

2018 Edexcel AS Economics Paper 1 Microeconomics Paper

Model Answers

This document is helpful for longer essay questions/responses. Please reference the Mark Scheme for answers to Multiple Choice questions.

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Examiners' Report

June 2018

GCE Economics A 8EC0 01

Question 1 (b)

- (b) Cuba's population is estimated to be 11 million. With reference to Statement 1 above, calculate the estimated number of doctors in Cuba. You are advised to show your working.

(2)

$$11 \text{ million} = 11\,000\,000$$

$$11\,000\,000 \div 155 = 70\,967.74194$$

$\approx 70\,968$ doctors in Cuba



This response shows the other acceptable response, with the candidate here dividing 11 000 000 by 155 to achieve an answer in the range of 70 500 and 71 000, as required by the mark scheme.



Again, a clear two-stage answer to the question.

Question 1 (c)

This was a well-answered question with the majority of candidates able to clearly define a command economy. Typical answers stressed 'centrally planned', 'government run', or 'no or limited private sector'. Less able candidates sometimes confused the definition with that of a mixed economy, hence the stress on 'all' or 'most' of the resources being allocated by the government.

(c) Define the term 'command economy'.

(1)

A command economy is an economy in which the allocation of resources is decided by the government / through State intervention.



ResultsPlus
Examiner Comments

This answer is typical of a clear and concise statement which establishes the government at the centre of the allocation of resources.



ResultsPlus
Examiner Tip

The mark scheme accommodates a range of accurate definitions for 'command economy'. Concise accurate answers for 1 mark are the best approach.

Question 2 (a)

This question was answered well by a large majority of candidates and again the use of a two-step method using the data was essential. It was important for candidates to use the data to obtain the first mark, with both marks being reserved for a correct answer. A common mistake was for candidates to get the formula for Price Elasticity of Demand the wrong way around, dividing 8.3 by -5.4 and getting -1.54.

- 2 In February 2016 the Daily Mail newspaper increased its price from 60p to 65p. By August 2016 its sales had fallen by 5.41%.

(a) Ceteris paribus, calculate the price elasticity of demand for the Daily Mail newspaper over this period. You are advised to show your working.

(2)

$$PED = \frac{\% \Delta QD}{\% \Delta P}$$

$$\% \Delta QD = -5.41$$

$$\% \Delta P = \frac{65 - 60}{60} \times 100 = 8.3\%$$

$$PED = \frac{-5.41}{8.3} = -0.65$$

(rounded = -0.7)



ResultsPlus
Examiner Comments

In this example the candidate has clearly worked through the steps of the calculation, gaining the first mark for 8.3, and the second for the correct answer of -0.65.

Question 2 (c)

Another typically well-answered question, with the majority of candidates able to identify that 'ceteris paribus' meant 'all other things being equal' or 'all other factors remain unchanged'. Marks were lost by candidates who stated that all factors are the same or remained constant. It was crucial on this question to identify implicitly or explicitly that the variable being measured changes, in some sense.

(c) Define the term 'ceteris paribus'.

(1)

everything else remaining equal, where the only change is the one being measured with no other change



This a detailed answer which clearly gains the available mark.



The use of the word 'else' after everything is crucial to gaining the mark. The second part of the sentence leaves the examiner in no doubt that the candidate can define the concept clearly.

Question 3 (b)

This question did cause some difficulties for candidates, though most were still able to score highly. Many answers developed inequality as a reason, with NHS treatment going some way towards helping those priced out of unaffordable private dental care. Another popular approach was to consider the positive externalities of state provision for employers or family members. Candidates often misidentified dental care as a public good and developed arguments along this approach. Some candidates argued that NHS treatment is free, though the data does indicate that it isn't.

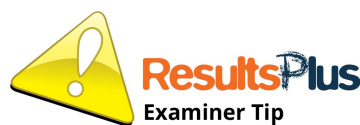
(b) Explain **one** possible reason why the state provides NHS dental treatment.

(2)

The state may provide NHS dental treatment as those with low incomes may not be able to afford the dental treatment provided by the private sector. Prices of private dental treatment are higher as the private sector aims to maximise profit. The state will improve social welfare by making dental treatment more affordable and accessible.



An excellent answer which scores 2 marks. The candidate clearly identifies that those on low incomes may not be able to afford private sector dental treatment. This is because private sector dentists aim to maximise profit, meaning that prices are higher than in the NHS.



Two marks are gained by the statement of a clear reason, followed by some development.

Question 3 (c)

A large majority of candidates were able to identify 'asymmetric information' as a situation where one party in a transaction has more or superior information than another. Many applied it to dentists knowing more about the need for treatment than patients, and thus charging them for 'unnecessary' work. The example of second-hand car dealers knowing more about the history of a vehicle than prospective customers was also very popular.

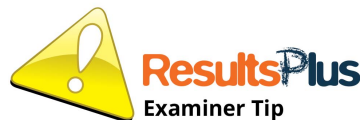
(c) Define the term 'asymmetric information'.

(1)

Asymmetric information is when ~~there~~
one side of the trading process knows ~~there~~
more than the other (has more info on market).



A precise definition, referring clearly to 'the trading process', which is sufficient to gain the mark.



It is important to focus on 'the transaction', 'trading process' or something very similar here to be sufficiently clear.

Question 4 (b)

Though most candidates were able to score 2 marks on this question the majority were unable to score 3 marks. So, whilst candidates could define inferior goods and/or give a formula, and many could identify bus travel as an inferior good, there was insufficient manipulation of the data, e.g. calculating the percentage change in income, i.e. 6.2%, or the YED of bus travel, i.e. -0.48.

(b) Using the data provided, explain whether bus travel is a normal good or an inferior good.

(3)

$$\frac{\text{new-old}}{\text{old}} \times 100$$

$$\frac{25,700 - 24,200}{24,200} \times 100 = 6.198\%$$

$$\frac{\% \Delta QD}{\% \Delta Y}$$

$$\frac{-3\%}{6.198\%} = -0.48$$

Bus travel is an inferior good as it's YED is -0.48.



This is an excellent answer which gains marks for the relevant formula, a correct calculation, and the statement that bus travel is an inferior good. 3 marks.

Question 5 (a)

A well-answered question, where the vast majority of candidates were able to score the mark. Consumer surplus as 'the difference between what consumers are willing to pay and what they actually pay for a good or service' was a typical response. A few candidates still confused the idea of consumer surplus with a market surplus, where price is above the market equilibrium.

- 5 The British Broadcasting Corporation (BBC) is a TV broadcaster. It is financed through an annual TV licence fee of £145.50. At this fee level many TV owners benefit from consumer surplus.

(a) Define the term 'consumer surplus'.

(1)

Consumer surplus is the difference between the maximum price consumers are willing to pay for a good, and the ~~max~~ actual market price.



ResultsPlus
Examiner Comments

The clear understanding of consumer surplus as the difference between what consumers are prepared to pay and what they do pay is evident.



ResultsPlus
Examiner Tip

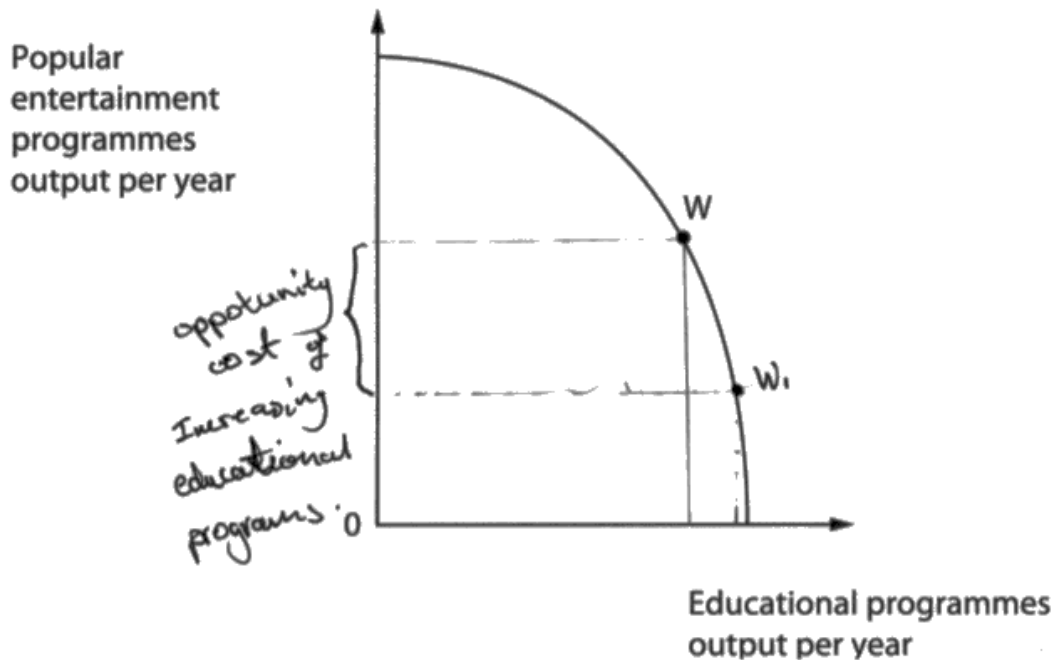
Use a precise definition.

Question 5 (b)

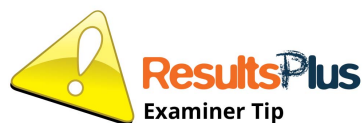
A small majority of candidates achieved full marks on this question. Most were able to identify a point to the right of W for 1 mark. However, many did not properly indicate the opportunity cost of providing more educational programmes. Some answers also shifted the curve outwards to indicate more educational programmes.

- (b) The diagram shows the production possibility frontier for the BBC. Assuming the BBC is at point W, annotate the diagram to show the opportunity cost of providing more educational programmes.

(2)



This response answers the question precisely, showing a point to the right of W, whilst clearly indicating the opportunity cost of providing more educational programmes.



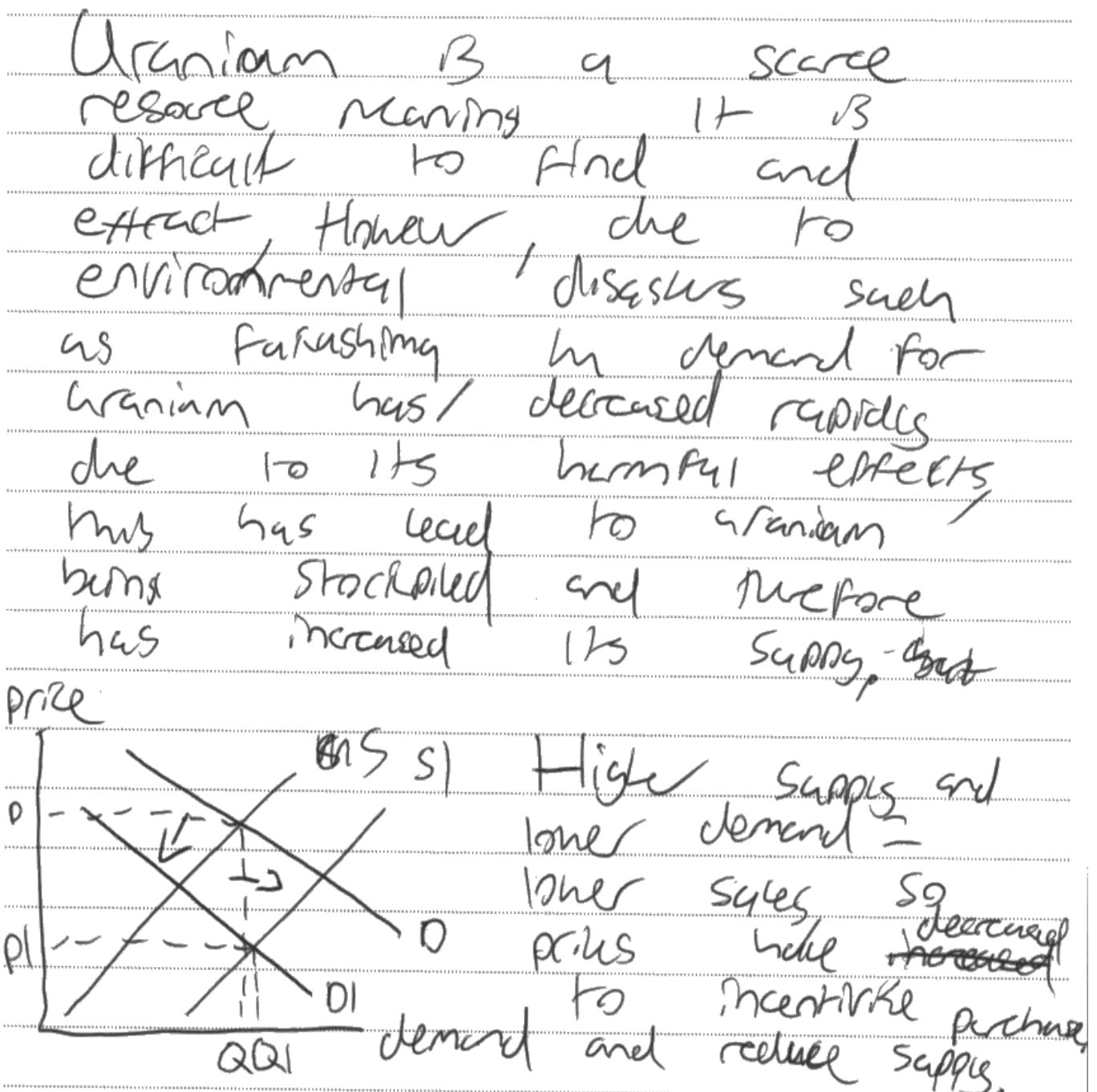
Clearly annotate your diagrams. Opportunity cost is measured on the relevant axes.

Question 6 (a)

This proved to be a reasonably accessible question with most candidates scoring at least 3 marks, though only a small number were able to access all 5 marks. The question asked for a supply and demand diagram, and while candidates were able to do this most only drew a supply shift, thus missing the final analysis mark which required them to show a correct shift in demand and supply. Extract A and Figure 1 offered plenty of scope for the application marks, and candidates were able to identify both supply-side factors, such as Kazakhstan's stockpiles of uranium; and demand-side factors, such as falling public confidence in the nuclear industry following the Fukushima disaster.

- 6 (a) With reference to Figure 1 and Extract A, explain why the price of uranium has 'fallen to a 13-year low' (Extract A, lines 2 and 3) in 2016. Include a supply and demand diagram in your answer.

(5)





This answer achieved 5 out of 5 marks. The knowledge mark is achieved in the second sentence with decreased demand for uranium. The candidate develops this in the context of the Fukushima disaster, thus accessing the first application mark. The candidate then goes on to discuss the stockpiling of uranium, accessing the second application mark. The diagram show both a price fall and the shift in both demand and supply for the second analysis mark. Both must be shown to get this second mark.



Always use the data to substantiate your points. Here the candidate does that sufficiently well enough to gain the available application marks, while gaining the analysis marks by showing shifts in both demand and supply. Be sure to correctly label the direction of the shifts.

Question 6 (b)

(b) With reference to Extract A and your own knowledge, assess whether the supply of uranium is likely to be price elastic or price inelastic.

(10)

Supply of uranium is likely to be inelastic due to the time ~~period~~ lag involved with increasing supply. Due to "regulations before opening a uranium mine" it would take a long time to build these mines as ~~they~~ these regulations are likely to hinder and delay the ~~production~~ construction of the mine. Therefore producers would find it difficult to respond to an increase in demand for uranium, as it will take time to open the mine and to extract the uranium, therefore ^{supply} ~~the~~ may be price inelastic.

However to evaluate, this may only be in the short-term when new mines need to be built, and in the long-term, (once the mine has already been built) it would be much easier for producers to respond to changes in demand, therefore supply would be more price inelastic in the long-term.

However

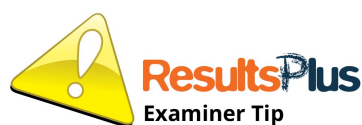
Also, supply of uranium is likely to be

elastic.
illustrates due to the ^{large} ~~small~~ stockpiles of uranium in the world at the moment. As we can see from Fig. 1, there is currently a surplus of uranium of approximately 3-4%. This would mean that producers would easily be able to respond to changes in demand as they do not need to extract more uranium due to the stock readily available. Therefore supply may be considered elastic.

However, stockpiles of uranium are constantly changing which means the elasticity of supply would constantly change too.



This answer scored 8 out of 10, achieving both Level 3 knowledge, application and analysis (KAA) and Level 2 evaluation (E). The candidate is clearly able to identify regulatory factors slowing down the building of a uranium mine and how this reduces the ability of firms to respond to an increase in demand. Although not mentioning the Spanish mine explicitly, or explaining the concept of PES explicitly, there is enough implicit understanding to score highly in terms of KAA. The candidate then goes on to consider the time factor, and how over time supply would be more elastic (though the candidate says 'inelastic', we can give the benefit of the doubt here). This is, therefore, a good evaluative comment, which is then developed further in the next paragraph. This is in context, referring to Figure 1, and moves the candidate into Level 2 evaluation.



Ensure that you consider factors determining whether the supply of uranium, in this case, is price elastic or inelastic. One side of the argument accesses the KAA marks and the other side the evaluation marks.

Question 6 (c)

(c) With reference to Extract B, explain **two** likely reasons why many consumers of energy have not switched to suppliers offering lower prices.

(6)

rational behaviour is when consumers buy ~~or~~ and consume ~~to~~ ~~no~~ goods and services that maximise utility.

~~for~~ 4 million households are still on the most expensive rates

According to Extract B, this may be due to a weakness at computation as consumers ~~be~~

may underestimate the probability of the consequences of switching and may not be able to calculate

the additional utility they will get from ~~consuming~~ ^{switching}.

The decade of rising energy bills but low number of consumers switching could also be due to habitual behaviour leading to irrational consumption as consumers may be too lazy to search for ~~no~~ better deals and stick to what is familiar.



This answer achieved 6 marks out of 6. It begins by referring to the 4 million households still on the most expensive rates, scoring the first application mark, and then goes on to explore 'weakness of computation' as the reason, linking the explanation to the inability of consumers to calculate the additional utility that could be gained from switching. In the second paragraph the candidate again scores the application mark with a clear reference to the decade of rising energy bills and cites the reason of 'habitual behaviour' by way of explanation. This is then developed by saying consumers are too lazy to search for better deals, thus gaining the analysis mark.

Question 6 (d)

This was an accessible question for the vast majority of candidates and most were able to score between 3 and 4 marks. Candidates were able to clearly understand that the question was looking for sources of energy rather than energy itself. More able answers understood this because 'energy' can run out in the short-run whatever it is made from if demand is high enough. The question is about whether the source of the energy is renewable or not.

(d) Using examples from the information provided, explain what is meant by renewable and non-renewable energy.

(4)

Renewable energy is an energy source that can be exploited over and over again. Renewable energy will naturally replenish itself in order to be re-exploited. As stated in extract A renewable energy sources are things like solar and wind power however these can not be exploited all the time and therefore are not as sustainable.

Non-renewable energy is an energy source that can only be exploited once.

Non-renewable energy can not replenish and is normally natural based ores such as coal.

These are always available through mining however once they have all been mined they can no longer be replenished.



This answer scored 4 marks out of 4 and clearly identifies how renewable energy sources can be replenished in order to be re-exploited, whereas non-renewable sources can be exploited only once. Examples are chosen carefully to substantiate the candidate's point.



A very clear and detailed answer which leaves the examiner in no doubt that the candidate understands the difference between the two energy sources.

Question 6 (e)

The UK Government is considering introducing a maximum price for energy.

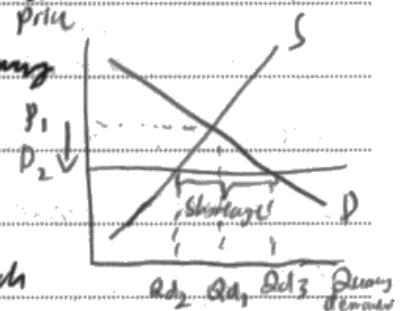
(e) Discuss the likely microeconomic effects of this decision on energy producers and consumers. Include a supply and demand diagram in your answer.

(15)

^{price}
Maximum ^{price} is a form of government intervention it aims to reduce market failures which causes an efficient allocation of resource by setting a price ceiling.

Extract B states that prices has increased for 158% for 15 years and for million households. Applying a maximum price on energy which is underprovided can help low income people ~~can~~ have more access to energy.

and generate positive externalities such as lower crime rates as low income people



may be more satisfied of the government approach

reducing their ~~attempt~~ attempt of a crime. Another cause on

consumers is reduce in income inequality as a lower income consumers ^{have} less spending on living they would be more happy ^{and} ~~cost~~ benefits the society as there will be less protest and the overall

society will have a positive attitude. ~~the~~ consumers will gain more

~~surplus~~ Surplus as prices are below ~~equi~~ equilibrium gaining the

price which producers loss in surplus. Producers will have an

effect of lower profit and market turnover as the price

is set below the equilibrium their ~~willing~~ willingness to provide

as that price will decrease from Qd_1 to Qd_2 . This will

cause less competitiveness as the price acts as a signalling

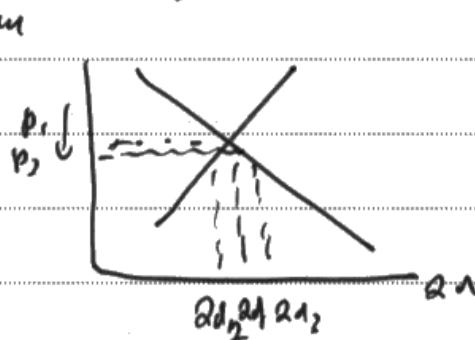
and incentive function to tell producers to leave the

market because there is less profit to be earned.

Figure 1 shows that shortage will occur after the year 2017 on at three reasons

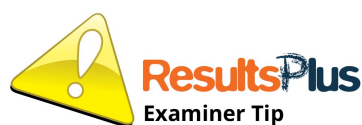
Government failure may occur in the attempt to correct market failure as administrative cost may increase due to setting up a department to monitor and enforce the law. Regulators will also need to be hired which will increase the cost on the government. Therefore opportunity cost will exist since the money used is forgone and can be used in other places such as education.

The ^{effect} ~~arrangement~~ of the maximum price may not be effective if the maximum price is set ~~bi~~ just below the market equilibrium then low income family not benefit a lot in it.





This answer achieved 13 out of 15. The KAA is at the top of Level 3. There is a clear diagram and then sustained chains of reasoning discussing how a maximum price can help lower income people, perhaps reducing income inequality. There is reference to rising consumer surplus, demonstrating strong use of economic concepts. Analysis of the impact on producers then follows, with a discussion of lower profits and the strong possibility of some producers exiting the market. On the next page there is some good evaluation referring to the administration costs of the scheme and the possibility of government failure. There is also some discussion of where the maximum price is set, in relation to the equilibrium, though the diagram isn't properly labelled and the point is less developed than the first. Overall, the evaluation is at the top of Level 2.



In depth evaluation is the key to accessing all available marks. Remember to label diagrams properly and sustain your arguments to gain full marks.

Question 6 (f)

EITHER

- (f) Using the concept of external costs, evaluate whether nuclear power is under-provided or over-provided in the energy market. Use an appropriate diagram in your answer.

(20)

OR

- (g) Evaluate ways in which government intervention could be used to reduce carbon emissions. Use at least one appropriate diagram in your answer.

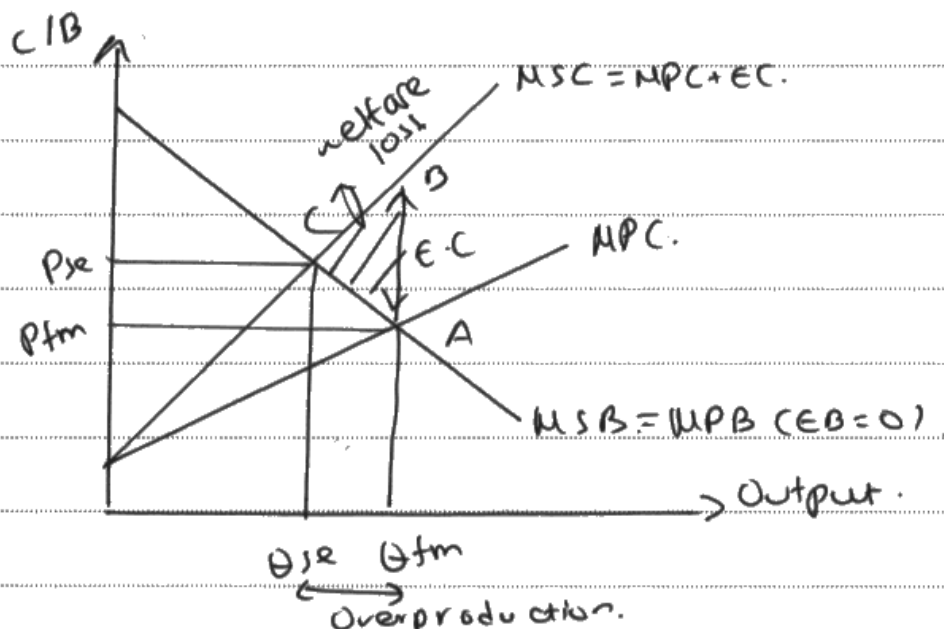
(20)

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen question number: Question 6(f) ☒. Question 6(g) ☒

Write your answer here:

Marginal social costs consist of both private and external costs ($MSC = MPC + EC$). External costs are those costs which are passed on to third parties during an economic activity. (e.g. pollution).



As shown on the diagram above the free market produces at P_{fm} Q_{fm} , where only private costs and benefits are considered. However,

external costs ^{of nuclear power} exist ~~is~~, meaning that at $P_m(Q_m)$, the market undervalues the true cost to society, ~~is~~ leading to overproduction $Q_{se} - Q_m$, where market failure exists as $MSC > MSB$, and a welfare loss ΔABC exists.

To begin with, according to Extract A, many external costs ~~for~~ of nuclear ~~is~~ power exist ~~is~~, indicating that nuclear power is overproduced. As stated in Extract ~~A~~ nuclear power is dangerous as it can lead to explosions. For example 'the devastating accident at the nuclear power station' has led to a 'leak of radiation', 'reduced confidence' and increased 'chances of cancer'. ~~There~~ Therefore this accident could have devastating effects on the surrounding area and environment, as it could destroy habits and landscape, ~~mean~~ making the area less attractive for future investment! Additionally, increased chances of cancer could mean that there will be a loss of productivity due to ~~is~~ a less healthy labour force, which could damage the country's competitiveness! For example in the UK, the UK's productivity is 17% less than the G7, meaning that they couldn't rich a fall in productivity.

However, regarding the environment, nuclear power is definitely a better substitute than fossil fuel. As said in Extract C, 'carbon dioxide emissions, apart from the increase in the use of coal, gas, oil' and also extract A says that 'no country can reduce carbon dioxide emissions, which are causing climate change, without the nuclear'. Hence here we could argue that actually nuclear power leads to external benefits, due to lowering the levels of CO_2 in the atmosphere. Climate change could cause hundreds of millions of people to suffer hunger, water shortages, and coastal flooding. Hence with nuclear power, we are reducing these ext. costs, thus society would benefit from higher air quality of using nuclear. In this case, nuclear power has many external benefits including ~~and~~ employment, and thus it could be underproduced.

However, it is difficult to place a precise monetary value on externalities, as it is very subjective. Also we assume that external benefits of nuclear power

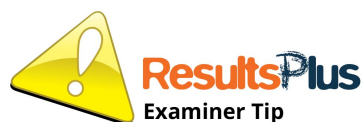
are 0, but they actually exist.

Brexit, could lead to a fall in
expected demand for nuclear in general.

Thus ext. costs will be lower!



The candidate begins with a clear theoretical explanation of the social costs of production, exploring negative externalities in the production of nuclear power. The candidate then goes on to illustrate how nuclear power is over-produced, leading to a range of possible negative externalities, with clear reference to the context. The candidate discusses the dangers of nuclear accidents and then links them to the possibility of lower productivity in the UK if people are affected negatively by such accidents. This is very good KAA and accesses Level 4. On page 3 the candidate then proceeds to consider how nuclear power is under-provided, in context, helping to reduce the levels of carbon dioxide in the atmosphere, and therefore the impact of climate change, with positive consequences for humanity. The candidate also discusses external benefits from employment, although this point is less well developed. All of the arguments are in context and well explained. This answer therefore accesses Level 3 evaluation. The conclusion is not quite developed into a substantiated judgement.



Always try to 'anchor' an essay's analytical structure around a clearly drawn diagram, as the candidate does here. Interlink analysis and reference to the context throughout to build clear, well-substantiated points. Be sure to come to a conclusion at the end of the essay to access full marks.

Question 6 (g)

EITHER

- (f) Using the concept of external costs, evaluate whether nuclear power is under-provided or over-provided in the energy market. Use an appropriate diagram in your answer.

(20)

OR

- (g) Evaluate ways in which government intervention could be used to reduce carbon emissions. Use at least one appropriate diagram in your answer.

(20)

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

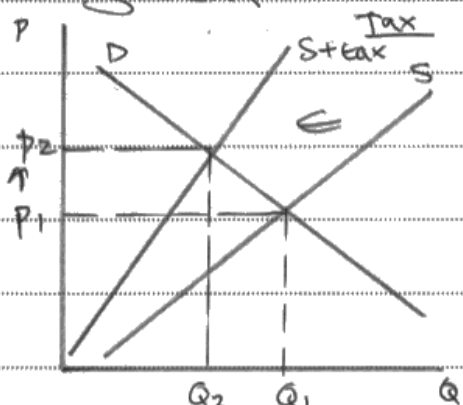
Chosen question number: Question 6(f) ☒ Question 6(g) ☒

Write your answer here:

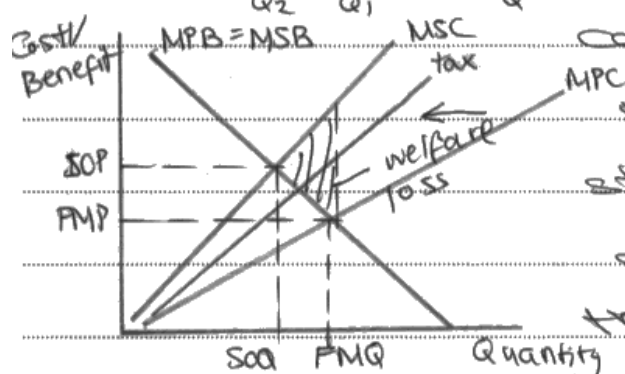
~~Extract C~~ Government intervention involves the influence of governments on the equilibrium price of a good/service often as a way to correct market failure by the free market, which is the misallocation of resources by the price mechanism. Schemes to reduce carbon emissions are explained in Extract C to be implementation of a tax, a tradable pollution permits scheme and subsidies to low-carbon technology. Whilst this might be efficient to some degree, there are also set back to each of the relevant schemes. Carbon tax involves the levy on producer based on the unit of carbon produced, which could be efficient in reducing carbon emissions. This is because carbon emissions might be considered an external cost, which

is a negative externality to third parties.

A carbon tax might be efficient in reducing emissions because it increases firms' costs of production, which therefore limits their supply capacity, as demonstrated in the diagram below. This might therefore reduce



the impact of use of coal, gas and oil production in transport and energy production, which is outlined in Extract C, therefore



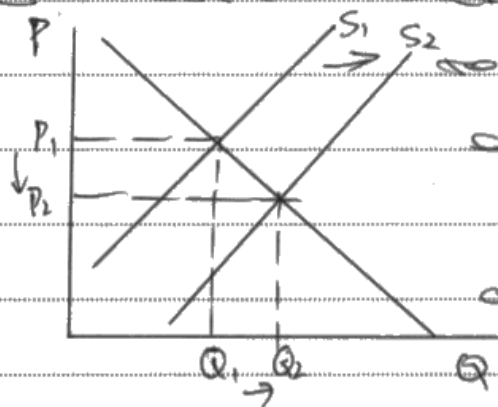
causing a net welfare loss, as demonstrated in the second diagram as well. However, the implementation of

a carbon tax can act as a disincentive for producers to use greenhouse gas emitting sources of energy and instead encourage them to switch to more sustainable and environmentally friendly sources of energy, thus reducing the onset of climate change and reducing external costs as a result.

However, there are limitations to the use of a carbon tax scheme which should be

to be considered by government. This is because government failure can occur ~~with~~ as a result of unintended consequences arising, such as tax evasion by firms. Some public sector energy providers might ^{lead} ~~also~~ ^{be} subject to regulatory capture, which therefore limits the effectiveness of the scheme as a result. Because it is also hard to measure carbon emissions, the tax scheme might therefore be rendered ineffective as a result.

Moreover, Extract C also references the fact that governments can 'support innovation and the deployment of low carbon technologies', which comes in the form of subsidies. Subsidies are grants given



to producers which help expand their supply by reducing costs of production which will therefore ^{increase the} help to ~~attract~~ ~~attract~~ ~~attract~~

supply more renewable energy sources such as solar, wind and tidal which are less likely to cause climate change. This will also act as a market if more available to consumers and therefore likely

to a fall in demand for greenhouse-gas emitting sources of energy, which will reduce carbon emissions as a result. Emission trading schemes might also be useful in making firms more efficient which will help them reduce carbon emissions in the long run, thus also acting as an incentive for them to become more environmentally friendly as well.

However, there are inevitable flaws that might arise from this, such as overdependence of producers and an opportunity cost to governments who could use ~~profit~~ subsidy cost to invest in better alternatives. It could also cause a distortion of price signals and ultimately lead to a fall in equilibrium price thus showing inefficiency as a result.

Exxon also references the use of a tradable pollution permits scheme, which might be efficient since it requires producers to pay in order to pollute. Because this increases their costs of pollution this might therefore act as a disincentive for firms to employ more

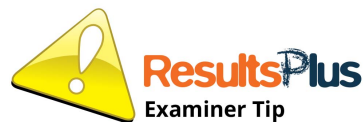
of production that will create pollution and thus motivate them to switch to better and more environmentally friendly substitutes. Revenue ~~is~~ gained by governments from the scheme can also be invested into measures to reduce the external costs from common emissions such as flood defence.

However, a tradable pollution scheme is only likely to affect smaller producers since larger consumers have the benefit of internalising their costs and purchase permits from smaller producers which is less costly. In reality, the scheme is an example of policy myopia, a short term solution to a long term problem.

Because pollution is also difficult to quantify, government intervention in the success might be difficult to determine. Whilst policies such as a carbon tax, pollution permits and emissions might be efficient in reducing emissions in short run, in long run they are more likely to be inefficient in reducing emissions and its external costs.



This answer achieved 19 out of 20. The candidate begins by exploring carbon taxes and analyses thoroughly in context. There is then in-depth evaluation of the effectiveness of this policy, considering the possibility of government failure. The second policy considered is the subsidising of cleaner 'low carbon' technology, using a subsidy diagram, and explaining in context how the policy is likely to work. The candidate then evaluates by considering the opportunity cost of such subsidies and how they might distort the price mechanism. The candidate develops the essay further by exploring tradable permits and evaluates by considering whether the policy is effective in the long-term, seeing it as only a short-term solution to the problem. Each point is clearly balanced with good evaluative commentary. There is also some assessment of which policy might work best, though this is not developed fully.



Carefully crafted paragraphs, which use the context well, are clearly evident here. Notice how the points are evaluated before the next policy is introduced, explained, and again evaluated. There is a good attempt at a conclusion.