

# Examiners' Report June 2019

## IAL Economics WEC11 01

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# Introduction

This is the second series where this unit, Markets in Action (WEC11), has been assessed and it is the first June series. The standard of work seen in this series has been impressive.

In Section A, the multiple choice section, candidates performed best on the question on normative and positive statements. They also performed well on the questions on tradeable pollution permits, positive externalities and substitutes. Candidates struggled more on the questions on market failure and price elasticity of supply.

Section B, the short answer section, saw some very mixed performance on questions. Candidates performed best on the renewable and non-renewable resources question with many using examples from the data. They also performed well on the question requiring the drawing of a diagram. They could correctly shift supply to the left to show the higher price and lower quantity. On the calculate question most candidates identified the correct formula but unfortunately many calculated as if demand had fallen to 800,000 rather than by 800,000 so ended up calculating incorrectly that elasticity was highly elastic. The most challenging question of the section was on the role of the financial sector. At best candidates seemed to reference the data and identify a role. Only stronger candidates could explain how the role supports boosting exports.

Section C, the data response section is based on information provided in the source booklet. Unlike on the legacy unit (WEC01) there is no choice in the question candidates' answer. Candidates could typically access at least one mark on 12(a) to show knowledge of free goods with stronger candidates able to offer precise definitions considering both the lack of scarcity and no opportunity costs. 12(b) needed candidates to consider the impact of rising incomes on the demand for lamb. Most could identify it as inferior and that the quantity demanded would fall when income rose. Better responses calculated the percentage fall. 12(c) saw most candidates able to correctly draw the diagram to show demand increasing. They also accessed application marks by referring to the price change and typically identified increased advertising. On 12(d) most candidates were able to define external costs and many drew a diagram accurately as part of their response - although this was not required to access full marks. Many candidates examined two external costs from the Extract. Stronger candidates were able to analyse these in terms of explaining who and how the third party was affected. Many offered evaluation but this was often underdeveloped. On 12(e) candidates looked at the introduction of indirect taxation. Most could define accurately and draw the diagram and it was impressive how many pivoted the supply curve accurately. Those able to achieve a higher score used their diagram in their analysis for example explicitly looking at the impact on price quantity, the incidence, tax revenue and producer and consumer surplus. Better responses would also look explicitly at how consumers, producers and governments would be affected.

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 perform better on Question 14 on maximum prices than on Question 13 on why consumers had not been vaccinated. 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 learn 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

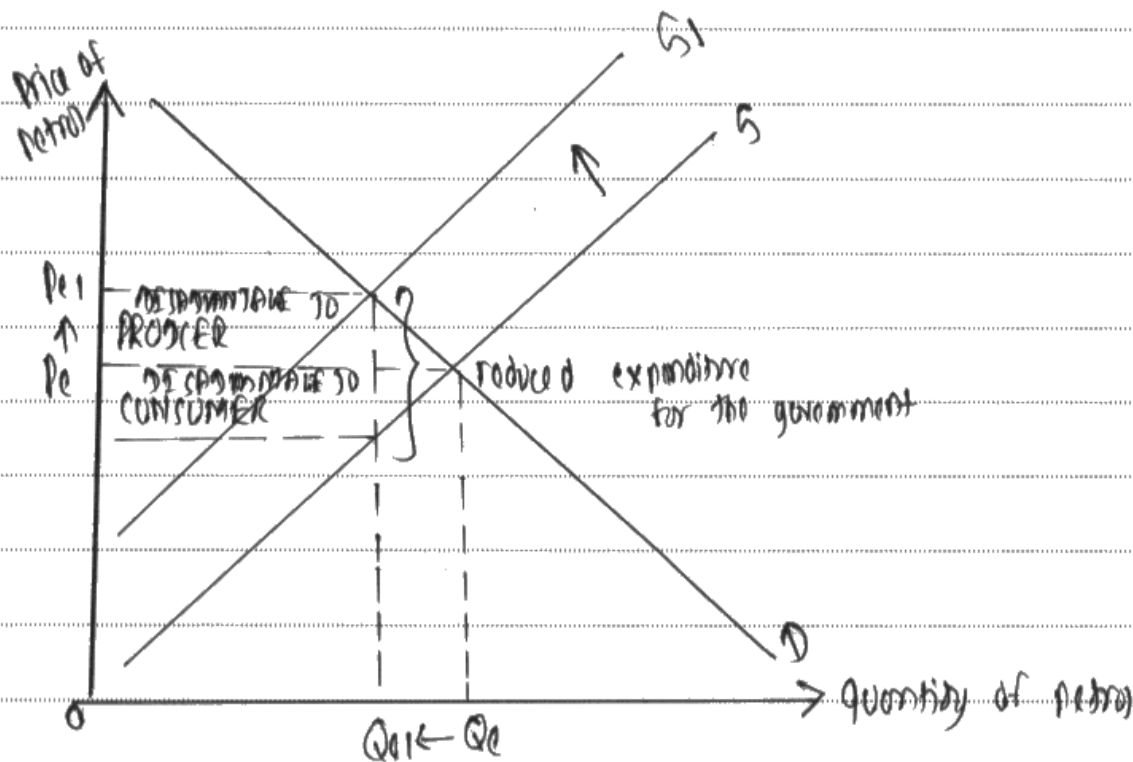
The question asked candidates to draw. All the marks available were therefore awarded for the correct drawing of the diagram. Many candidates gave written explanation as to what happens and none of this was rewarded. Inclusion of this will have made it more difficult for candidates to complete the paper. Both the stem and the question refer to the removal of the subsidy but some candidates still drew the impact of an increase or introduction of a subsidy. Most did draw the correct shift however. The easiest responses to mark were those that clearly labelled the supply curve differently, e.g. S and S1. Those that also labelled clearly the quantity and price e.g. P and P1. Another useful feature of the diagrams was arrows to indicate the shift in supply, price and quantity. Candidates did not need to identify other features such as consumer and producer subsidy, the question only asked for the impact on price and quantity.

This candidate has achieved full marks. They have included a number of additional elements that are not needed. This includes the written explanation which gains no credit. The attempt at subsidy areas also gains no credit.

7 In 2016 the Nigerian Government removed the subsidy on petrol.

Draw a diagram to illustrate the impact of the removal of the subsidy on the equilibrium price and quantity of petrol.

A subsidy is a financial incentive or grant given by the government to increase the production of a good or service by reducing the cost of production. In 2016, the Nigerian Government removed the subsidy on petrol, which will increase the cost of production for the Nigerian firms producing petrol. This as a result will reduce the quantity supplied and





The first mark is awarded for the original supply and demand diagram. The second mark is awarded for the correct shift of the supply curve. Helpfully here the candidate has used both a directional arrow and labelled the supply curve appropriately S to S1. They then gain a third mark for the new higher equilibrium price and a fourth mark for the new equilibrium quantity. It is again helpful to have incorporated the directional arrows and then to have labelled them appropriately e.g. Qe to Qe1.



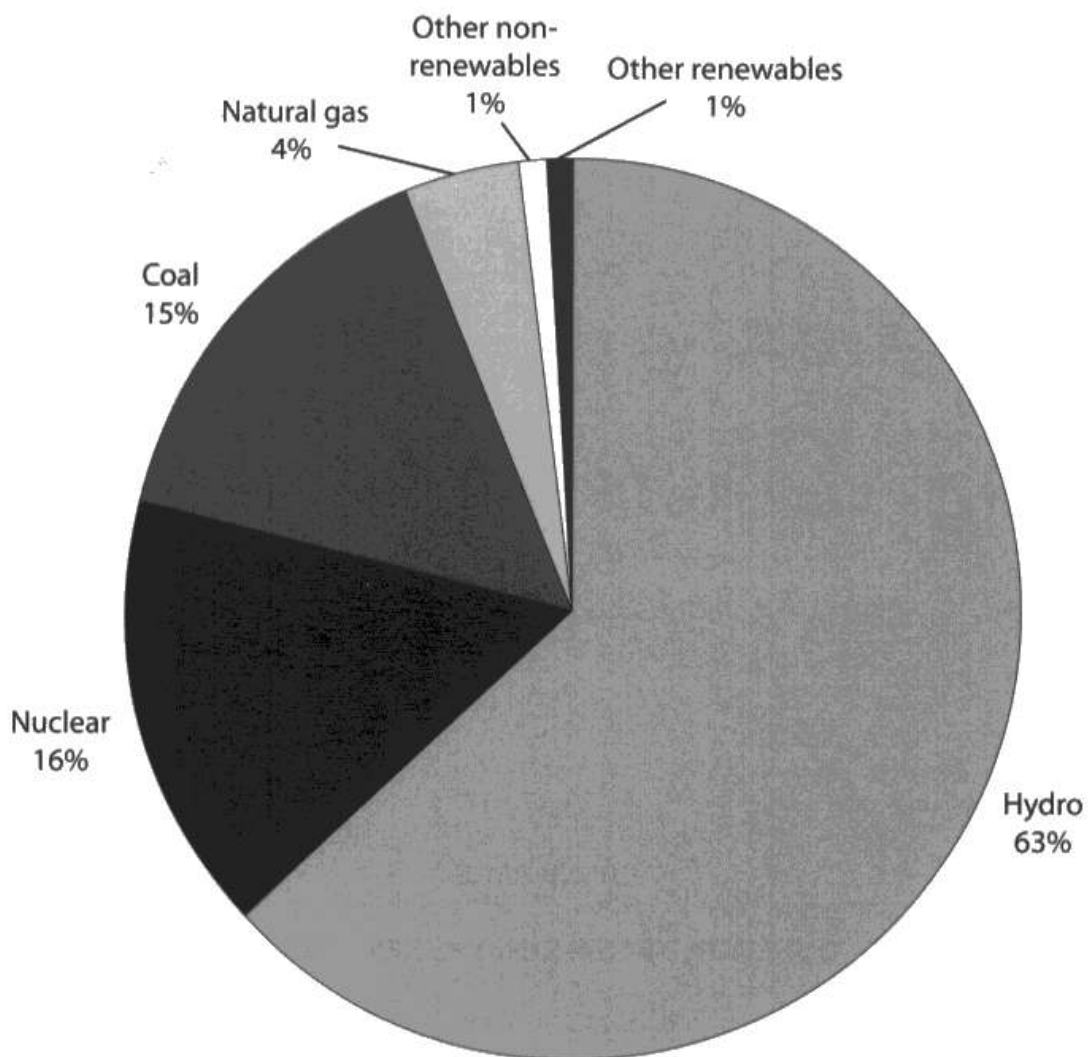
The use of directional arrows is helpful to indicate clearly that the shift is correct. Especially helpful where a candidate labels both supply curves S.

## Question 8

The question provided data on electricity generation in Canada. Candidates were awarded marks for accurately defining each of renewable and non-renewable resources. The application marks required candidates to use the data to select examples. Most selected hydro as the example for renewable and coal for non-renewable. A number of candidates calculated the totals for renewable and non-renewable and offered these in their answer.

The inclusion of a definition for each of renewable and non-renewable and an example of each is required and delivered in this response. This candidate gains full marks.

- 8** The chart shows how Canada's total electricity supply was generated from different resources in 2015.



(Source: <http://www.theenergycollective.com/jarretadams1/2292773/canada-working-toward-decarbonizing-its-grid>)



With reference to Canada's electricity generation, explain the difference between 'renewable resources' and 'non-renewable resources'.

Renewable resources replenish over time and can be used again and again. For example Hydro is a renewable resource.

Non-renewable resources cannot be used up again and the world will run out of these resources if they are ~~continue~~ excessively used. Coal is an example of non-renewable resource.



The candidate refers to 'replish over time' - this is a clear attempt to refer to replenish and was awarded as such. However they then refer to being able to use renewable again and again which on its own would be good enough to gain the knowledge mark for defining renewable. The example is taken from the diagram as hydro is the largest portion of the pie chart. The candidate also defines non-renewable accurately and would gain credit for either cannot use again and again or the resources would run out. The example of coal is also credited.



Ensure examples of renewable and non-renewable are taken from the data provided in terms of the pie chart.

## Question 9

The role of the financial markets was assessed in this question. This was a challenging question for many and is an area that needs some attention in centres. Most candidates used information in the stem to achieve an application mark. Many candidates were able to identify a role of the financial sector. Many referred to facilitating savings or providing lending to firms. Where candidates struggled was in explaining how this would support Singapore in achieving such a high level of exports. The very best responses seen were able to explain the role of the forwards market and how that created certainty helping to boost trade.

This candidate has focused the response on how the financial sector can help boost exports. Many candidates could explain the role of the financial sector but made no link to how this boosts exports.

- 9 Singapore's economy is highly dependent on trade with the rest of the world. In 2017, Singapore's exports were 173.3% of its GDP.

Explain **one** role of financial markets in such an economy.

Financial markets are any set of convenient arrangements that allow buyers and sellers to trade or sell assets or services that are monetary in nature.

As per the <sup>context,</sup> Singapore's economy heavily relies on its trade with the ~~rest~~ <sup>rest</sup> of the world, ~~hence~~ <sup>and</sup> its exports in 2017 accounted for 173.3% of its GDP.

A role of financial markets is to facilitate the exchange of currency. Banks and other financial institutions may provide currency exchange rates so that importers from other countries can purchase Singapore's exports by exchanging their currency for Singapore's currency.



The candidate gains a mark for making reference to the data in terms of Singapore's level of exports. They identify a role in terms of providing currency to gain a second mark. The next mark is for making the link to how this allows importers to buy Singapore's goods. They gain the final mark for making it clear that they exchange their own currency for Singapore's.



The question is on exports and it is important that the link to level of exports is made. Many candidates could explain a role but did not link to how it helps exports.

## Question 10

Nearly every candidate accurately defined or provided the formula for PED - this gained candidates one mark. Some candidates did not read the stem closely enough. Many candidates calculated the percentage change in quantity assuming that the quantity demanded fell from 12,800,000 to 800,000. Close reading of the stem shows that in fact it decreased by 800,000 to 12,000,000. This often resulted in candidates incorrectly calculating a highly elastic value of PED. The other common error was to calculate the PED and ignoring the fact the quantity fell and that the value of PED is always negative.

This candidate has appreciated that the quantity has fallen by 800,000 rather than fallen to 800,000. They have accessed the full range of marks available for the question. An answer on the page of -0.5 will automatically achieve full marks.

**10** In September 2017, Centrica increased the price of gas and electricity by 12.5%. Before the price rise Centrica had 12 800 000 customers but this fell by 800 000 after the price increase.

Ceteris paribus, calculate the price elasticity of demand for gas and electricity from Centrica. Show your workings.

Price elasticity of demand is the responsiveness of quantity demanded to a change in price.

$$\text{PED} = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in Price}}$$

$$\frac{\text{New value} - \text{original value}}{\text{original value}} \times 100$$

$$\frac{12,000,000 - 12,800,000}{12,800,000} \times 100$$

$$= -6.25$$

$$= \frac{-6.25\%}{12.5\%} = \underline{\underline{-0.5}}$$

~~Price is said to be~~

∴ PED is price inelastic



The response -0.5 accesses full marks. However, the definition of PED would gain a mark. The calculation of the percentage change in quantity and in the PED gains one mark each. Putting it into the correct formula gains a mark.



Remember that calculations of PED will always be negative so you must include a negative sign in the answer even if the fact the quantity falls is ignored in earlier calculations.

This candidate has clearly spent some time attempting to calculate PED before they get it right but having correctly calculated the change in quantity demanded as a negative value they then fail to follow through to calculate PED as a negative value.

- 10 In September 2017, Centrica increased the price of gas and electricity by 12.5%. Before the price rise Centrica had 12 800 000 customers but this fell by 800 000 after the price increase.

Ceteris paribus, calculate the price elasticity of demand for gas and electricity from Centrica. Show your workings.

$$\text{Price elasticity of demand} = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$$

~~PEL~~

$$\% \Delta \text{ in } Q_d = \frac{12800000 - (-800000)}{12800000}$$

$$\% \Delta \text{ in } Q_d = \frac{12900000 - (-12000000)}{12800000} \times 100$$

$$\% \Delta \text{ in } Q_d = \frac{12800000 - 12000000}{12800000} \times 100$$

$$\% \Delta \text{ in } Q_d = \frac{12000000 - 12800000}{12800000} \times 100$$

$$= -6.25\%$$

$$\text{PED} = \frac{-6.25\%}{12.5\%} = 0.5$$



This candidate achieves full marks. However, whilst on this occasion we have allowed for a positive or negative value of PED, it is important to note that it is technically a negative value and candidates must show it is negative in future series. You will note here the candidate has clearly identified the correct percentage change in quantity and the fact that quantity falls. However, they have failed to note that dividing a negative value by a positive value will result in a negative answer.



PED values will be negative and must be indicated in the answer.

## Question 11

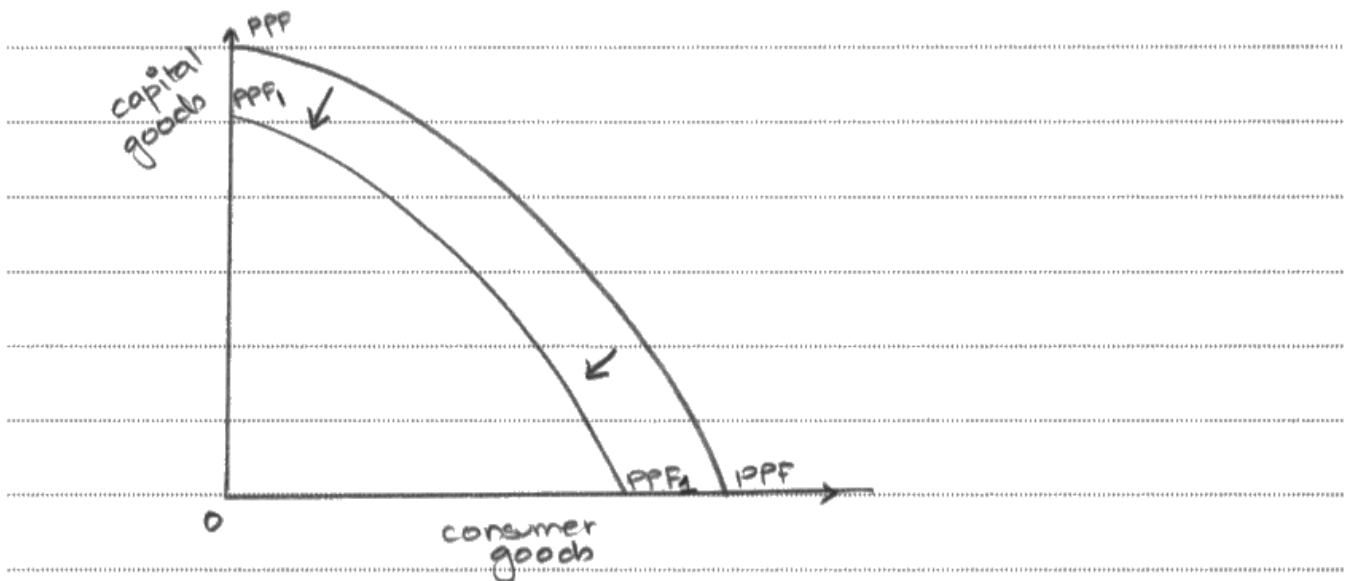
Most candidates could identify that the reduction in population would cause an inward shift of the PPF. Many drew the two curves with an arrow but did not label the curves or the axes meaning they could not achieve both marks. The explain part of the question did require candidates to explain why it shifts inwards and what the result is.

Candidates were asked to illustrate their answers with a diagram and most correctly drew a production possibility frontier. It is essential however that the two axes are labelled appropriately. Typically candidates referred to capital and consumer goods. It was common here for candidates to only draw a diagram. The question does ask to explain so it will require more than just a diagram. In this case candidates needed to make it clear why a reduction in the population will reduce the availability of labour. Where they made the link to productive potential declining they could access the final mark.

**11** Lithuania's population decreased from 3.7 million in 1989 to 2.9 million in 2015.

*Ceteris paribus*, explain the likely impact of this change in population on Lithuania's production possibility frontier (PPF).

Illustrate your answer with a diagram.





Production possibility frontier is a curve that shows different combinations of goods an economy can produce when all of its resources are used up.

In this case, the fall in population from 3.7m in 1989 to 2.9m in 2015 indicates the fall in quantity of human capital which results in a fall in Lithuania's economic growth.

So, the (PPF) shifts inwards:



The diagram is correctly labelled and the inclusion of the arrows to help is also useful. 2 marks for the diagram. Definition of PPF is only awarded where the original PPF is not drawn. They refer to a reduction in the quantity of human capital which gains a mark. The link to Lithuania's economic growth falling is the final mark achieved.



Make it clear in the diagram the direction of your shift in the PPF. This could be through the use of an arrow or through the labels e.g. PPF to PPF1.

## Question 12 (a)

The January series tested this concept and many candidates performed poorly. Here the performance was much better with most understanding that the goods were abundant in supply although many expressed this in terms of not being scarce. In addition most candidates then linked to how this leads to a lack of opportunity costs.

This candidate is typical of many. They have written a lot to fill the space but actually achieved full marks by the end of the first sentence.

12 (a) Define the term 'free good' (Extract A, line 7).

(2)

A free good is not scarce and does not have an opportunity cost of production. ~~It is~~ <sup>wild grass</sup> considered to be a free good because there is plenty of supply and it does not have opportunity cost. The land on which it grows can still be used for for instance lamb farms, which is additionally, lamb feed on wild grass.



Making reference to the goods not being scarce achieves the first mark. They then gain a mark for there being no opportunity costs to achieve full marks. The second sentence says the same as the first.



The two mark define questions require a definition only. There are not application marks so the effort to apply to the Extract here is not required.

## Question 12 (b)

This question saw two key methods used to answer it. One focused on calculating mathematically the impact of the change in income on the quantity demanded using the given YED in their answer. The other approach was to explain that as an inferior good, a rise in income would cause a fall in quantity demanded and the fact that the value was inelastic shows that the change would be less than proportional.

Many candidates attempted this question by calculating the impact on quantity demanded. Here is an example of a candidate who has attempted this method successfully to access full marks.

Between 2008 and 2016 weekly household real income increased by 2.7% in Australia.

- (b) With reference to Figure 1, explain the likely change in quantity demanded of lamb between 2008 and 2016.

(4)

$$\text{Income elasticity of demand} = \frac{\% \Delta Q_d}{\% \Delta Y}$$

$$\frac{x}{2.7} = -0.146$$

$$YED = -0.146$$

$$-0.146 \times 2.7 = -0.3942$$

Income elasticity of demand is inelastic + lamb is an inferior good = Therefore when income increases, quantity demanded decreases.



The candidate has defined YED for the first mark and calculated the impact on the quantity demanded of lamb and by identifying that it is negative they gained two marks. The final mark was awarded for identifying that it was an inferior good.



Make sure in calculating the change in quantity demanded to include whether it is positive or negative. On its own this was worth a mark which many candidates missed out on.

## Question 12 (c)

The question asked candidates to make reference to Figure 2 and this is where the reference to the change in price was normally made. Reference to Extract A was used to identify the demand factor. Most candidates identified advertising as the demand factor. It was the analysis mark to explain how the demand factor caused demand to rise that candidates failed to achieve. The diagrams were normally accurately drawn, showing demand shifting to the right and showing the equilibrium price and quantity both rising.

This candidate has explicitly used data, identified the demand factor and analysed why this causes the demand to rise. They gain full credit for their accurate diagram.

(c) With reference to Figure 2 and Extract A, analyse **one** reason why the price of lamb increased during 2017.

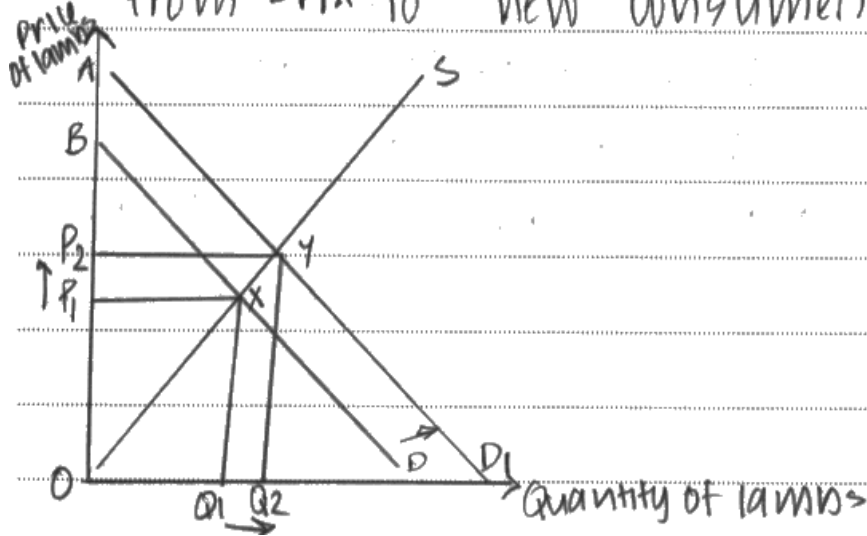
Illustrate your answer with a supply and demand diagram.

(6)  
The price of lamb increased from around \$ US\$ 5.10 per kg during January 2017 to around US\$ 5.80 per kg during December 2017. This has been caused by ~~rising global successful rising~~ by successful advertising campaign as the Extract A suggests. Successful Advertising campaigns increase the awareness of a product in the market which causes more consumers to know about it. As they know about Australian lambs which tend to be healthy and a good source of meat, they tend to demand it more. As a result demand rises from  $D$  to  $D_1$  <sup>and shift rightwards</sup> causing a rise in equilibrium price from  $P$  to  $P_1$  and a

rise in equilibrium quantity from  $Q$  to  $Q_1$ .

This also increases consumer surplus

from  $BP_1X$  to new consumer surplus  $AP_2Y$



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The candidate gains the first mark for explicit reference to the price change. The second mark was for reference to the successful advertising campaign. The candidate then develops this by saying that this raises awareness for the third mark. No credit for reference to consumer surplus. They achieve 3 marks for the diagram. 1 for the original equilibrium, 1 for the correct shift in demand and 1 for the final equilibrium.



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Inclusion of arrows to show the direction of the change in price and quantity and the shift in demand all help to ensure it is clear on what candidates have shifted where.

## **Question 12 (d)**

Most candidates could accurately define external costs. Some attempted to define externalities but this needed to focus on the specific externalities, that is negative externalities. The number of candidates that picked out examples of externalities from the Extract, in particular water pollution, antibiotics and health issues was impressive. Stronger candidates would also explain how this externality affects the third party. Diagrams were typically offered to pick up the second knowledge mark. Remember that the Examine question has 2 marks allocated to evaluation. Many candidates omitted to include this. The better responses would link to positive externalities, the difficulty in measuring, the magnitude of the issue and would place in the context of the question or would develop the evaluative point.

This is an impressive response which accesses more marks than were allocated to the question. The candidate includes an accurate definition, external costs developed, the diagrams and a developed evaluation enabling them to achieve full marks.



(d) With reference to Extract B, examine the external costs resulting from increased meat production.

(8)

External costs can be defined as the spillover costs rising from production and consumption which the market fails to take into an account. According to the given extract B, the external cost to the third parties have arose from the consumption and production of meat.

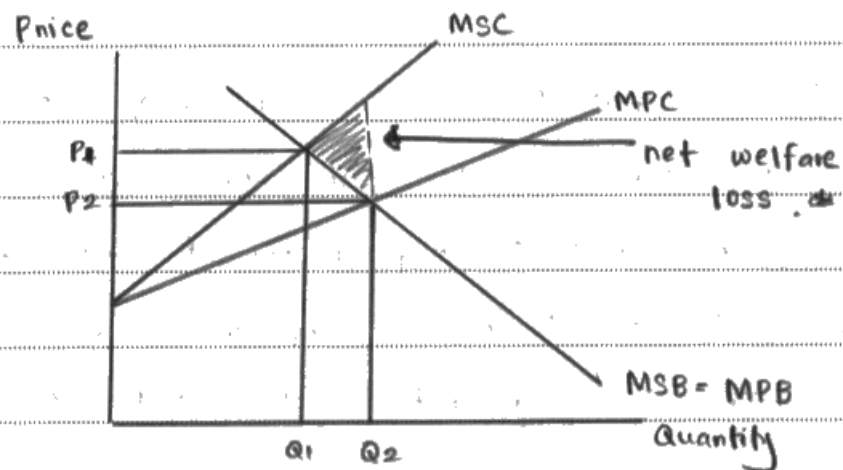
firstly, "meat production has a damaging effect on the environment causing water pollution". <sup>(Extract B, line 3-4),</sup> ~~The pr~~ when the producers of meat use water to their production it makes the water impure and dirty. Therefore the people who live close by will not be able to access # clean water which will leads to diseases like skin diseases. As a result this incurs a cost to the third party of health issues, (health care expenditure). As well as the fish producers would also affect by this, destroying of fish industry would result ~~in~~ the fish producers to be unemployed leading to poor living standard.

Secondly, "consumption damaging their health" Consumption of meat would also result in health issues. "increase in obesity, diabetes, cancer" (line 7-8), which are very dangerous diseases, this would also result in the cost of the health care expenditure which would lead to a decrease in the disposable income. ~~"Effects~~

Moreover, "Excessive use of antibiotics to treat animals is also leading to a decline in the effectiveness of antibiotics used to treat human illness". (line 3-6), "this would



also result in health issues that it would be difficult to treat the humans illness as a result of decrease in antibiotics.



However, the meat producers would be benefit as when they sell meat to many people, their disposable income increase leading to a good living standard. Therefore they would also demand more workers in their production which would result in high employment, revenue and profits.

Secondly, magnitude of the external cost can will be depend on how many animals are been taken to produce meat which would lead to water pollution. Moreover, the extern cost can not be measured in monetary values.



The first mark is awarded for defining external costs. They gain a second mark for identifying water pollution. They get the third mark for explaining how this affects the third party in terms of reducing the access to clean water. The reference to the impact on fish producers would also gain credit but this mark is awarded already. The fourth mark is for identifying the health issues and this is developed to look at associated healthcare costs for the next mark. The work on antibiotics whilst creditworthy does not add anything as all the marks for this are already achieved. The diagram showing MSC above MPC gains another knowledge mark meaning Knowledge, Application and Analysis achieves 6/6. The evaluation looking at benefits for meat producers gains a mark and gains an additional mark for the link to employment. The candidate considers the magnitude and the difficulty in measuring but all the evaluation marks have been achieved already. 2/2.



On an 8 mark question candidates will typically need to consider 3 factors, whether this be causes or impacts, so considering further factors may be excessive and just reduce the candidates ability to finish the paper in the allocated time.

## **Question 12 (e)**

This the only level based question in the Data Response section. There were 8 marks available for Knowledge, Application and Analysis and 6 marks for Evaluation. The question required a diagram. Weaker diagrams tended to appropriately show supply shifting left but better responses pivoted it appropriately as it was identified in the Extract as an ad valorem tax. Nearly all candidates could correctly define indirect tax, some also identified and defined ad valorem tax. Weaker responses focused more on the impact on price and quantity. Better responses went on to consider wider aspects including revenue, consumer surplus, producer surplus, government revenue, consumer incidence and producer incidence. One approach was to consider the impact on a range of economic agents including the government, consumers and producers. Evaluation tended to focus on the magnitude or size of tax with better responses looking at the 40% tax on beef being significant so likely to have a large impact. Many candidates looked at measurement and how it is difficult to measure what the ideal tax rate is for each meat and how it is hard to measure the external costs associated with each meat. Some evaluated by making reference to farmers/meat producers earning less income and leading some to leave the industry. Some candidates argued that it may create government failure as some may trade illegally to avoid or evade taxation.

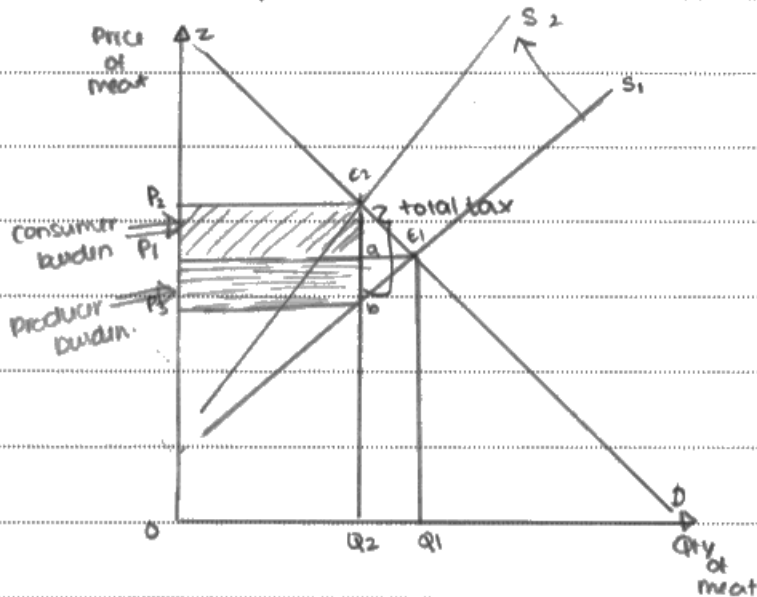
This response achieves Level 3 for Knowledge, Application and Analysis and Level 3 for Evaluation. They have demonstrated accurate knowledge, offered detailed analysis and applied to the specific details within the Extract. They have also offered a number of evaluative points which are developed.

(e) With reference to Extract B, discuss the likely effects of the introduction of an indirect tax on meat.

Illustrate your answer with an appropriate diagram.

(14)

Indirect taxes are a charge levied by the government on expenditure and the tax burden is passed on higher prices, when an indirect tax is charged on meat the cost of production for meat producers increase resulting in a contraction of supply from  $S_1$  to  $S_2$ .

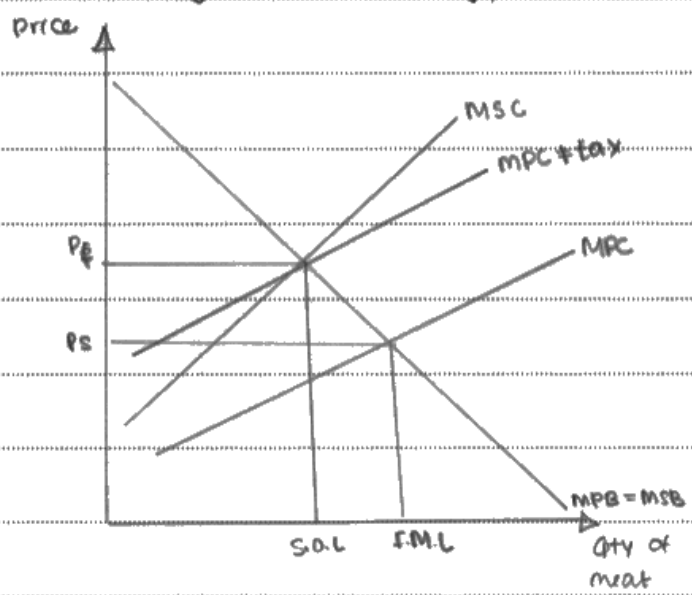


with a 40% tax on beef and 8.6% tax on chicken, producers of meat may face a decrease in the revenue generated from  $P_1 E_1 Q_1 O$  to  $P_2 E_2 Q_2 O$ . # due to the producer burden of  $P_1 a b P_3$ , therefore producers may find it hard to cope up with this change therefore making them exist this market. Consumers on the other hand would have to bear  $P_2 E_2 O P_1$  as their burden thus increasing the price of meat. In response consumers may contract demand as a result of the indirect tax.

However, the contraction in demand would mainly depend on the price elasticity of demand. If the PED for meat is inelastic consumers may be less sensitive to price causing demand to fall less than proportionately therefore the indirect tax would be less effective.

associated with

The extract also states that there's a high level of external costs involved in meat production. As a result of this tax imposed, the negative effects to the environment and the pressure on healthcare could be minimized, since producers and consumers pay for the cost they commit. This 'polluter pays principle' would then thereby internalise the negative externality, as shown below.



As a result bringing the private cost to the socially optimum level. Nevertheless this depends on the magnitude of the tax charge levied on meat producers. If the 4.0% and 3.5% tax charge is insignificant then these results would not materialise but if the tax is significant it would internalise the externality.

The government on the other hand could earn a revenue through this tax charge.  $P_2 P_3 O E_2$  as shown in the previous diagram is the total revenue generated by the government. The text states that 'meat producers are not well known by the costs that are associated with meat production' therefore the gov. could reinvest in reducing this information gap between the parties that cause such negative effects.

Moreover, the tax revenue generated by the gov. goes into a common pot. And there is no guarantee that the government would invest in correcting this failure since the gov. could invest in providing a merit good such as education that has a greater effect than the costs involved in meat production.



The candidate defined indirect taxation and identified how this would add to the costs of production. The diagram is accurate and correctly shows the pivot. They also identify the producer and consumer burden of the tax. To help them access Level 3 the candidate has utilised the diagram in the analysis that follows, this also incorporates application with reference to the proposed meat tax. They then evaluate with reference to elasticity of demand to consider how the burden would be shared. The section on external costs is well developed. They evaluate with reference to magnitude which develops this as it incorporates the data in terms of the percentage and the likely significance. They then consider the impact on the government in terms of revenues. They further evaluate by linking to how the money may not be directed towards correcting the issues of over production or consumption of meat.



Diagrams that include extra features will be well rewarded. For example, here going beyond price and quantity to look at government revenue, producer and consumer incidence would help access a higher level.



## Question 13

The question asked candidates to evaluate why only 18.3% of adults were vaccinated. This was despite it reducing the risk of cancer by 88% and preventing 925,000 cases of cancer. Most candidates looked at how rational consumers will maximise their utility and by having the vaccine it reduces their risk of developing cancer. Most used the data to argue why the rational choice was to vaccinate. In terms of the reason why many do not vaccinate a number of candidates considered how healthcare in the US is in the private sector and how low take-up may relate to the costs of the vaccine. Many candidates though focused on irrational behaviour to explain why people did not vaccinate. Some looked at the influence of other people's behaviour (herding), others looked at habitual behaviour in that this is a new vaccine and people will not yet be in the habit of having this vaccine. Others considered inertia, in that customers may not have the energy to arrange appointments and to have the vaccination. Poor computational skills was considered as people struggle to calculate the benefit in terms of lower cancer risk. Another line of argument was that it was in fact asymmetric information/information gaps may exist where people do not have enough information to calculate possible benefits of receiving vaccine compared to the costs of vaccination. Others considered how the government needs to better inform people of the benefits of having the vaccine or the risks of not having the vaccine. A common argument was that people may fear that the new vaccine may have side effects or unknown complications and therefore how this might be a rational decision. Another line of argument was that people may ignore any external benefits which leads to the under consumption of the vaccine. Candidates were able to offer effective arguments as to why people would not vaccinate although they tended to struggle more to evaluate. Common evaluation that was offered included measurement problems in terms of the difficulty in measuring the size of any external benefits or to measure truly how many cancers the vaccine would prevent as the figures given are estimates. Some candidates considered magnitude and how a significant number had not taking the vaccine with only 18.3% take up. Some looked at the time frame, that in the short-term people may not take the vaccine but over the long-term with more information and more being protected more will take the vaccine.

This candidate considers information failure, they look at this theoretically before applying this to the specific context. They also look at side effects that put people off being vaccinated. This moves into the analysis of external benefits including the effective use of a diagram. The candidate also looks at how information could be provided.

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

Chosen question number: Question 13  Question 14

Write your answer here:

Market failure is a situation that occurs in a market when price mechanism does not lead to an optimal allocation of resources.

One form of market failure is information failure. In order for the market to function properly economic agents, mainly consumers and firms will have to have adequate details about the product. Consumer should be able to identify changes in prices and producers should pick signals of what consumers want to have. This is known as symmetric information. The problem arises from asymmetric information where participants in the market are not fully aware about market conditions.

According to the case study only 18.3% of adults were vaccinated between 2011 and 2014 preventing 170,000 cases of cancer.

One possible reason why other adults didn't get themselves vaccinated could be lack of information. They wouldn't have known the benefits that may could have obtained by the HPV vaccine which is specially designed to reduce the risk of cancer by 88%.



Moreover, in health provision there are some dishonesty happening in recent times. Because the doctors know more information than the patients. They can use this as advantage to maximise their profits by carrying out the treatment without publishing the prices. Therefore there is no other way around and patients are compelled to pay higher prices.

In some cases, patients are told to do the recommended treatment by the doctor but he or she does not have an idea whether it's necessary or not. By the only way to find out is to visit another doctor for a second opinion.

Since Rational consumers always balance their costs with their benefits. They can be triggered when an unfair situation happens like this.

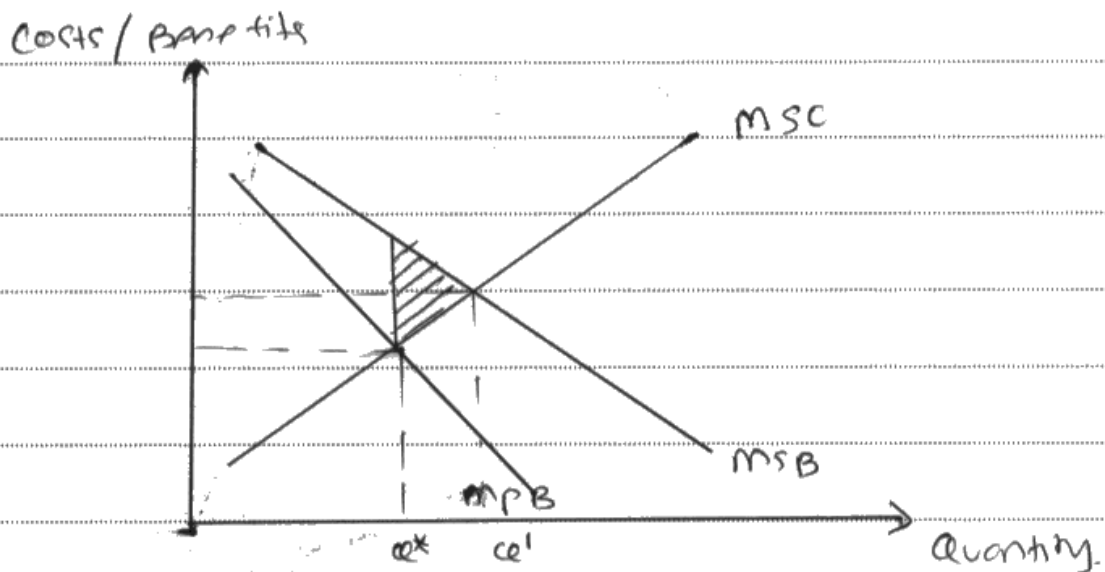
They would assume not get vaccinated as the marginal costs tend to increase. Maybe because of these reasons 75,000 cancers cases are remaining.

By getting vaccinated against cancer not only the individual benefits from it but the society as whole has a impact too. There could be possibilities where some consumers are afraid about the side-effects, or they may have phobias against needles. Moreover there

is a direct charge towards it. So rational consumers will always consider their marginal benefits and marginal costs. ~~At least~~ At least the marginal cost should be as large as the marginal benefits.

Suppose that an individual who does not get himself vaccinated may be chance of ~~passing~~ passing it to others and if many do not get vaccinated this could lead to a wide spread epidemic causing damage to the economy.

when <sup>people at</sup> workplaces age contract cancer the size of the workforce will decrease and the productivity levels will fall.



There by, we can say that when one individual gets himself vaccinated, he receives the private benefits but the social benefits exceed as society will be better off at  $q^*$ . The shaded triangle shows the welfare gain.

In order to correct the information failure the government can intervene and raise awareness through advertising and health campaigns. They can charge fines or penalties for the producers who disregard laws and regulations.



This candidate has achieved Level 3 for Knowledge, Application and Analysis. Evaluation was weaker and achieved within Level 2.



When including diagrams it is important to incorporate the details from the diagram in the analysis.

## Question 14

Candidates tended to perform marginally better on this question. In general it was the evaluation that was stronger. Candidates were asked to evaluate the likely impact of the introduction of a maximum price for gas and electricity. Most defined maximum price and said that the idea is to protect consumers from being charged very high prices for gas and electricity. Many candidates used the data explicit in the stem to consider why this maximum price was needed. More basic analysis focused on the impact on price and quantity. Better responses used more precise language in terms of considering the contraction in quantity supplied and extension of demand. They often considered how this would lead to lower profitability and to some firms exiting the market. The lower price will see an extension in demand to QD as product is more affordable. Most candidates could identify that the maximum price causes excess demand/a shortage. Better responses often looked at consumer surplus and producer surplus falling. Better responses considered how the maximum price could reduce choice to consumers as some firms may decide to leave the market. Evaluation tended to consider the measurement problem in terms of knowing at what level maximum price should be set at. Many candidates considered magnitude and how the level of maximum price will determine whether it has the desired impact. Many explicitly used data to identify that 12 million may benefit from this policy. Another common evaluative comment considered the time frame in which the maximum price is to be implemented. Many candidates considered how regulators will ensure customers still receive supply. They considered how demand was likely to be inelastic so little effect will be had on quantity

This question saw candidates perform better and here is an example of a candidate who has achieved within the top level for both Knowledge, Application and Analysis and Evaluation.

Write your answer here:

Maximum price can be referred as the price which is charged below the equilibrium price, in fact this is the legal limit charged for the goods and the services. This maximum pricing will be charged in order to protect the consumers. The data provided states that 12 million consumers within UK are on standard variable tariffs but one energy supplier charged a standard variable rate of £166 per year, thus the cheapest deal was £935 per year. So consequently the UK government had introduced a maximum price for gas and electricity. So charging and introducing this maximum price for gas and electricity is likely to create positive effects and negative effects.

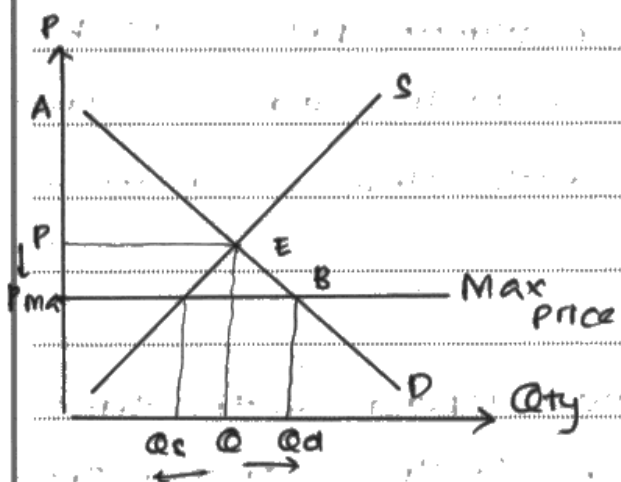
Due to this maximum price for gas and electricity the consumers would be benefited due to low price and as a result they will intend to demand for more gas and electricity as a result the demand for these industries will increase. In fact the consumers would be more benefited due to low prices, in which the consumers benefit will rise and thereby the consumer surplus will increase. In fact due to this introduction of the maximum price the firms would be having



high demand, in fact they will be able to earn more revenue and profits, thereafter the firms will be able to easily expand themselves and the level of unemployment in UK will tend to reduce. Moreover due to this introduction of maximum price the people would access to demand and purchase this gas and electricity more cheaply and thereby the living standards of the people could be improved. In fact the government would be able to charge tax on the firms profit level or the income level of the people and thereby the government is able to have high tax revenue, in fact this amount of money could be used by the government to invest in certain areas such as education, healthcare or the infrastructure development and thereby will be able to improve the economical benefits and the situations.

Moreover due to this maximum pricing certain activities such as the smuggling or cross border shopping could be eliminated, because since the prices of UK gas and electricity is low the people would not be engaging in illegal activities and as a result the government failure could be eliminated. In fact due to this maximum pricing the firms would have excess demand and in order to fulfill

that upgrowing demand they will require more labour and as a result derived demand will increase in which the demand for labour will increase and this will result in more employment opportunities and the wages of workers will rise. This introduction of maximum price can be shown as follows:



The diagram shows the introduction of the maximum price which causes the price to fall from  $P$  to  $P_{max}$  and leading to a rise in consumer surplus from  $PEA$  to  $P_{max}BA$ .

However the introduction of this maximum price will create excess demand leading to have shortages this is because due to the low price the firms will be discouraged to supply more as a result there will not be enough supply to fulfill the excess demand in fact shortages will be created. Thus the effect of this maximum price will depend on the magnitude or the size of the price, the extract states that they had a cheapest deal of £935 per year so this could be insignificantly or significantly affect the relevant parties. Thus due to this maximum price

Sometimes the firms may earn less revenue and income and this may sometimes lead them to close down and exit and as a result the productivity of the economy will go down. Moreover the effect of this maximum price will depend on the PED and the PES level because in accordance to the elasticity of the product the effect of this maximum price will be affecting them. If PED is inelastic it could affect them insignificantly but if PED is elastic this could affect them significantly.

Whereas this effect will also depend on the time run and for how long it remains in the economy, this is because in the short run the introduction of the maximum price will affect insignificantly but in the long run it could affect them significantly. Moreover due to these low prices the producers benefit will fall leading to have a reduced producer surplus. In fact if this electricity is generated using the non renewable sources then it may run out to a certain extent and this means that the firms are not able to fulfill their demand. Thus the introduction of the maximum price is an opportunity cost to the government and they could have invested it elsewhere in order to gain further benefits. Whereas the consumption of more gas and electricity would create environmental



damage and pollution therefore this may lead to create external costs and there will be unsustainable development in the economy. Therefore this introduction of the maximum price on gas and electricity is likely to create positive effects and negative externalities too in the UK economy.



The candidate starts by defining the key concept and the reasoning for the policy being put in place. They considered the benefit to consumers in terms of the impact on consumer surplus. The diagram is used and analysed in the written explanation that accompanies this. They evaluate linked to the shortage and also linked to the magnitude depending on where it is set. The candidate considers the impact on the firms revenue and elasticity. The timeframe is also discussed. The response shows sound knowledge, they develop this in the context of the electricity market and offer analysis in developing a chain of reasoning. The diagrammatic analysis is strong. The evaluation is also well developed. Both the Knowledge, Application and Analysis and Evaluation are within the top level available.



The candidate has clearly signalled to the examiner where they are attempting to evaluate. This is helpful to the examiner in deciding the appropriate mark for the work.

# Paper Summary

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

## Section A: Multiple Choice

- On the external benefit diagram it is important that candidates can accurately identify the welfare gain as many struggled with this.
- On the PES question many candidates struggled to calculate the impact of a 10% rise in price on the quantity supplied. Practice at this would be useful for candidates.

## Section B: Short Answer Question

- When asked to 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.
- Question 9 on the role of financial markets was a challenge. Most candidates used the data provided and identified a role of financial products. They need to be able to link the role with the higher levels of exports.
- Question 10 caused problems. Candidates need to read the question carefully as many calculated the PED as if the quantity fell from 12,800,000 to 800,000 when in fact it had fallen by 800,000 to 12,000,000.

## Section C: Data Response

- When asked to refer to two sources, for example in 12(c), there will be marks available for making explicit reference to information from each source.
- 12(c) required analysis and many candidates struggled to access the second analysis mark. It is the need to analyse what causes the demand and price to rise. For example, that advertising raises awareness.
- When identifying the external costs it is important to explain who the third party is and how they are affected.
- In the 8 mark question there are two evaluation marks available. These can be accessed through making two evaluative comments or by developing one evaluation point.
- When drawing the required diagram in 12(e) candidates needed to pay attention that this was an ad valorem tax and pivot it.

## Section D: Essay

- Define the key terms relevant to the question.
- Diagrams should be drawn where helpful and many candidates successfully incorporated a maximum price diagram.
- Candidates that did best were able to apply to the specific question and use relevant examples that fitted with why people did not vaccinate and the energy market.

- Evaluation points should be made and linked to the context of the question. These should have a chain of reasoning or sufficient development to be able to achieve Level 3.
- To achieve Level 3 for evaluation in the essay it is necessary to include an informed judgement.

## Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>



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