time periods
- Reserve 1 mark for a justified conclusion

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

(b) AO1 and AO2 out of 8 marks. AO3 out of 4 marks.

Indicative content

Responses may include

AO1 Knowledge and understanding and AO2 Analysis (max 8 marks)

- Knowledge and understanding of consumer surplus
- Accurate labelled diagram of consumer surplus
- Explanation of effects on consumer surplus when the price of a product increases
- Explanation of the effects on consumer surplus when the price of a product decreases
- Explanation of the change in consumer surplus for a product with a price elastic PED
- Explanation of the change in consumer surplus for a product with a price inelastic PED
- Comparison of changes in consumer surplus where there are variations in the PED for a product

Level 2 max for 1 sided answers i.e. those that analyse the impact of elastic or inelastic PED

AO3 Evaluation (max 4 marks)

- Change in consumer surplus depends on the relative extent of the price change
- Change in consumer surplus also depends on the coefficient of PED

- It is assumed that a price change is the only factor that determines a change in consumer demand for a product

A one-sided response cannot gain any marks for evaluation.

AO1 Knowledge and understanding and AO2 Analysis 8

AO3 Evaluation 4

19. up to 3 marks for AO1 Knowledge and understanding up to 3 marks for AO2 Analysis
up to 2 marks for AO3 Evaluation.

AO1 Knowledge and understanding (max 3 marks)

An understanding of the demand for a product, shown through an accurate diagram, with correctly labelled axes (1), correctly labelled demand and supply curves and a correctly labelled shift of the demand curve to the right (1) and with equilibrium positions in terms of both price and quantity clearly shown or a movement from E1 to E2. (1)

AO2 Analysis (max 3 marks)

Uses the diagram to explain what could cause a shift of the demand curve to the right for a product and analyses the causes of an increase in demand for a product.

AO3 Evaluation (max 2 marks)

Offers a valid judgement on whether the impact of an increase in demand on the price of the product will be the same in the short run and long run (1) to reach a conclusion. (1)

AO1 Knowledge and understanding 3

AO2 Analysis 3

AO3 Evaluation 2

20. (a)

- For an answer which clearly states the change is -57.4% (2)
- For an answer that simply states a change of 57.4% (1) and indicates this is a fall/decrease in the average real global price of oil (1)
- For an answer that states the price has fallen and does not provide an accurate figure (1 maximum)

Guidance

Allow figures between 57% and 58%.

Do not accept a negative value unless the answer is within -57% and -58%

(b) The pandemic/increased demand for electric cars led to a fall in demand for oil products (1) so the demand curve shifted to the left/this led to a surplus so producers were forced to reduce prices to sell (1).

(c) The shortage of lithium may be caused by a fall in its supply or an increase in its demand (not matched by an increase in its supply). For an accurate supply and demand diagram showing the effect on the price of lithium and/or the price of electric cars due to either of these changes (1) explaining that this will add to the cost of production of electric cars (1) and therefore increase the price of electric cars (1).

IF an accurate supply and demand diagram is drawn to illustrate the increase in the price of electric cars without any reference to the price of lithium and its importance as a cost of production then **1 mark MAX.**

Clearly there are several potential valid policies, but these must clearly address the problems identified in the data i.e., a worldwide shortage in the supply of lithium needed for car batteries in electric vehicles. Evaluation must therefore focus on increasing the supply of lithium and not electric cars and methods may include:

- R and D into alternative raw materials other than lithium or improve its extraction
- Tax and subsidy incentives to increase R and D
- Tax and subsidy incentives to increase the number of lithium mines.

Identify and explain valid policy and briefly explain how that this might overcome the problem of a lack of lithium (1)

Guidance

Any valid way should be rewarded but it must clearly relate to the problems identified in the data and explain how the problem may be overcome for full

marks