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June 2023

International Advanced Level Economics WEC11 01

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Introduction

The standard of work seen in this series for the Markets in Action unit has been impressive.

In Section A, the multiple choice section, candidates performed best on the questions on private goods, price elasticity of demand and rational decision making. Candidates struggled more on the questions on cross elasticity of demand and consumer surplus.

Section B, the short answer section, saw some mixed performance on questions. For Question 7, the diagram saw most able to draw supply and demand with the correct leftward shift of supply. On Question 8 many accessed marks but too often the definitions were imprecise for market failure or government failure. On Question 9 most focused on moral hazard, but this is not a cause of unnecessary operations but necessary ones as more risks are taken. Question 10 saw most able to calculate the income elasticity of demand. Question 11 saw most able to draw the correct diagram and identify the areas of producer surplus although many missed the definition mark.

Section C, the data response section is based on information provided in the Source Booklet, in this paper on the market for renewables, lithium and smartphones. Candidates could typically access at least one mark on Question 12(a) to show knowledge of supply. Question 12(b) needed candidates to explain the advantages of Apple using renewable resources. Most could define renewable resources and identify the advantage, but struggled more to give explicit examples from the Extract of Apple's use of renewables. Question 12(c) saw most candidates able to correctly draw the diagram to show demand increasing and supply increasing by less. They also accessed application marks by referring to the price change. Most gave two correct reasons for the price rise. On Question 12(d), it is important to explicitly identify the two likely effects. On Question 12(e), candidates looked at external costs from smartphone manufacturing. Most could define external costs and accurately draw the diagram. Those able to achieve a higher score used their diagram in the analysis.

Section D, the essay section, offered candidates the opportunity to choose between two questions. The section was more demanding and this is reflected in the mean scores on both questions. Candidates tended to attempt Question 14 and typically performed better on this question on intervention to reduce the impact of commodity price rises. Question 13 on methods of intervention to reduce traffic was less popular and had a slightly lower mean score. In both cases, the knowledge of the Economics was sound but candidates struggled in applying it to the context of the question. Another challenge was the level of analysis. Candidates often struggled to fully develop the chain of reasoning. Evaluative comments were often made and whilst some offered supporting evidence and linked to the context, many were unable to offer a logical chain of reasoning. Diagrammatic analysis on the work from the stronger candidates was accurate and was integrated with their written analysis. They would not only draw the diagram accurately, but talk about what they learnt from it in their written explanation. This enabled them to consistently achieve within the top level.

Most candidates were able to complete the paper in the time available. We did, however, see several unfinished or very brief essays suggesting that some candidates had not planned their time well. The performance on individual questions is considered in the next section of the report. The feedback on questions shows how questions were well answered and also how to improve further.

Question 7

The questioned asked candidates to draw a diagram. Still many offered a supporting commentary with their response, but all marks were awarded for the content of the diagram.

Candidates were told that Spain's production of olives fell following a heatwave from 1.4 million tonnes to 1.0 million tonnes. Most correctly drew the original supply and demand with equilibrium price and quantity to access the first two marks. The third mark was for shifting supply correctly to the left. The final mark was for the new higher equilibrium price and lower equilibrium quantity.

It was pleasing that the vast majority were able to access full marks on this question.

Where errors were made, it tended to be where students forgot to label the equilibria or curves.

Candidates needed to make the connection that the heatwave has resulted in a poor harvest and lower supply.

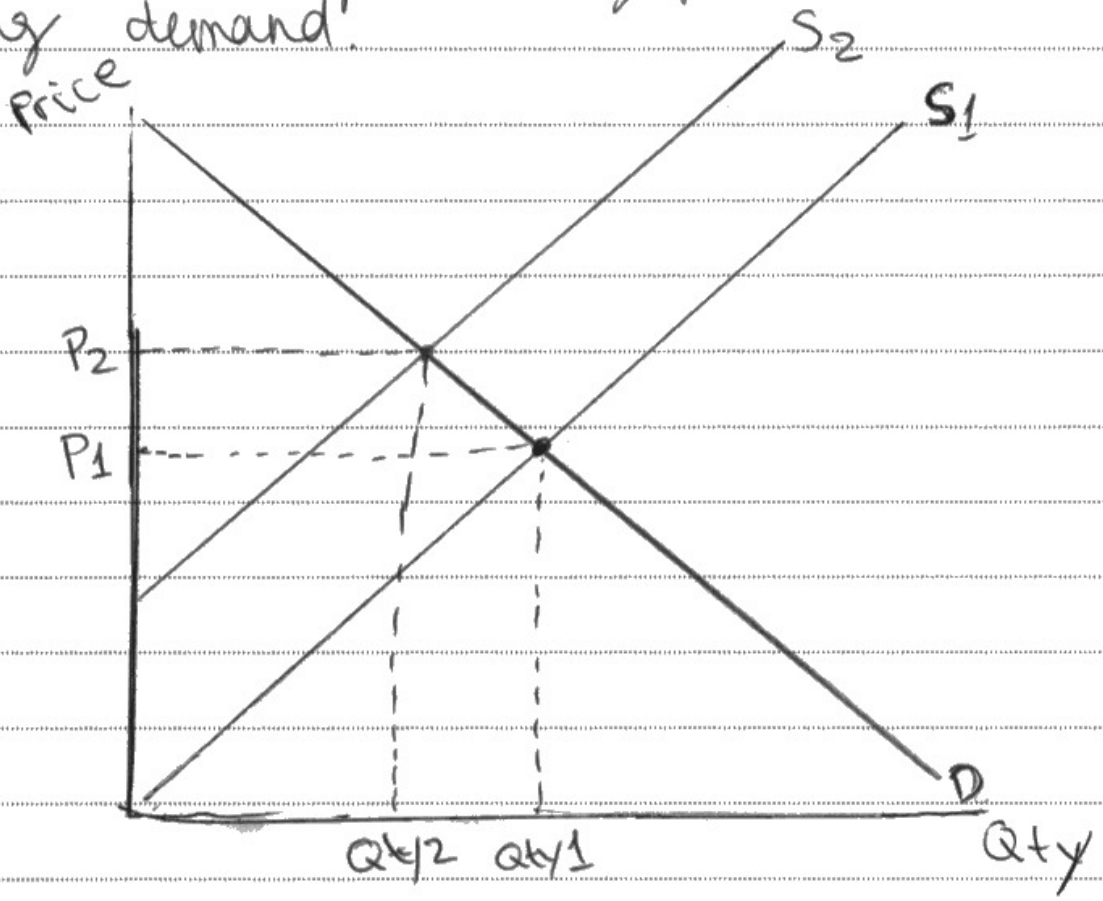
Most could do this and correctly drew a supply and demand diagram. A small number of PPFs were also attempted, but were not rewarded as the question asked them to look at the impact of the change on the market for olives only.

7 In 2021 Spain produced 1.4 million tonnes of olives, accounting for 50% of world production. In 2022 a prolonged heatwave in Spain resulted in its olive production falling to 1.0 million tonnes.

Draw a diagram to illustrate the likely impact of this change on the world market for olives.

(4)

Because of the olive production falling from 1.4 million tonnes to 1.0 million tonnes, the quantity producers where able to supply decreased therefore causing prices to rise and decreasing demand.



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Examiner Comments

This response has the original supply and demand curve – D and S1 to gain the first mark.

The second mark is awarded for the equilibrium price, P1 and equilibrium quantity, Q1.

The candidate has correctly shifted supply to the left to S2 for the third mark.

The final mark is awarded for the new equilibrium price, P2 and equilibrium quantity, Q2.

ResultsPlus
Examiner Tip

When drawing the diagram it is worth drawing arrows to show the direction of movement in case, during exam conditions, labels are missed.

Question 8

Explain the difference questions require two definitions and two examples.

On this question, a definition of market failure and government failure were needed for the two knowledge marks. The appropriate examples from the stem then needed matching to the type of failure for the final two marks. Public goods needed identifying as the market failure and excessive paperwork and administration costs as the government failure.

The definitions were often imprecise and extra attention is needed to ensure that these are accurate. Too many candidates dropped a mark by identifying the government not providing public goods as the government failure. It is the free rider problem resulting in the private sector not providing the goods due to the lack of the profit incentive which results in the underprovision.

The question was found to be more challenging than expected as the definitions were too imprecise.

Too many referred to market failure as when the market fails and government failure when the government fails which are not precise enough.

8 Between 1970 and 2020 the Maldives experienced 30 major flood events. One contributing factor was under-investment in flood defences.

Builders of new hotels are required to complete extensive paperwork to show how they plan to minimise flood risk. This results in excessive administrative costs.

With reference to the Maldives, explain the difference between 'market failure' and 'government failure'.

Market failure is when the market fails to efficiently allocate goods and services leading to a net welfare loss.

An example of market failure in Maldives is the under-investement in flood defences.

Government failure is when the government intervenes to correct a market failure but it leads to a net welfare loss.

An example of government failure in Maldives is the excessive administrative costs.

ResultsPlus
Examiner Comments

Both definition marks are awarded here.

The candidate has defined market failure making reference to failing to efficiently allocate resources. Government failure makes references to a net welfare loss. They have then gone on to give the example of the market failure – the underprovision of public goods and the government failure the excessive administration costs.

Full marks awarded.

ResultsPlus
Examiner Tip

The underprovision of public goods is an example of market failure.

Question 9

This question was challenging for many. The question explores why there are unnecessary operations in the USA.

The intention was for candidates to pick up on information gaps. That is that the patient and doctor have different levels of information. The doctor has superior knowledge than the patient. The issue is that the doctor may use this gap to recommend operations that were not necessary; this is in order to gain financially. However, it was very rare to see reference to information gaps or asymmetric information. Most referred to moral hazard. The argument presented was that the insured would take more risks as the costs were experienced by the insurer. Unfortunately, when they take more risks and experience accidents and injuries the operations are now necessary. This moral hazard was not rewardable. Few gained the knowledge mark as they incorrectly defined moral hazard. Most gained a mark by using the stem to identify the $200 billion per year spent on unnecessary operations. A number gained a mark by articulating that the presence of insurance means some people might seek operations they do not really need as someone else is paying.

This candidate has gained just 1 mark.

This is for reference to the $200 billion. No credit is given for defining moral hazard.

9 In the USA 92% of people had private health insurance in 2021. It is estimated that, in the USA, $200 billion per year is spent on unnecessary operations.

Explain **one** microeconomic reason why people might have unnecessary operations in the USA.

A moral hazard is when consumers take risks knowing someone else will have to bare the cost of the risk.

The 92% of people in the USA knew they were insured, so the insurer had to bare the costs of them having unnecessary operations, which were estimated to cost $200 billion per year.

ResultsPlus
Examiner Comments

Moral hazard explains why people take risky behaviour and may result in more operations, not unnecessary operations.

ResultsPlus
Examiner Tip

Where data is given in the stem, this is often a useful way to access any available application marks.

This candidate has achieved full marks.

They start by explaining that the seller (doctor) has more information than the buyer (patient) to gain the first mark.

They gain the second mark when they talk about exploiting naivety to perform unwarranted operations.

The third mark is awarded for reference to the $200 billion per year from the stem.

The final mark is for explaining that the patient has not been to medical school, so the doctor overplays the sickness.

9 In the USA 92% of people had private health insurance in 2021. It is estimated that, in the USA, $200 billion per year is spent on unnecessary operations.

Explain **one** microeconomic reason why people might have unnecessary operations in the USA.

The case of assymetric information. This is where either the buyer or seller in this case the seller (doctors) have more information than the other party (patients). This allows doctor's to therefore exploit their patients naivety and increase the amount they earn by performing unwoorranted operations, which then results in the $200 billion ~~increased~~ per year. Doctors know patient's haven't been through medical school and so they are able to overplay the patient's sickness causing fear and willingness to do anything to get back to normal and so doctors are then able to cause the $200 billion dollars spent on operation alone.

ResultsPlus
Examiner Comments

The response is well applied to the context of the question.

ResultsPlus
Examiner Tip

No mark was available for reference to the 92% as the question focused on the unnecessary operations, so the data reference needed to refer to the $200 billion.

Question 10

Nearly two thirds of candidates pleasingly were able to access full marks on this question.

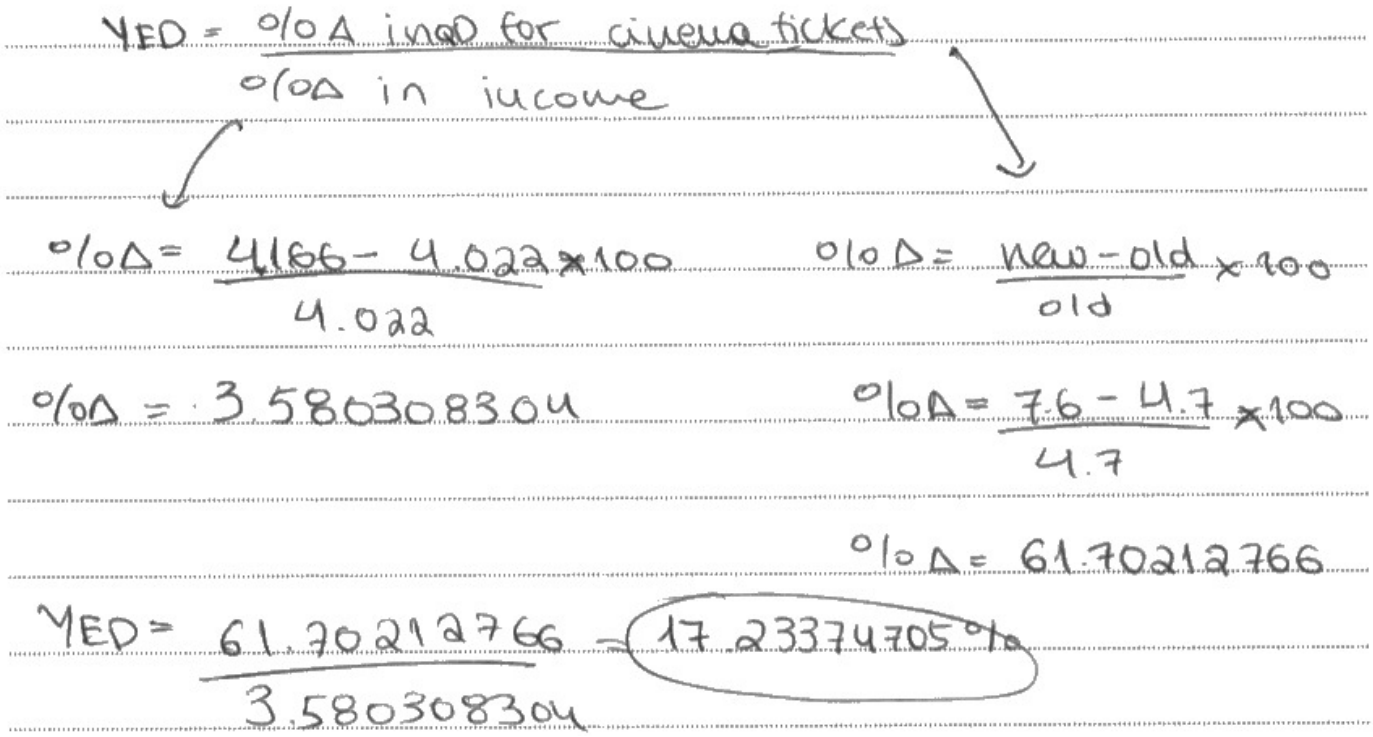
Candidates needed to use given data to calculate the income elasticity of demand. Most offered the formula calculated each percentage change before showing the correct value for income elasticity of demand. If only the correct value was shown, they gained full marks. A significant number were still following the formula with the new and original values in the appropriate formula without calculating the actual percentage change. This is fine when the answer is correct as they still gain full marks. However, when they put the two values the wrong way round, they only gain the formula mark.

The candidate has been methodical in showing their workings. This is useful in case the final answer is incorrect. They have included the formula and then calculated the percentage change in quantity demanded and income. Each has been written out in full.

10 The table shows average household income per month in Singapore and the total quantity of cinema tickets purchased by its citizens in 2020 and 2021.

Year	Average household income	Quantity of cinema tickets
2020	S$4022	4.7 million
2021	S$4166	7.6 million

Ceteris paribus, calculate the income elasticity of demand for cinema tickets. Show your working.



ResultsPlus
Examiner Comments

As can be seen, the full answer is written but unfortunately with a percentage sign at the end.

Income elasticity of demand values do not have a percentage sign, so the candidate achieved 3 marks only.

ResultsPlus
Examiner Tip

The percentage signs go after the percentage changes in quantity demanded and income not after the YED value.

Here we have another candidate that benefits from being methodical in presenting the calculations.

The answer of 0.058 is incorrect so they cannot achieve the full 4 marks.

However, they have the correct formula for income elasticity of demand. They have calculated the correct values for the percentage change in quantity demanded and income, 71.7% and 3.58% respectively, so have been awarded one mark for each. The error is in the last stage where the two have been placed in the formula the wrong way round.

10 The table shows average household income per month in Singapore and the total quantity of cinema tickets purchased by its citizens in 2020 and 2021.

Year	Average household income	Quantity of cinema tickets
2020	S$ 4 022	4.7 million
2021	S$ 4 166	7.6 million

(Source: adapted from https://www.statista.com/statistics/199983/us-vehicle-sales-since-1951/ and https://dqydj.com/individual-income-by-year/#:~:text=Average%20Individual%20Income%20by%20Year%20%20%20Year,%20%20%2463%2C214.03%20%2056%20more%20rows%20)

Ceteris paribus, calculate the income elasticity of demand for cinema tickets.
Show your working.

Income elasticity of demand = percentage change in quantity demanded / percentage change in ~~price~~ income

$= \dfrac{\frac{4166-4022}{4022} \times 100\%}{\frac{7.6-4.7}{4.7} \times 100\%}$

$= \dfrac{3.58\%}{61.7\%}$

$= 0.058$

ResultsPlus
Examiner Comments

This was a common mistake. It is worth looking at the data which shows a large change in quantity, but a much smaller change in income which suggests it is highly income elastic which should get candidates to question when they get a highly inelastic figure.

ResultsPlus
Examiner Tip

This candidate has rounded the intermediate calculations to 1 decimal place which is perfectly acceptable.

Question 11

The stem shared data on visitor numbers to Legoland theme parks globally. It shows a reduction in visitor numbers from 15.7 million to 9.4 million.

Candidates need to explain the likely impact of the change in visitor numbers on the producer surplus for Legoland. A diagram is requested. Most drew this diagram showing a leftward shift of demand. This gained one mark. The next mark was for identifying the original producer surplus and the new producer surplus. The mark often missed off was for failure to define producer surplus.

This candidate has achieved full marks.

The diagram is accurate for 1 mark.

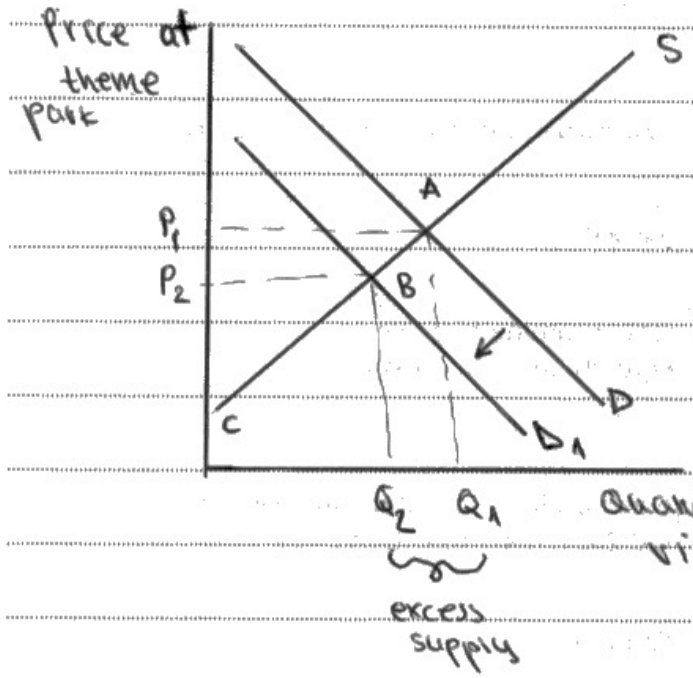
They annotate the original and new producer surplus areas to gain 2 marks.

The final mark is for defining producer surplus accurately.

11 In 2019 there were 15.7 million visitors to Legoland's eight theme parks globally. In 2021 this number decreased to 9.4 million.

Ceteris paribus, explain the likely impact of this decrease in visitor numbers on the producer surplus for Legoland.

Illustrate your answer with an appropriate diagram.



→ P_1AC was the original producer surplus

→ Producer surplus fell ~~decreased~~ to P_2BC

→ Producer surplus is the difference between the price producers are willing to sell at and the price they sell at.

→ Quantity of visitors fell from 15.7 million to 9.4million

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Examiner Comments

Some candidates just identified the reduction in producer surplus which was sufficient to gain both marks related to the area of producer surplus.

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Examiner Tip

When asked to explain the impact on producer surplus, it is useful to explain whether they have increased or decreased.

Question 12 (a)

Candidates were asked to define supply.

Most candidates could make reference to the amount or quantity produced for one mark. Fewer were able to link this to being at a given price or time period. Another way to access one mark was to make reference to Extract A and that the global supply of energy produced from renewable resources is expected to increase by 8% in 2022.

This candidate has made reference to the quantity producers are willing and able to produce for 1 mark.

The second mark is awarded for at a given price.

There is also an additional mark awarded for reference to the data.

The candidate therefore achieves the maximum available – 2 marks.

12 (a) Define the term 'supply' (Extract A, line 8).

(2)

Supply refers to the quantity that ~~some~~ producers are willing and able to produce at a given price. The global supply of energy from renewable resources is expected to rise by 8% in 2022.

ResultsPlus
Examiner Comments

Too many said that supply was the amount supplied. It is much better to make reference to the quantity or amount produced, manufactured or grown.

ResultsPlus
Examiner Tip

Remember that always on 12(a), there is a mark available for reference to the data.

Question 12 (b)

Candidates were given information on how Apple produces its energy using renewable resources and how its suppliers are increasingly doing so.

The first mark was for defining renewable resources. Most could do this, often making reference to being able to produce the energy again and again, that the resource is infinite or will not run out. The second mark was for giving the advantage. Most made reference to reducing external costs associated with the non-renewable resources and others focused on lowering costs. The other two marks were for explicitly making reference to Extract A and how Apple used renewable resources. The majority made reference to the fact that 100% of the energy used directly by Apple was renewable and that 213 of its suppliers have agreed to use renewable energy. Reference was also made to the solar project in Texas, data centre in Denmark using solar power and wind farm being used by Keiwa.

This candidate has gained full marks.

(b) With reference to Extract A, explain **one** advantage of Apple using energy produced from renewable resources.

Renewable resources are those which can replace themselves, unlimited usually, and won't run out while being used. In 2020 100% of energy used by Apple was from renewable resources. By installing wind farms and investing in solar project in Texas, Apple is minimising the use of non-renewable resources, which is likely to result in increase of supply of energy from renewable resources up to 8% in 2020. That will decrease damage to the environment as, for instance, coal will be replaced with sun and wind, which is eco-friendly and won't run out.

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The first mark was awarded for defining renewable resources with reference to that it can replace itself and it won't run out.

The second mark was awarded for making reference to 100% of energy used by Apple being renewable.

The third mark was for reference to the solar project in Texas.

The final mark was awarded for the advantage, which is that it minimises the use of non-renewable resources and makes reference to this being eco-friendly.

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When giving examples of renewable resources, these needed to be taken from Extract A.

This is a very common response where the definition of renewable resources is accurate and the advantage is offered, but the application marks are not awarded.

(b) With reference to Extract A, explain **one** advantage of Apple using energy produced from renewable resources.

(4)

Renewable sources are infinite and will never run out, for example, solar or wind energy. This way of getting energy is less harmful to the environment as it doesn't release ~~as~~ toxic gases that pollute ~~the~~ which are released during use of non-renewable energy sources like oil.

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Examiner Comments

The first mark is awarded for defining renewable resources, by making reference to it being infinite and never running out.

The second mark is for reference to renewables being less harmful to the environment as less toxic gases are released.

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Examiner Tip

Solar and wind were identified, but the response required specific reference to the information such as reference to the projects where renewables were being used.

Question 12 (c)

Candidates needed to analyse two reasons why the world price of lithium increased by 191%.

The first mark was available for drawing the original supply demand and equilibrium. The next mark was available for correctly shifting demand to the right. The next mark was for shifting supply to the left, but by a smaller amount than the shift in demand. The fourth mark was only awarded when the new equilibrium price was drawn higher than the original price. Where a candidate only shifted demand, they could gain the second application mark for making reference to the original and new price using Figure 1. The final two marks were for offering the two reasons. The reasons accepted included supply increasing by 20%, but demand increasing by more; people switching from petrol and diesel to electric cars and the growth in smartphone use.

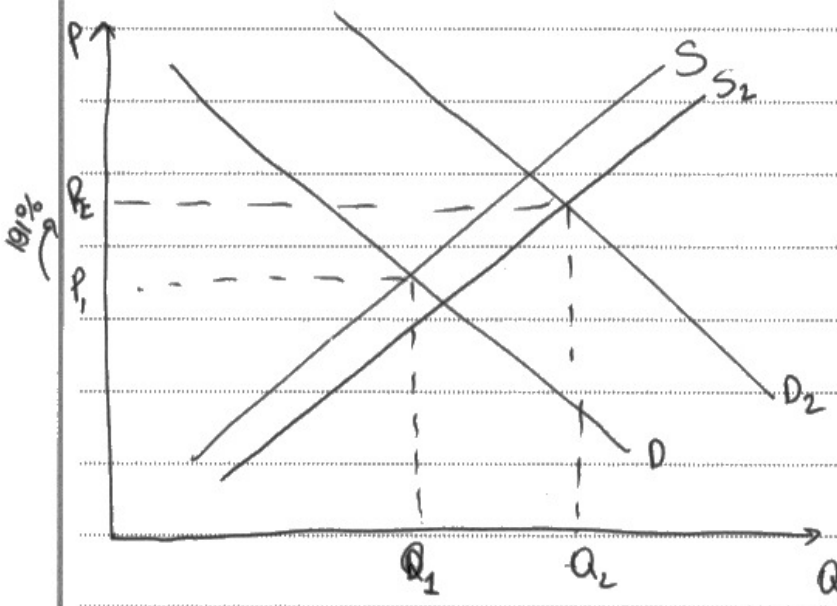
This candidate has achieved full marks. 4 for the diagram and 2 for the reasons.

(c) With reference to Figure 1 and Extract B, analyse **two** reasons why the 'world price of lithium increased by 191%' (Extract B, line 2).

Illustrate your answer with a supply and demand diagram.

(6)

According to Figure 1, between Oct 2021 and Oct 2022, the world price of lithium increased constantly from below 200 000 yuan per tonne to over 500 000 yuan per tonne.



One reason for this would be the rising oil prices which led consumers to demand more substitutes like electric cars by 108% globally which use lithium in their batteries. So since demand for ele batteries of electric cars increased, so did demand for lithium

Another reason would be the increase in demand for lithium as a ~~raw mat~~ resource in the production of smartphones. Following a 11.4% growth in 2021, lithium is more demandeol to produce that additional quantity of smartphones.

ResultsPlus
Examiner Comments

The first mark on the diagram was for showing the original supply and demand and equilibrium price and quantity.

The second mark was for shifting demand to the right and the third for shifting supply to the left.

The fourth mark was for the final equilibrium showing the price rise. The reference to the data in terms of the price change between October 2021 and October 2022 would gain a mark for application. This was already awarded for the diagram. The first reason given was the link to oil prices and people switching to electric cars. The second reason given linked to the increased production of smartphones.

ResultsPlus
Examiner Tip

It is useful that the candidate has drawn the arrow to show the increase in price.

This candidate has also been able to access full marks.

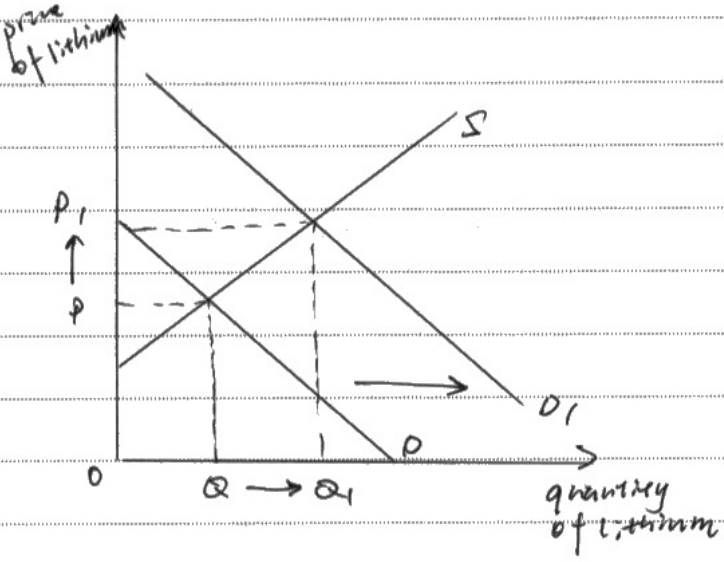
They have not shifted both curves, but have shown the price increase. The shift of the second curve is replaced with reference to Figure 1.

(c) With reference to Figure 1 and Extract B, analyse two reasons why the 'world price of lithium increased by 191%' (Extract B, line 2).

Illustrate your answer with a supply and demand diagram.

(6)

As the world price of lithium increased from 170,000 in Oct. 2021 to 510,000 in Oct. 2022. by 191%.



As the demand of electric vehicles is then requires lithium increased. ~~the demand of lithium also increased~~. the increase in sales ~~from~~ by 105% to 6.75 million caused significant increase in demand of lithium.

The sales of smartphones use lithium batteries increased by 11.4% in 2010 to 1.5 million. which contributed the increase demand of lithium.

Both above caused the rightward shift of Demand Curve from D to D1. Which led the equilibrium price increased from P to P1.

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Examiner Comments

The first mark is for reference to explicit numbers taken from Figure 1.

The diagram gains 3 marks.

The two reasons are also offered related to increase in electric car sales and for the sales of smartphones.

ResultsPlus
Examiner Tip

When making reference to data, candidates should include the relevant currency.

Question 12 (d)

The question asked candidates to refer to the last paragraph of Extract C.

The candidates needed to examine two likely effects on smartphone manufacturers of the growth in the market for refurbished phones. A number made no reference to the last paragraph and instead focused an answer on external costs which did not answer the question. The best responses identified that for manufacturers of new smartphones, the refurbished smartphones were a substitute. Thus, the demand for new smartphones may fall, reducing demand, price, quantity and producer surplus. There was some strong diagrammatic analysis provided to illustrate this. One acceptable approach was to investigate if the manufacturers of new smartphones could themselves exploit this new market. The most common application marks achieved were by referring to the $65 billion size of the market and the consumer being able to sell for 50% of the value and the manufacturer for 80% of the value of a new device.

Evaluation was the most under-developed aspect of these responses. Better candidates made reference to the refurbished market being much smaller than new devices, questions about quality and the inelasticity of the demand for new smartphones.

This response has achieved 7/8.

(d) With reference to the last paragraph of Extract C, examine **two** likely effects on smartphone manufacturer of the growth in the market for refurbished smartphones.

(8)

According to the Extract C, the market of Smartphones that have been refurbished is forecast to be worth $65 billion by 2024.

As the Smartphone manufacturers producing phones more expensive and refurbished Smartphones are cheaper, the consumers tend to buy the cheaper one to maximise the utility. So the demand of Smartphone in manufacturer decrease as the refurbished Smartphones is a substitute of Smartphone in manufacturer. Substitute have a positive XED and with the price of Smartphone manufacturer increase, the demand for refurbished Smartphones decrease.

The effect will be less profits is gained by Smartphone manufacturer, this could result in more workers in manufacter become unemployed.

Also, the productivity of the Smartphone manufacturer decrease as they can no long afford the cost of production.

However, people with higher income may not choose to use the refurbished Smartphones as the price of Smartphones only takes small percentage in their wages.

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First mark for application to Extract C referring to the $65 billion value of the market.

Second mark for knowledge with reference to consumers switching to cheaper alternatives.

Third mark for developing this and referring to demand for smartphones decreasing.

The fourth mark is for knowledge of the second effect in terms of less profits gained.

The fifth mark for development of this with more workers becoming unemployed.

The sixth and seventh marks are awarded for the evaluation. People with higher income may not buy refurbished smartphones as it is a small proportion of their wages.

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On 8-mark 'examine' questions, there are always 2 marks for application, so try to use two bits of information from the data.

Question 12 (e)

The final question on the Data Response section required candidates to discuss the effects of the increase in smartphone manufacturing.

Candidates needed to make reference to external costs in the answer. The response also needed the inclusion of an externalities diagram. Most were able to accurately define external costs by referring to negative impacts on third parties. Many included the diagram with better candidates drawing it accurately with added features such as the welfare loss triangle. Whilst most made reference to the sources of external costs, many failed to explain the impact on the third parties. Better responses were able to link the 146 million tonnes of CO2 to the impact on the greenhouse effect and global warming. Many were able to link the impact of this in terms of flooding, for example. They also often referred to the waste from extracting metals and considered the impact on the local community and wildlife.

Evaluation often focused on the fact this makes up 0.5% of global emissions with this being argued to be a small or significant amount depending on the candidates' perspective. Others focused on the difficulty in measuring the external costs or on the external benefits from the manufacturing of smartphones.

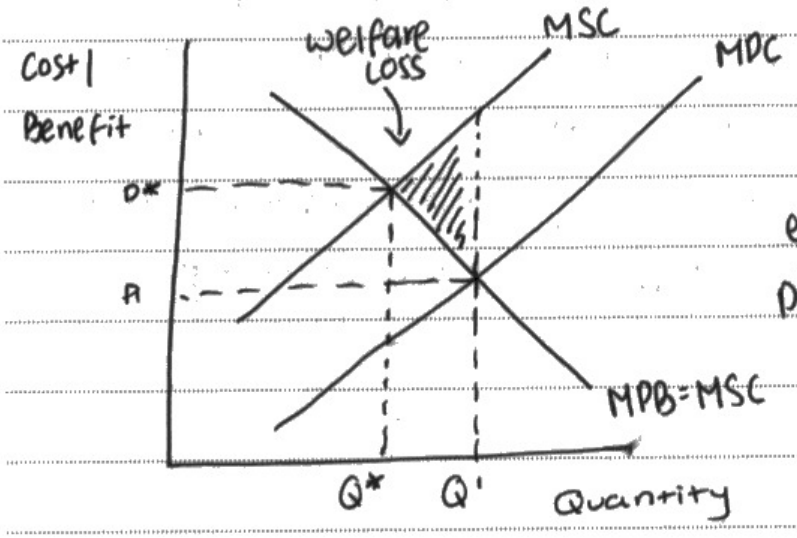
This response scored 12/14.

(e) With reference to Extract C, discuss the microeconomic effects of the increase in smartphone manufacturing between 2011 and 2021. Refer to external costs in your answer.

Illustrate your answer with an externalities diagram.

(14)

As a result of the increase in the production of smartphones, the amount of waste and pollution that is being produced has increased which has caused a negative externality of production.



externalities refer to the 'spill over' effect upon third parties as a result of the production / consumption of a product.

Q* represents the socially optimal level of output which maximize social welfare and the shaded region represents the welfare loss. The environmental cost of smartphone production is said to be significant and it causes things like deforestation which destroys the habitats of other living organisms which could result in animals migrating to areas that are inhabited by humans which could potentially be very dangerous for the members of society.

Another effect could be the opportunity cost presented by the production of smartphones. opportunity cost is the benefit lost from not choosing the next best alternative. we are told that the device contain several precions and rare earth metals which could be used to produce something that could benefit socielty even more.

Another effect would be an increase in the amount of greenhouse gases produced.. We are told that in 2022, smartphones produced 146 million tonnes of CO2. These emmissions are produced in the processes of manufacturing, transportation and usage of smartphones. Green house gases are very harmful both to us and our external environment and are the main cause of global warming. As well as that, the fact that the production process of smartphones causes so much pollution means that its risking the living standards of the future generations.

However, we must evaluate the magnitude of the level of pollution that's being produced. we are told that the CO2 emmissions procuced by the manufacturing of

smartwatches accounts for only 0.5% of global carbon emmissions - that's a considerably small amount. As well as that, we don't know how much deforestation is happening and so we can't say how damaging it is.

Another thing is, we need to evaluate the size of the opportunity cost. Smartphones are arguably the most important things to have ~~e~~ in the 21st century. what other 'more important/useful products could be produced with those 'precious resources?'.

ResultsPlus
Examiner Comments

The candidate defines external costs as the spillover effect from third parties as a result of production which is an acceptable definition.

The diagram is drawn accurately with MSC above MPC and the social optimum clearly labelled and referred to in the write up. The area of welfare loss is also shaded accurately. When the external costs are identified, these are linked to the costs to the third party. For example, deforestation is linked to the loss of habitats pushing them into areas where humans live. Greenhouse gases are linked to global warming. Knowledge, application and analysis is in Level 3.

Evaluation is also offered. Firstly by linking to magnitude, linked to the 0.5%. Similarly they talk about the importance of smartphones, questioning whether another resource would be as important. The evaluation points are made, and are in context, with the development of the points perhaps needing more detail to be able to access full marks.

ResultsPlus
Examiner Tip

When drawing diagrams in the essay, it is important to integrate these into the write up by explicitly making reference to details in the diagram in the write up.

Question 13

This series, the two essays focused on methods of intervention. One focused on resolving traffic congestion and the other on limiting the impact of increasing commodity prices.

Just over a third of candidates selected the first of the two essays. The stem explained that commuters in Bursa, Turkey, spent an average 82 hours in traffic congestion in 2021. Candidates then needed to evaluate methods of intervention that the Turkish Government could introduce to reduce traffic congestion. Candidates were asked to include a diagram in their answer. Many talked about more than one policy and included a relevant diagram with each.

A common issue is that candidates were trying to talk about too many methods of intervention. In doing so, the work often lacked the detail and the chains of reasoning are underdeveloped. It would be better to talk about two interventions in detail.

On this question, many talked about discouraging the use of cars. Often indirect taxes on cars and fuel were proposed. Many also looked at the promotion of public transport with many focusing on subsidies. A third area of focus was on investment in infrastructure to improve transport links.

The candidate has started by looking at indirect taxes and defines this accurately.

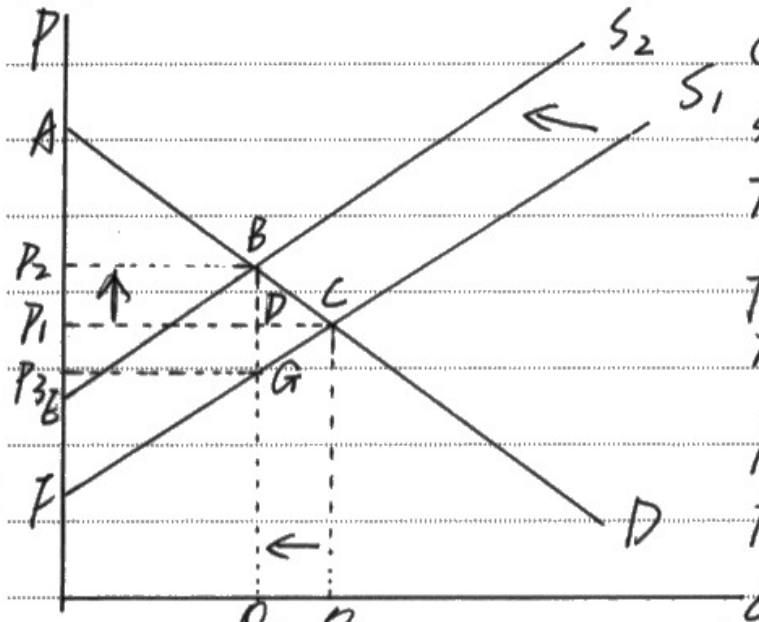
They then draw a diagram accurately labelling areas of incidence and surpluses. They then work through methodically looking at the impact on producer, consumer, government and explicitly refer to the relevant areas on the diagram.

Whilst there is excellent understanding and analysis, the application is added later in the section. The candidate then looks at subsidies. Again an accurate definition, diagram and focus on different economic agents is followed by a focus on the context.

The final section is evaluation. They look at measurement and the difficulty to decide the correct level of tax or subsidy. Opportunity costs linked to subsidies are discussed. Government failure is also introduced.

The evaluation is Level 2 and in places could be further developed. The knowledge, application and analysis is in Level 3.

①Indirect taxes are taxes levied on spending.



(1) Producers: The price producers sell increases from P_1 to P_2. The producer surplus decreases from P_1CF to P_2B_2. The producer incidence is P_1DGP_3. The profit producers can gain decreases from $P_1 \times Q_1$ to $P_2 \times Q_2$.

(2) Consumers: The price consumers buy increases from P_1 to P_2, the quantity bought decreases from Q_1 to Q_2. Consumer surplus decreases from AP_1C to AP_2B. The consumer incidence is P_2BDP_1.

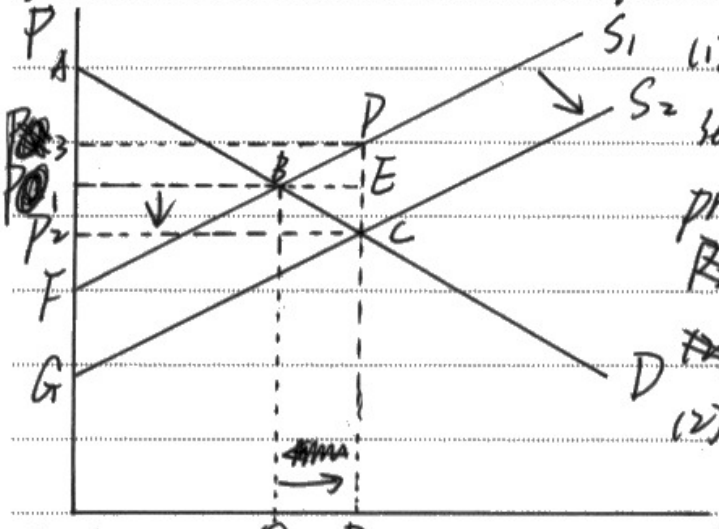
(3) Government: Total tax revenue government received is P_2BGP_3.

~~Fact~~ Commuters in Bursa, Turkey, spent an average of 82 hours in traffic congestion in 2021. This was a 7% increase compared with 2019. Turkish Government can introduce indirect tax on cars. So that because the price of cars increases, consumers will be unwilling to buy cars, so that the number of cars will decrease in the road, so that the congestion problem can be eased.

By introducing indirect tax, the profit producers gain decreases, i.e. that some producers may be unwilling to produce cars ~~bear~~ so that they will leave the industry or produce other types of transport such as bicycles which won't cause ~~transport~~ congestion.

Because of introduction of indirect tax, government can receive more total revenue. The money received can be used to ease the congestion problems, ~~for~~ for example, constructing more roads for cars or employing more transportation policemen to control the transportation system.

② Subsidy is the money paid by organisations or governments ~~to~~ in order to decrease the production cost.



(1) Producers: The price producers sell decreases from P_1 to P_2. The producer surplus changes from P_1BF to P_2CG. The subsidy of ~~the~~ producer received is P_3DP_1E.

(2) Consumers: The price consumers ~~&~~ bought decreases from P_1 to P_2, the quantity consumers bought increases from Q_1 to Q_2, the consumer surplus increases from AP_1B to AP_2C. The subsidy of consumers incidence is P_1ECP_2.

(3) Government: The subsidy government paid is P_3DCP_2.

Turkish Government can introduce subsidy on bikes which won't lead to congestion. Because of subsidy, more consumers are willing to buy bikes because of lower prices, so that more people ~~are~~ choose to biking instead of driving. So that the congestion problem can be eased.

Because of subsidy, the production cost decreases, ~~the~~ profit producers gain increases, so that more producers want to enter this industry because of ~~by~~ generating more profits, so that there will be more competitiveness

and more innovations in order to attract more consumers. So the bike industry will develop and became more popular. As a result, more people like biking, there will be less cars in the road.

Evaluation:

① Measurement: It is hard to determine the price of indirect tax on cars and subsidy on bikes. If the price of indirect tax too high, there will be no one wants buy cars, if the price of tax too low, the effectiveness will reduced. If the price of subsidy is too high, government has opportunity cost and it needs to pay too much. If the price of subsidy is too low, the effectiveness is low.

② It may not be useful by introducing subsidy in the short-term. Because some people already have cars, so that they won't be willing to buy a new bike, so that there will be still a lot of cars in the road, the congestion still happen, but in the long term, it may be effective.

③ It has opportunity cost when introduce subsidy. The money paid by government can be used to build more roads for cars or employing more policeman for solving congestion problem.

④. There may be government failure. Because of introduction of tax, the price of cars increases a lot, so that there may be unintended consequences such as smuggle of cars.

ResultsPlus
Examiner Comments

The candidate scored 14/20.

This candidate has benefited from looking at two interventions in detail.

ResultsPlus
Examiner Tip

When drawing diagrams, be careful with the letter selected. On both diagrams the letter D is used for the demand curve as well as one of the labels for one of the corners of the boxes drawn.

Question 14

The question was the most popular question in Section D with just under two-thirds selecting it.

The stem presented data on commodity price increases and asked the candidates to evaluate interventions to limit the increases in commodity prices. Once again, a diagram was required. Common interventions included reducing tax on commodities, subsidising commodities and introducing a maximum price.

Performance was slightly better on this question than on Question 13, perhaps due to better context resulting from the fact many governments have been actively trying to limit increases in commodity prices. It resulted in better application.

The candidate starts with an introduction making reference to the data given in the stem. They start by exploring subsidies, offering an accurate definition, linking to falling costs of production and higher supply.

The diagram is drawn accurately showing relevant areas of surplus and incidence.

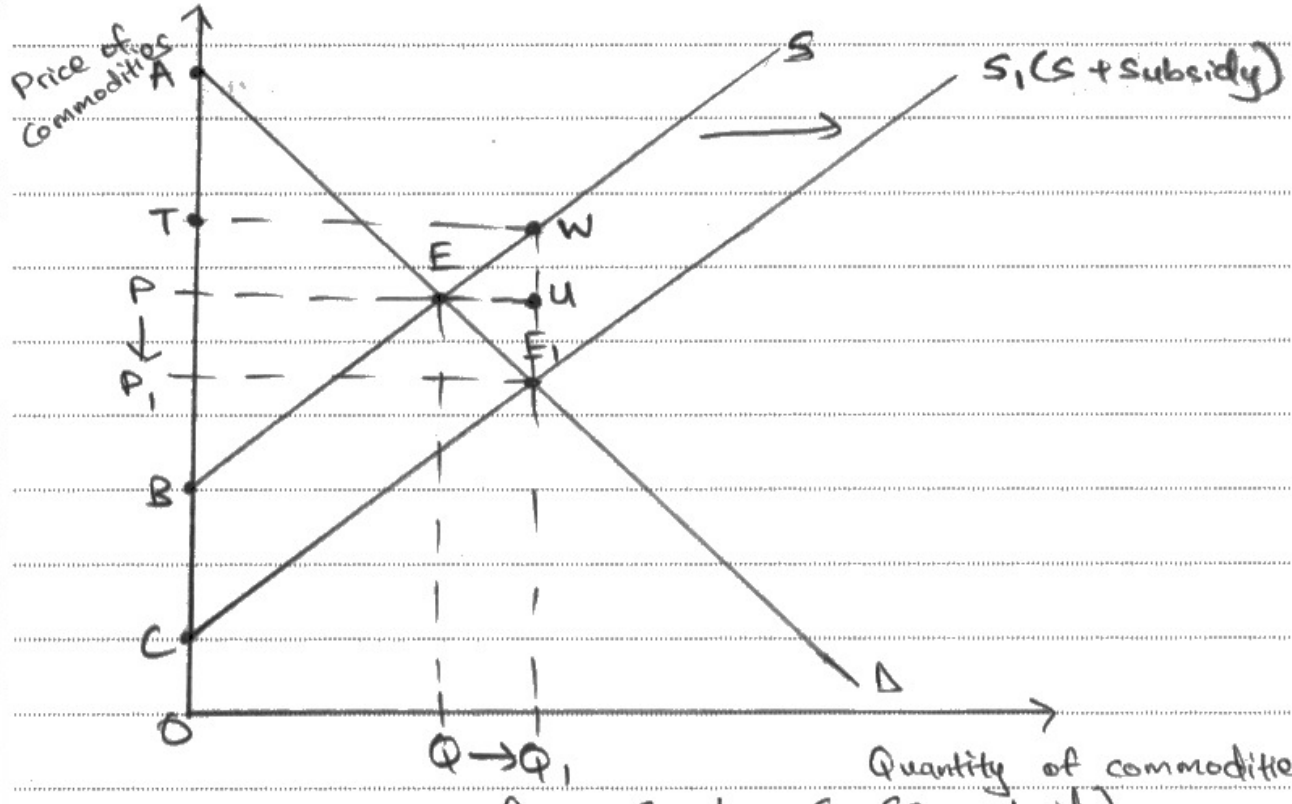
Following the diagram, they then use the diagram to explain the impacts including a focus on lower prices.

They then offer evaluation, well applied to the size of the subsidy required given fuel price rises of 83.8%. Further evaluation focuses on opportunity costs of the subsidy. Next, a maximum price is considered.

Once again an accurate definition and diagram is offered. Again, the analysis utilises the diagram and does focus in on the price change. Evaluation relates to information problems in setting the maximum price.

Government intervention is used to correct market failure in the economy. One of the causes of market failure is when commodity prices rise. This reduces business confidence in the economy, leading to a reduction in economic welfare. Between May 2021 and May 2022, fuel prices increased by 83.8%, food prices increased by 23.6% and beverage prices increased by 20.3%. These rise in prices will cause a fall in supply significantly as firms find it expensive to produce, which increase prices of other goods and services.

One way a government can intervene is by subsidizing the production of the commodities. Subsidies are financial grants given by the government to firms with the aim of reducing costs of production and encouraging production. This will cause a rise in supply of commodities as shown in the next page;



from S to S1 (S + subsidy)

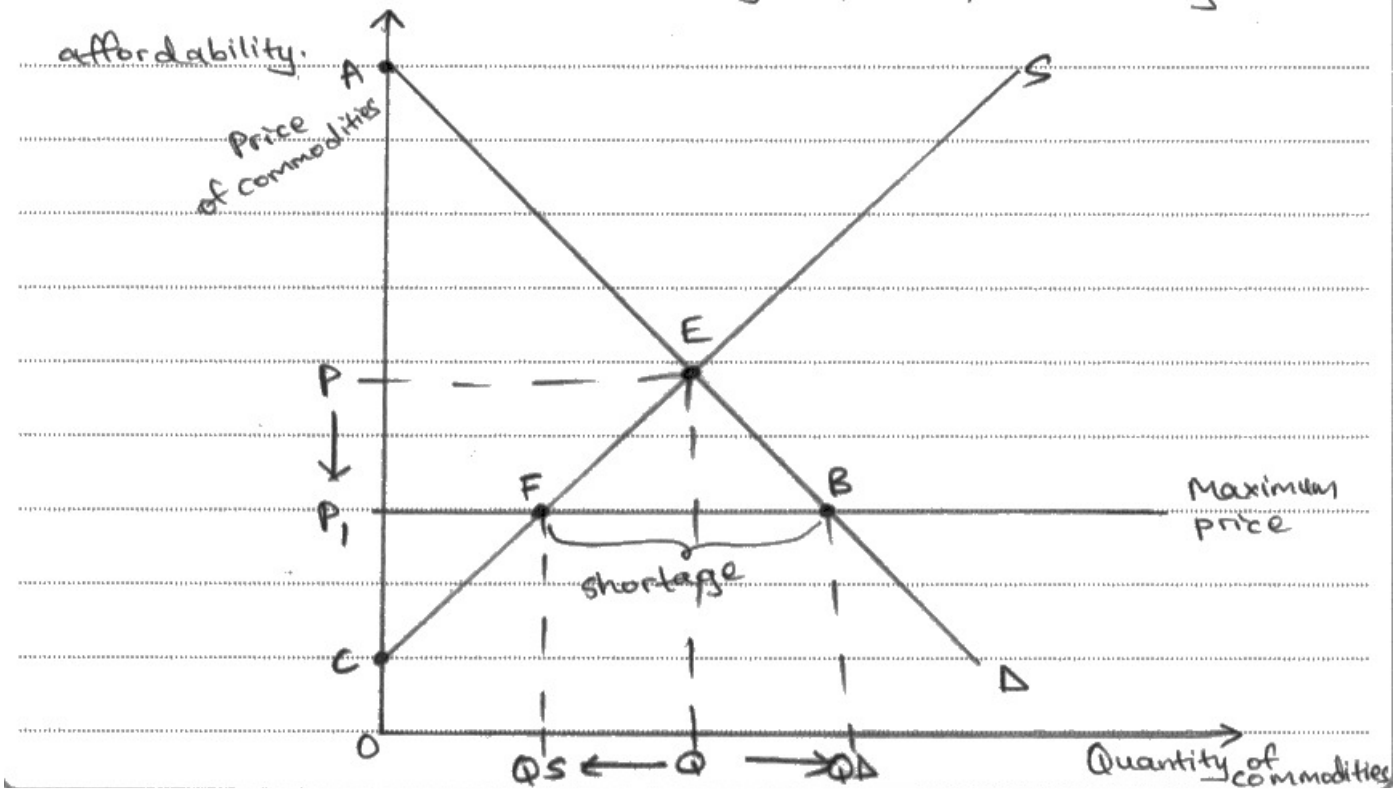
A rise in supply ~~due to the subsidy caused~~ causes a fall in commodity prices from OP to OP1 and a rise in quantity demanded for commodities from OQ to OQ1. The incidence of the subsidy on consumers is shown by the area PP1E1U and the incidence on producers is shown by the area PTWU. Due to the fall in price of commodities, this will cause a rise in consumer surplus from APE to AP1E1. Due to the fall in costs of production, this will cause a rise in producer surplus from BPE to CP1E1. This will increase business confidence in the economy due to cheaper commodities, reducing the impacts of increasing commodity prices.

However, it depends on the magnitude of the subsidy. If this is not big enough to reduce the prices, eg fuel prices by 83.8%, then the effects of the

subsidy may not be as significant

Also, subsidies tend to be very expensive. This also makes them unsustainable and inefficient especially if given to newly established firms. Subsidies also have an opportunity cost, whereby the government could have spent this money on some other area, for example, education of the economy.

Furthermore, the government can also decide to set a maximum price. A maximum price is a ceiling price set by the government. It is usually set below the equilibrium price and is set to protect consumers from being exploited. High commodity prices tend to increase prices of other goods and services that use the commodities as a factor of production, e.g fuel. This increases unaffordability. Thus, setting a maximum price protects the consumers from these high prices, increasing their affordability.



A maximum price causes price to fall from OP to OP_1. Quantity demanded increases from OQ to OQD and quantity supplied reduces from OQ to QS. Due to the fall in price, consumer surplus increases from APE to AP_1B, and producer surplus decreases from CPE to CP_1F.

However, there may be information problems. The government may not be able to set the correct level of maximum price, for it to be effective. The further below the maximum price level is below the equilibrium price, the greater the shortage problems experienced in the economy.

Moreover, a maximum price discourages firms to produce. Firms find it unprofitable to produce due to the fall in quantity supplied. Some firms may even end up shutting down. This may cause even more shortage problems in the economy.

ResultsPlus
Examiner Comments

The candidate has scored 14/20.

Again, they have benefited from focusing in detail on two interventions.

ResultsPlus
Examiner Tip

This is a microeconomic paper, so AD/AS diagrams and reference to macroeconomic demand side policies such as interest rate increases were not relevant.

Paper Summary

Based on their performance on this paper, candidates are offered the following advice:

Section A: Multiple Choice

- Question 4 required candidates to consider the impact of the increase in demand for electric blankets. It would have helped many to have sketched the diagram to consider the impact of this on consumer surplus and price.
- Question 6 – many candidates struggled to calculate the percentage change in quantity demanded of good A given the change in price of good B and the cross elasticity of demand.

Section B: Short Answer

- When asked to a draw a diagram, all marks can be achieved through the diagram and no written explanation is required. The majority of candidates supported their response with a written explanation when, in fact, the diagram had achieved full marks.
- More precision of the definitions of market failure and government failure is needed.
- Moral hazard results from insurance meaning the insurer bears the costs of a person's actions. This leads to more risky behaviour, more injuries and accidents. These are then necessary operations and the question was about unnecessary operations.
- Question 11 saw many not defining producer surplus.

Section C: Data Response

- On Question 12(b), when giving examples, it is important that these are specific examples of how Apple uses renewables taken from the context.
- On Question 12(e), where a diagram is requested, it is important to offer a relevant diagram to be able to access Level 3 for knowledge, application and analysis.

Section D: Essay

- Define the key terms relevant to the question.
- Diagrams should be integrated into the analysis.

Grade boundaries

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