



# Examiners' Report June 2018

## IAL Economics 1 WEC01 01

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## Introduction

The number of candidates sitting this unit was similar to the numbers sat in June 2017. On this paper, there are 32 marks in Section A, the supported multiple choice section and 48 marks in Section B, the data response section. Candidates have a choice of two data response questions and more candidates attempted question 9 on orange concentrate than question 10 on the labour market. The quality of responses has once again improved. Stronger responses offered accurate definitions of key terms. The annotation of diagrams shifting supply or demand as appropriate and drawing new equilibria was well done by a significant number of candidates. Diagrams were well used to show the effect of a minimum wage and to illustrate external costs with the social optimum, market equilibrium and welfare loss clearly identified. Stronger candidates identified relevant external costs and then went on to explain how the third party loses out. It was pleasing that candidates explored the impact of indirect tax on different economic agents. When exploring the concept of price elasticity of supply, most candidates were able to give examples from the Extract and linked them to the relevant elasticity. The carbon emissions scheme was misunderstood with many candidates referring to how firms are fined or taxed for going over allowance – which is incorrect. Whilst candidates can define a carbon emission scheme, they need to understand that going over the allowance will require buying permits from other firms with spare permits and will not involve fines or taxation. The medium of exchange is an area centres need to work on to support candidates and an understanding of the importance of the double coincidence of wants would be helpful. There was some excellent annotation of the minimum price diagram to access the range of marks. Candidates who performed well used the Extracts to ensure their responses were in context and then offered sufficient development to access analysis marks. Evaluation also used the context and developed these.

## Question 1

Most candidates were able to achieve well on this question. Many candidates could identify the correct answer. Candidates had to identify that goods that are non-rival and non-excludable are public goods and many did so. It was less common for candidates to offer examples of public goods. Candidates also often defined the mixed economy making reference to the private and public sector, whilst others made reference to the price mechanism and government sector to access the marks. When defining mixed economy some candidates said that it is the free market and command economy but this is not sufficient to access the mark. Up to 2 marks could be achieved for explaining the free rider effect although this was rarely awarded as most candidates just identified it, which gained no credit. Rejection of A was common as many candidates explained that governments would impose tax on products with external costs or that they would subsidise external benefits. Similarly B was rejected because subsidies would be provided for goods with external benefits or that external costs would see indirect taxes imposed.

This candidate has achieved the full marks available for this question.

- 1 (a) Which one of the following roles is the state most likely to undertake in a mixed economy?

(1)

- A Imposing indirect taxes to discourage consumption of goods with external benefits
- B Providing subsidies to encourage production of goods with external costs
- C Imposing a maximum price to ensure prices do not fall below it
- D Provide goods with the characteristics of non-excludability and non-rivalry

Answer

D

- (b) Explanation

(3)

A mixed economy consists of private sector and public sector. The private sector is made up of private individuals while public sector is the government. The government can only provide public goods which bear the characteristics of non-excludability and non-rivalry e.g. lighthouse



The candidate has selected the correct key for the first mark. The definition offered for a mixed economy is acceptable and achieves a mark. They identify public goods so achieve the next mark. They then give a relevant example of a public good in terms of lighthouses. Full marks achieved 4/4.



When defining mixed economy, it is best defined as where resources in an economy are allocated by both the price mechanism and the government

## Question 2

Candidates typically did well on this question. Most candidates could achieve a mark for defining either renewable or non-renewable. Many candidates gave examples but were not awarded marks for this. All the marks available could be achieved through calculations. In most instances two marks were awarded for calculating renewable resources in 2006 and 2016. Very few candidates went on to calculate the change between the two years. When candidates did so accurately they would achieve the full 3 marks for explanation. Many candidates achieved credit for rejecting alternative responses. Most rejected A by calculating that the proportion fell and B by explaining that hydro in fact fell from 4.3% to 2.9%.

Full marks have been achieved by this candidate.

2 The table shows Germany's total electricity generation for 2006 and 2016.

|                               | 2006  | 2016  |
|-------------------------------|-------|-------|
| Hydro                         | 4.3%  | 2.9%  |
| Biomass                       | 3.0%  | 3.7%  |
| Wind                          | 16.9% | 25.0% |
| Solar                         | 2.4%  | 20.7% |
| Oil                           | 4.5%  | 2.2%  |
| Natural gas                   | 17.4% | 14.6% |
| Coal                          | 35.0% | 25.4% |
| Other non-renewable resources | 16.5% | 5.5%  |

(Source: adapted from <https://www.cleanenergywire.org/factsheets/germanys-energy-consumption-and-power-mix-charts>)

(a) Which of the following can be deduced from this data?

(1)

- A** The proportion of electricity generated from non-renewable resources increased between 2006 and 2016
- B** The proportion of electricity generated from renewable resources increased between 2006 and 2016
- C** The proportion of electricity generated from each type of renewable resource increased between 2006 and 2016
- D** The proportion of electricity generated from all types of non-renewable resources increased between 2006 and 2016

Answer

B.

(b) Explanation

(3)

Renewable resources are resources which can be used over and over again ~~or~~ or more than once.

Eg: Wind, solar.

Non renewable resources are resources which can only be ~~used~~ used once and depleted or cannot be ~~used~~ used after.

Eg: Oil, coal and natural gas.

$$\text{Renewable resources 2006} = 4.3\% + 3\% + 16.9\% + 2.4\% \\ = 26.6\%$$

$$\text{Non-renewable resources 2006} = 4.5\% + 17.4\% + 35\% + 16.5\% \\ = 73.4\%$$

$$\text{Renewable resources 2016} = 2.9\% + 3.7\% + 25\% + 20.7\% \\ = 52.3\%$$

$$\text{Non-renewable resources 2016} = 2.2\% + 14.6\% + 25.4\% + 5.5\% \\ = 47.7$$

Option C is incorrect because each renewable type increased between 2006 and 2016 except hydro which fell to ~~4.3%~~ 4.3% in 2006 to 2.9% in 2016.





This response has the right answer. The candidate defines renewable resources accurately. They were not rewarded for the examples. They go on to define non-renewable but get no credit for this as the mark for definitions has already been awarded. The candidate achieves a mark for renewable total in 2006 and another for the calculation for 2016. Rejection of C is also creditworthy as it uses data explicitly to reject C.



When explaining why the alternatives are wrong it is advisable to use data to help prove or disprove the points being made.

## Question 3

This question saw many candidates achieve credit but very few were able to achieve the full marks available. Many candidates could identify the correct answer that the function of money was to act as a medium of exchange. Most candidates could then go on to explain the medium of exchange in terms of where an item is widely accepted in exchange for goods and services. When teaching the functions of money, it is worth emphasising why alternatives to money such as barter do not work. The key here is the ability to explain the double coincidence of wants which was rarely explored. The key point is that two people may have items to trade but they need to then find someone that wants those items and has something to trade that is wanted by the other party. One way candidates were able to access marks was by rejecting A. Many candidates explained that rational consumers maximise and not minimise utility.

Full marks are achieved for this response.

3 (a) Which one of the following is a function of money?

(1)

- A To enable consumers to minimise utility
- B To reduce the division of labour
- C To act as a medium of exchange
- D To make consumers feel valued

Answer

C

(b) Explanation

(3)

money is a medium of exchange used to buy and sell goods or services. It eliminates the need of double coincidence of wants.

B is wrong as division of labour is the division of tasks in a production process and is not a function of money.



This candidate offers the correct answer. They then offer a definition of the medium of exchange for one mark, the key here is the reference to the exchange of money for goods and services. They are then credited for an awareness of the fact money eliminates the double coincidence of wants. The candidate achieves their final mark for the rejection of B for understanding that the division of labour involves the breaking down of tasks. Whilst a weak rejection this was acceptable to award the mark.



Candidates need to be able to explain the idea of the double coincidence of wants and how money resolves this. Many did not make any reference to this concept.

## Question 4

The majority of candidates were able to correctly identify that milk was a normal good and that demand for milk is the most responsive to a change in price. Many defined both income elasticity of demand and price elasticity of demand. Fewer candidates defined relatively price inelastic or normal goods. A lot of attention was paid to definitions yet only one mark was awardable for this. It is key that candidates use the elasticities to prove the answer correct. Most candidates explained that the positive value made it a normal good. It was less common for them to outline that the value being closer to -1 made it the most elastic. Many candidates had to rely on rejection to access marks. Again, it is useful to include the specific values of elasticity to be able to reject.

The candidate may have taken time to decide the right answer having changed their mind a few times but full marks are achieved here.

- 4 The table shows estimates of income elasticity of demand and price elasticity of demand for selected food types in India.

| Food type  | Income elasticity of demand | Price elasticity of demand |
|------------|-----------------------------|----------------------------|
| Rice       | 0.02                        | -0.25                      |
| Milk       | 0.43                        | -0.62                      |
| Fruit      | 0.36                        | -0.60                      |
| Vegetables | 0.26                        | -0.52                      |

(Source: <http://ageconsearch.umn.edu/bitstream/109408/2/1-P-Kumar.pdf>)

- (a) Which one of the following can be deduced from the data?

(1)

- A Fruit is a normal good and demand for fruit is relatively price elastic
- B All food types are inferior goods and demand for them is relatively price inelastic
- C Vegetables have the most income inelastic demand and demand for them is relatively price inelastic
- D Milk is a normal good and the demand for milk is the most responsive to a change in price

Answer



(b) Explanation

(3)

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

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

Milk is a normal good because it has ~~its~~ ~~YED~~ ~~or YED~~ YED is between 0 and 1 ( $0 < YED < 1$ )  
~~It is also true~~ Milk has inelastic demand because  $0 < PED < 1$ . It is the most responsive to a change in price because it has the largest PED of  $-0.62$  compared to the others.

A is incorrect because demand for fruit is price inelastic.



The correct answer is offered. The candidate offers the formulae for both income elasticity of demand and price elasticity of demand. Formulae were only awarded 1 mark in total. The candidate explains that milk is a normal good and makes reference to its value. They then explain that that milk has the largest PED making it most responsive to access the final mark. The candidate rejects A which would also be credited as they have clearly identified fruit as being price inelastic. Full marks are achieved.



The best responses on this question used the numbers in the table where relevant and interpreted what the values meant.

## **Question 5**

Questions on consumer behaviour have historically been challenging for candidates but this year it is clear that this is being taught well as the quality of responses has improved. When looking at the reasons consumers do not switch electricity providers, the majority of candidates were able to identify that it was due to habitual behaviour. Similar numbers of candidates defined rational behaviour and irrational behaviour. Both were creditworthy for one mark. When explaining why rational consumers switch it was best to explicitly refer to the amount they could save. The very best responses considered that this money could then be spent elsewhere to gain further utility. Many candidates defined habitual behaviours in terms of people showing loyalty to a firm they have used for a long period of time. One successful strategy was to reject alternatives. For example, B was commonly rejected by explaining that they would be able to calculate the AUD\$600 saving and therefore switch.

This candidate has accessed full marks with a combination of explanation of the correct answer and rejection of an incorrect answer.

5 It has been calculated that if consumers of electricity in Australia switched suppliers they could save more than AUD\$600 per year. Yet most consumers do not switch to other electricity providers.

(a) Which one of the following explains why many consumers do not switch?

(1)

- A Consumers exhibit habitual behaviour
- B Consumers are good at computation
- C Consumers have perfect knowledge of the market
- D Consumers do not feel valued by current electricity suppliers

Answer

A.

(b) Explanation

(3)

Consumers who exhibit habitual behaviours will continue to do something because they have done so in the past.

They are ~~not~~ not acting rational (where consumers seek to maximise utility) instead this is an example of consumers acting irrational.

Option B is incorrect as if they are good at computation they ~~are~~ will be able to calculate the benefit from switching to other options.

Option C is incorrect as it is consumers may have ~~the~~ asymmetric ~~informal~~ information of the ~~market~~ market.





Correct answer is offered to achieve the first mark. The definition of habitual behaviour is fine for a second mark. Understanding of rationality gained the next mark with definition in brackets. The candidate effectively rejects B by making reference to being able to calculate the saving. The rejection of C is not credited here. The candidate needs to offer more in the explanation in terms of why they think they have asymmetric information.



Remember when rejecting responses to explicitly refer to the letter being rejected.

Here we have a response that achieves the marks in an efficient way.

5 It has been calculated that if consumers of electricity in Australia switched suppliers they could save more than AUD\$600 per year. Yet most consumers do not switch to other electricity providers.

(a) Which one of the following explains why many consumers do not switch?

(1)

- A Consumers exhibit habitual behaviour
- B Consumers are good at computation
- C Consumers have perfect knowledge of the market
- D Consumers do not feel valued by current electricity suppliers

Answer

A

(b) Explanation

(3)

Habitual behaviour is where consumers continue an action even when it doesn't maximize their utility to do so.

Rationality is where consumers tend to maximize their utility. So if consumers act rationally, they would switch to other electricity providers so they could save more than AUD\$600 per year.

(Utility is the benefit received by consumers.)



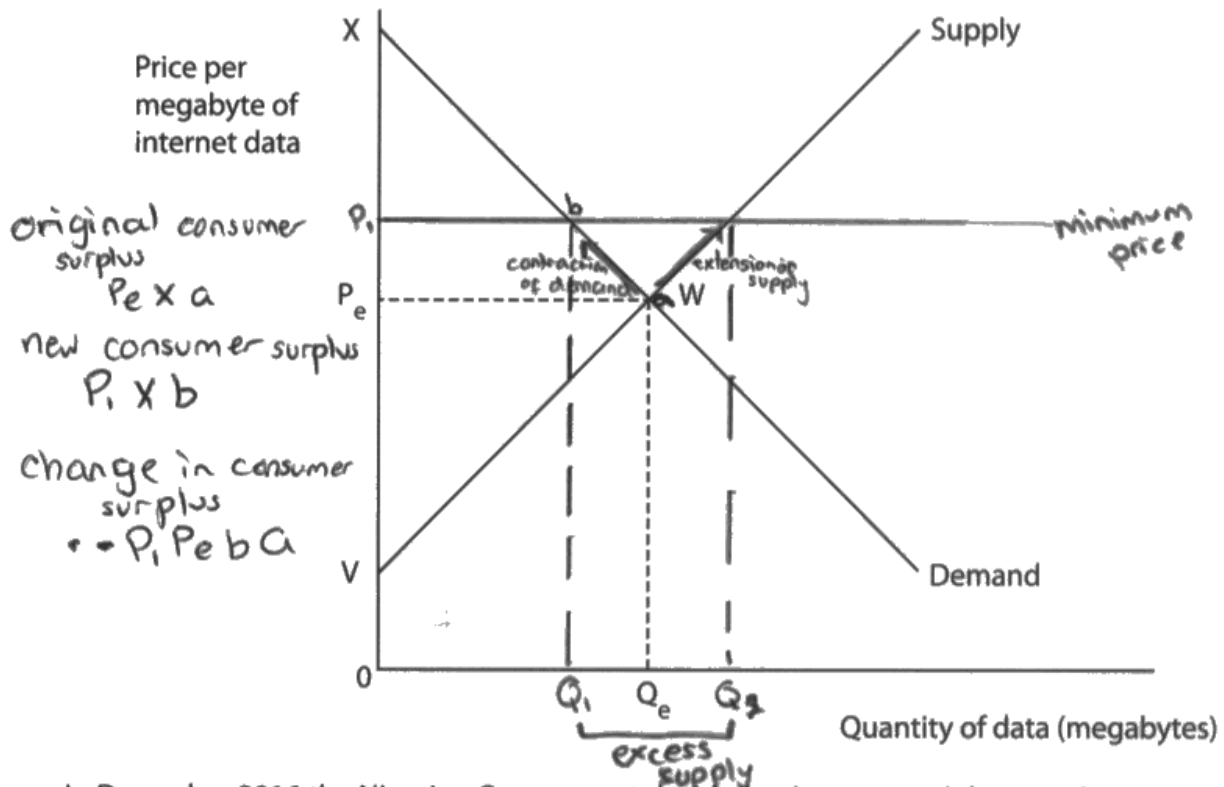
This candidate offers the correct answer for the first mark. They then define habitual behaviour and then rationality for the second and third mark. Making reference to saving AUD\$600 means they achieve full marks.

## Question 6

This question explored the introduction of a minimum price. All the marks could be achieved by effectively annotating the diagram. In most instances the candidate achieved full marks through a combination of annotating the diagram and the written explanation. Many candidates were able to identify that the result would be excess supply and that consumer surplus would fall. Many defined the minimum price often referring to it being a price floor below which prices could not fall. Other candidates defined excess supply or consumer surplus although only one mark was available for one of these. Candidates commonly drew the minimum price above the market price. Explicitly labelling the new Quantity Demanded and Quantity Supplied was also creditworthy. Very few candidates annotated the extension of supply and contraction of demand. Many did annotate the excess supply/surplus. It was rare to see candidates labelling the original and new consumer surplus on the diagram, with more offering a written explanation of the area of the old and new consumer surplus.

This response has achieved more marks than the marks allocated to the question.

6 The diagram shows the market for internet data in Nigeria. The current price is  $P_e$  and quantity  $Q_e$ .



In December 2016 the Nigerian Government decided to impose a minimum price above the market price of  $P_e$ .

(a) Which one of the following can be deduced?

(1)

- A The minimum price will lead to no change in consumer surplus
- B The minimum price will lead to a rise in consumer surplus
- C There will be excess demand and consumer surplus will fall
- D There will be excess supply and consumer surplus will fall

Answer

**D**

(b) Explanation

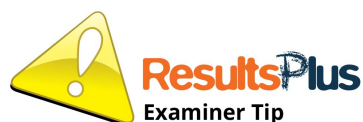
(3)

The minimum price is the lowest amount producers can charge for their products e.g. internet data.



First mark is awarded for the correct answer. In terms of annotating the diagram they gain a mark for illustrating the new minimum price above the equilibrium. They then gain a mark for the old and new consumer surplus and they also identify the change in consumer surplus. Only one mark was linked to consumer surplus.

They gain a further mark for showing the excess supply on the diagram. Although already having achieved full marks they are credited for showing the contraction of demand and extension of supply clearly using arrows. The minimum price is also defined accurately.



Where a diagram is provided annotate it. Many candidates continued to redraw the diagram in full. It is unsurprising that a number of these candidates often then failed to complete the paper.

## Question 7

The area of tradable pollution permit schemes is an area of the specification that continues to challenge some learners. Many candidates talk about it involving fines and taxes being charged when in fact it is about them trading the permits with other firms. This question looked at when the scheme may not be effective. A number of candidates clearly selected B or C as these are how the scheme operates but they had not realised they had to look at what makes the scheme ineffective. Nearly all candidates were able to gain credit for defining a permit scheme or by showing understanding of the tradeable aspect. Many candidates understood that the permit scheme creates a profit incentive to reduce carbon emissions. Many explained that too many permits being offered would lead to higher levels of external costs and that the incentive to sell permits would fall if the supply of available permits increases too high. A significant number of candidates did talk about how exceeding the permits would lead to fines and taxes which is not a feature of a tradeable permit scheme – the key feature is that firms trade any excess permits.

This candidate has achieved full marks showing a good understanding of the operation of a tradable pollution permit scheme.

7 The Chinese Government plans to introduce a tradable pollution permit scheme to reduce carbon emissions.

(a) Which one of the following would limit the effectiveness of this scheme? (1)

- A The Chinese Government supplying significantly more permits than required
- B Firms reducing emissions and being able to make profit from selling permits ✗
- C Firms purchasing permits when they emit too much carbon ✗
- D The Chinese Government issuing fines when firms pollute above their allocation

Answer

A

(b) Explanation (3)

A tradable pollution permit scheme is a licence to pollute that allows the holder to pollute up to a permitted level <sup>to control pollution.</sup> Firms that pollute more than what they are permitted will have to purchase permits from firms that pollute less than ~~than~~ what they are allowed. Thus, it is an incentive to pollute less and disincentive to pollute more.

However, supplying more permits will not be effective as it will make it easier and cheaper for firms to purchase permits and pollution will not be controlled effectively.

B is wrong as the scheme is effective in this case (incentive to pollute less)



This candidate offers the correct answer. They define tradable pollution permits focusing on the permit aspect. They explain that this creates an incentive to produce less. They achieve the final mark by explaining that too many permits means it will be easier and cheaper to purchase permits creating less of an incentive to reduce pollution levels. The rejection of B is not explained well enough, they need to explain what makes it effective.



## Question 8

This question was challenging for many candidates. A significant number identified D as correct although this was an example of government failure where a government intervention leads to smuggling rather than market failure. B was also commonly offered as an answer but market failure is not the result of imperfect information. Most candidates that achieved well here knew that employees being unaware of their financial needs in retirement was the correct answer; and most defined imperfect information. Stronger candidates explained that people would not invest enough into pensions or savings leaving them without sufficient funds in retirement. Few candidates made the link to why this is market failure as there is an under allocation of resources to pensions. It was very common for candidates achieving full marks to achieve this through a combination of explanation of the right answer and rejection of the wrong answers. D was most commonly rejected as candidates identified this as government failure.

Full marks have been achieved by this candidate.

- 8 (a) Which one of the following is an example of how imperfect information can result in market failure?

(1)

- A Where inertia causes consumers to make irrational choices when purchasing insurance
- B Where consumers free ride in consuming light from lighthouses without paying the owners
- C Where employees are unaware of the financial needs they will have in retirement
- D Where government intervention to reduce cigarette consumption leads to smuggling

Answer



- (b) Explanation

(3)

Asymmetric information is when the producer <sup>or the</sup> ~~and the~~ consumer doesn't have the perfect information about the product. Option D is incorrect since it is considered as government failure. Option C is correct since as they are not aware of the consequences they will have to face in the future will lead them to get hit with ~~poor~~ poverty and hence will lead to market failure.

Symmetric information is when the producer and consumers both have the perfect information about the product.



The candidate has identified the correct answer. They have accurately defined asymmetric information which was credited. They have clearly rejected D by referring to this being government failure. They have also been credited for stating that upon retirement they would end up in poverty.

## **Question 9 (a)**

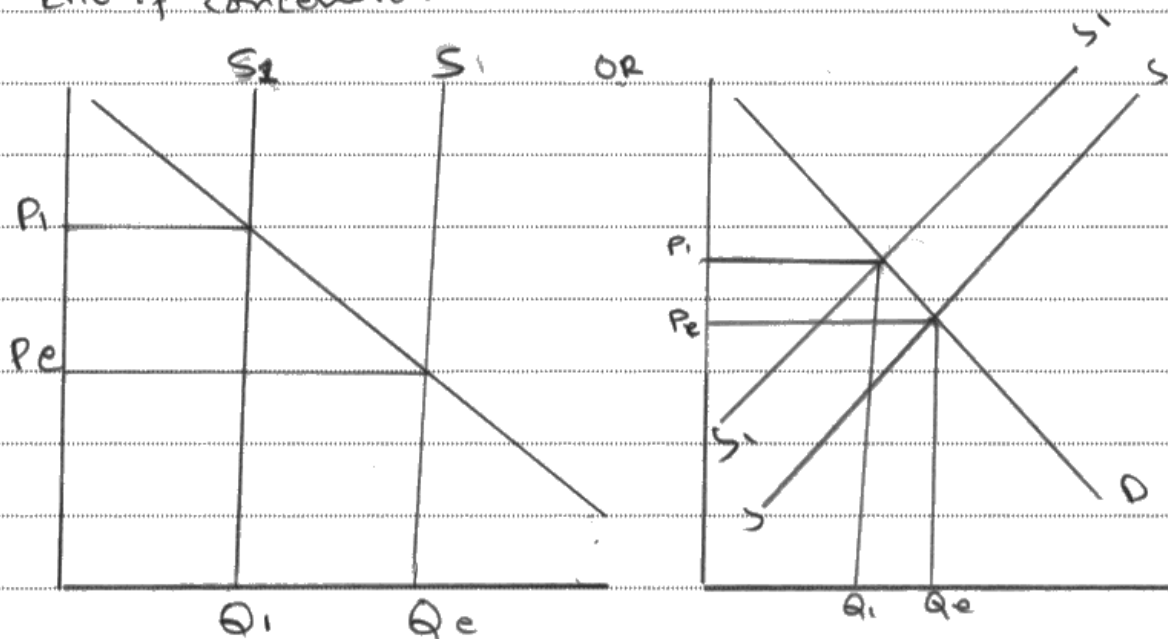
Candidates had to explain why the price of orange juice concentrate increased by 21%. Many referred to the 21% but because it was in the question no marks were available. When candidates identified that the price had increased to \$4 they were credited. Making reference to the poor harvest or more specifically talking about the decreased harvest in Brazil or Florida was credited with one mark. Those candidates that developed this to explain why there was a poor harvest in terms of the tree-killing bug or heavy rains gained a further development mark. Very few candidates accessed the mark for explaining that more fruit would be needed to make one kilo of orange juice concentrate. The question asked for a diagram and three marks were awarded for an accurate diagram. If the supply and demand diagram was drawn with an equilibrium then one mark was awarded. The correct shift in the supply curve gained the second mark. The final mark was awarded for the final equilibrium.

This candidate has actually drawn two diagrams – both of which would access the full marks available for the diagram.

(a) Explain why 'the price of orange juice concentrate increased by 21% between June and September 2016' (Extract 1, lines 6-7). Illustrate your answer with a supply and demand diagram.

(6)

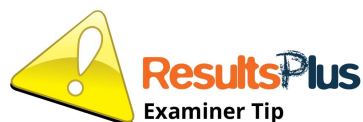
The prices of orange juice concentrate rose by 21% between June and ~~supply~~ September 2016 to more than \$4 per kilo, the highest price ~~2016~~ as there was a fall in supply as the Brazilian harvest decreased by ~~25%~~ <sup>20%</sup> and even 'Florida' <sup>harvest in has</sup> reduced its harvest by 25%. causing the supply to shift inwards and increasing the prices. The harvest in Florida and Brazil was affected by a tree killing bug and rains that resulted in oranges with less sugar which required more oranges to make one kilo of concentrate.



The supply will shift inwards from  $S$  to  $S_1$  and the quantity demanded will fall from  $Q_e$  to  $Q_1$  resulting the price to rise from  $P_e$  to  $P_1$ .



The candidate makes reference to the 21% increase in price but this is not awarded. However, they did then make reference to \$4 which was awarded. They made reference to poor harvests in both Brazil and Florida and gained one mark for this. They developed this by referring to the tree-killing bug for a development mark. They also wrote about how they now require more oranges to make 1 kilo of concentrate to gain a further mark. Both diagrams would be awarded the full 3 marks. Both have an original equilibrium, correct shift of supply and the new equilibrium.



The description under the diagram does not add anything to the response. Candidates are given marks for diagrams with an accurate drawing rather than the explanation.

## **Question 9 (b)**

This question required candidates to consider the relationship between orange juice concentrate and bottled water. Most candidates correctly identified that as the price of concentrate rises the price of orange juice would rise leading people to substitute to bottled water causing the quantity of bottled water to rise. Having identified them as substitutes many candidates correctly defined substitutes for the second mark. The link to people switching to bottled water was often developed for the final mark to consider the impact on price, employment, revenues or producer surplus in the bottled water sector. Where plausible arguments were made to how the goods were complements then these were credited.

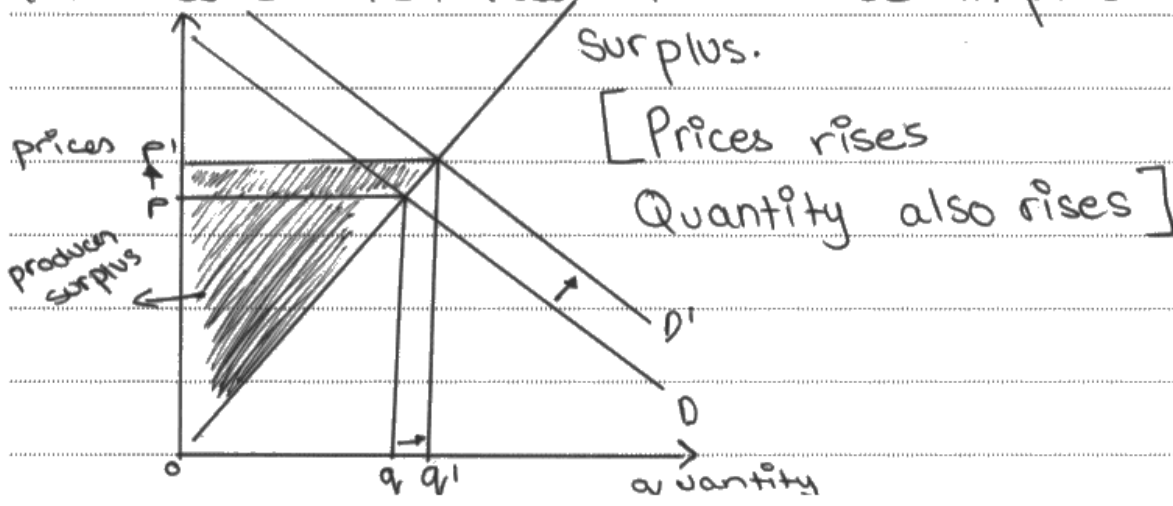
An excellent response accessing all available marks.

(b) With reference to the information provided, explain the likely impact of the rise in the price of orange juice concentrate on the producers of bottled water.

(4)

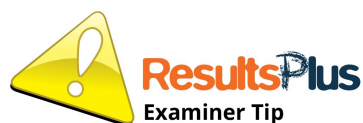
Substitutes are goods which are used instead of one another. Water & orange juice concentrate are weak substitutes. Therefore cross elasticity for them is positive.

When prices of orange juice concentrate rise, the demand for it is likely to fall and so consumers will then switch to consuming more bottled water. Moreover as farmers switch from orange harvest, there is likely to be less water pollution. The rise in price of juice concentrate is likely to increase demand for water thus producers of bottled water will be making higher profits and may increase supply as less water pollution occurs and demand increases which leads to a rise in producer





The candidate starts by defining substitutes for one mark and then later makes reference to the positive XED for the same mark. Making reference to them being weak substitutes is also credited a mark. When they make the point that people will be consuming more bottled water they gain the third mark. The final mark was awarded for the reference to the rise in profit/producer surplus. The diagram would gain credit if it was made clear which product this was for and the increase in producer surplus was clearly identified. Had the candidate not picked up the mark for saying demand for bottled water would rise then they could gain a mark for showing demand shifting to the right as long as it was clear that this was the bottled water market.



There is a lot of information here for a 4 mark response. Be careful not to write too much on these 4 and 6 mark questions as it can then be more difficult to complete the 10 and 14 mark questions.



## **Question 9 (c)**

This question required a discussion on whether orange juice concentrate has price elastic or inelastic supply. There was sound theoretical knowledge of PES, elastic and inelastic supply. It was pleasing to read so many responses that used information from the Extract to argue for elastic or inelastic. Some candidates picked up that several years of poor harvests would mean stocks would be running low and therefore be more inelastic. Some candidates picked up that harvests happened for eight months in Brazil making it relatively more elastic whereas it took only three months in Florida suggesting it was more inelastic. Evaluation was required to access the final four marks. Most candidates presented elastic as KAA and evaluated with reference to inelastic or vice versa.

This candidate achieves full marks.

- (c) With reference to Extract 1, discuss whether the supply of orange juice concentrate is likely to be price elastic or price inelastic.

(10)

$$PES = \frac{\% \Delta Q_s}{\% \Delta P}$$

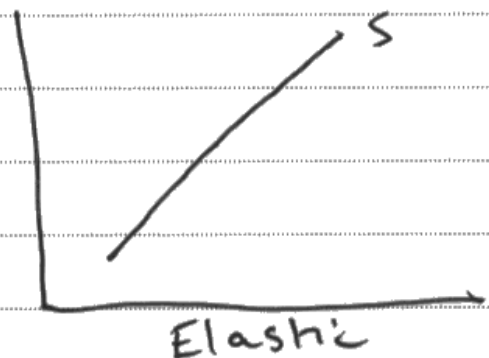
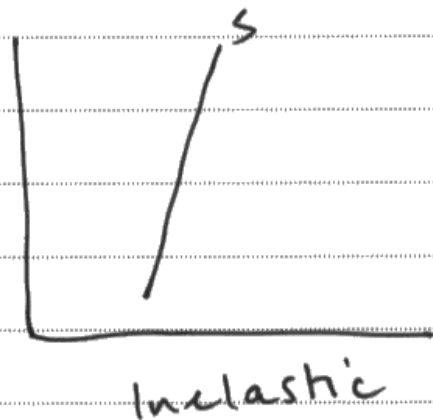
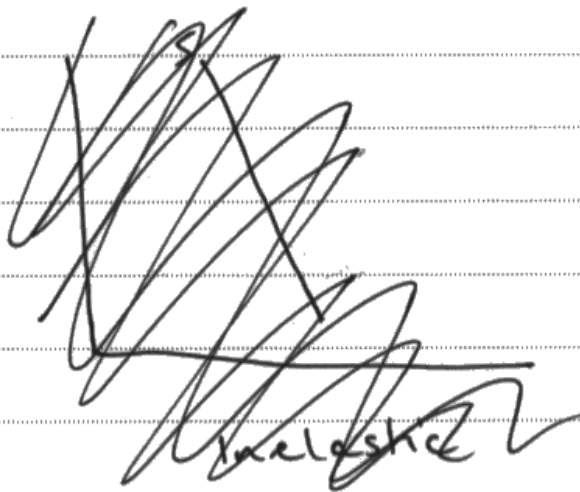
The supply of orange juice concentrate is likely to be inelastic as producers have limited ~~resources~~ stored stocks. Due to several years of poor harvests the stocks of frozen ~~juice~~ juice are running out. As a result, the supply of orange juice cannot be increased rapidly. This makes the PES of orange juice inelastic.

However, orange juice can be frozen making it easy to store. This suggests that orange juice has the ability to store stocks and it is therefore elastic.

The PES of orange juice concentrate is elastic as Brazil grows several varieties of orange and it can therefore be harvested in eight months of the year.

This means that orange can be harvested readily and has a short time period for harvesting. Therefore, the PES of orange juice is elastic.

On the other hand, Florida producers can only harvest oranges between October and December. This means that the PES of orange is inelastic as it takes a long time to grow.





The candidate has clearly provided the formula for PES for the first mark. They then talk about stocks which is in context and analysed in detail to be awarded Level 3. The reference to the time period in the context of Brazil is also awarded Level 3. This gains 6/6 for Knowledge, Application and Analysis. For Evaluation they have considered that there is the ability to freeze making it more elastic and then they explore the time period linked to Florida to achieve top of Level 3 for evaluation. 10/10 overall.

## **Question 9 (d)**

This question considers the external costs associated with the production of oranges. There is a requirement to include a diagram and in most cases there was an attempt to do so. A typical response would define external costs. It was pleasing that responses focused their attention on three key external costs from the Extract. These linked to using chemical fertilisers and how this causes soil erosion and pollutes water and finally how oranges need a significant amount of water. The best responses would explain how this affects the third parties. Diagrams normally included the correct costs and benefit curves. When candidates included social optimum, market equilibrium and welfare loss they tended to achieve Level 3 for the diagram.

Evaluation was better developed this series. For example, many candidates discussed magnitude and then developed by considering the number of oranges produced in Florida and Brazil. Many compared the water use by oranges to tomatoes and strawberries. Many candidates looked at the private and external benefits linked to orange production. Effective consideration of measurement issues and the time period before external costs build up to have an impact were also commonly developed as evaluation points.

This response achieves Level 3 for Knowledge, Application and Analysis and Level 2 for the Evaluation offered. It achieves 8/8 and 4/6, giving a total of 12/14.

(d) With reference to Extract 2, evaluate the external costs associated with the production of oranges. Illustrate your answer with an externalities diagram.

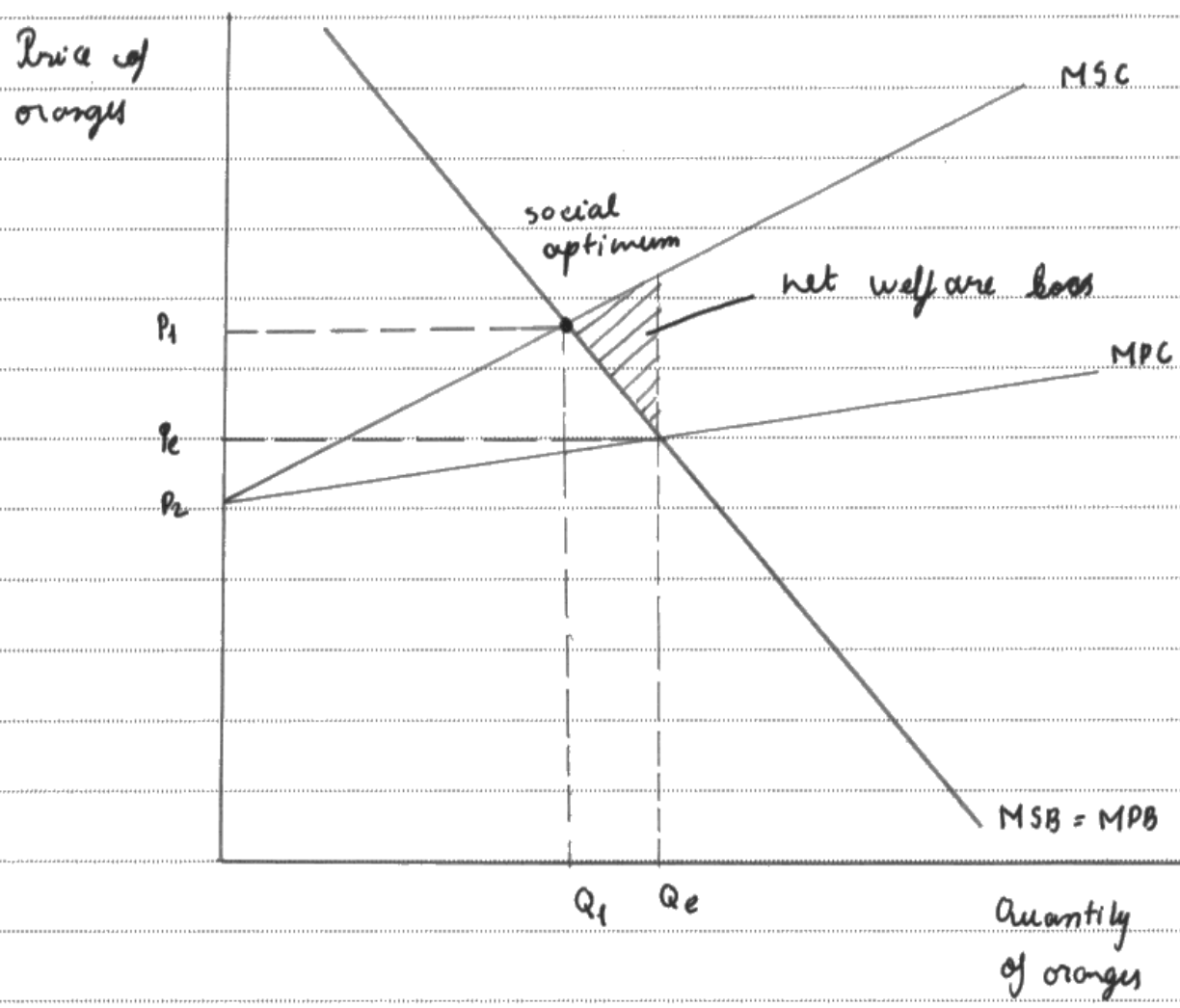
(14)

External costs are costs to the third party of an economic transaction.

There are many external costs associated with the production of oranges. Firstly, a lot of chemical fertilizers are used, which lead to soil erosion and the pollution of the water supply. This can cause mud slides due to the erosion. The polluted water supply can negatively affect underwater organisms, killing fish. This can negatively impact fish suppliers as stocks of fish decrease. The polluted water also means that it can't be used for humans or other production processes. This is backed up by facts. It takes 62.7 litres of water to grow one orange, while it takes 15 litres for one tomato and 1.8 litres for one strawberry. This clearly shows that orange production significantly reduces the water supply. This overuse of water led ~~to a~~ four-year drought during a four-year drought led to soil ~~deterioration~~ deterioration. This can affect other crops that are grown in the soil, as ~~they~~ producers will have trouble harvesting them.



in poor soil conditions.



However, there are other factors upon which these negative costs depend. Firstly, it is difficult to measure the negative externalities produced, as it is difficult to put a monetary value on them. Secondly, the effects of orange production may emerge later on, so we can't know all the costs they may have. Thirdly, the government

can use its tax revenue in order to ameliorate these environmental issues. This would cause the cost to society to be lower as they can clean the water supply and the soil.



The response accurately defines external costs. It then considers the use of chemical fertilisers in orange production considering both soil erosion and pollution of the water supply. The candidate considers the likely impact with mud slides, the killing of fish which affects fish suppliers and the fact the fish cannot be used by humans. This work achieves Level 3. Similarly, the candidate looks at how orange production reduces water supply available as it uses 62.7 litres, they look at the knock on effect on crop production to access Level 3. The diagram achieves Level 3 as it has all the correct curves labelled. The social optimum is clearly labelled as is the welfare loss triangle. The use of  $e$  next to  $P_e$  and  $Q_e$  shows labelling of the market equilibrium.

For evaluation the candidate considers the difficulty in measuring external costs and looks at how this makes it difficult to attach a monetary value. They also consider how the external costs emerge later. Both these evaluation points achieve Level 2.



When producing an external costs diagram it is important to be able to label the market equilibrium, social optimum and the welfare loss area to be able to achieve Level 3.



## **Question 9 (e)**

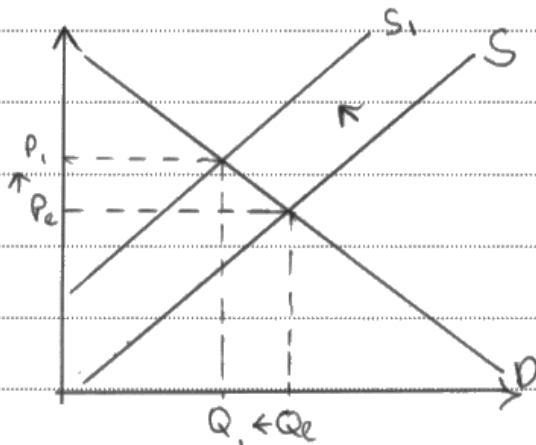
The final part of question 9 required candidates to evaluate the impact of the introduction of a sugar tax in the UK. Candidates were required to consider the impact upon producers, consumers and the government. To achieve Level 3 all three of these economic agents needed considering. Although no diagram was requested many candidates included one and used this to then look at the impact on the three agents. The quality of responses was good with many candidates being able to achieve Level 3 for Knowledge, Application and Analysis and Evaluation. Typically, candidates defined indirect taxes. Many used supply and demand analysis to then in turn consider the impact on producers focusing on costs, supply, producer surplus and employment. They used this to look at the impact on consumers in terms of the affordability of sugary drinks, the reduced focus on the quantity consumed, possible health benefits and consumer surplus. Many candidates considered the impact on the government in terms of tax revenue and how these funds could be used to tackle obesity. Evaluation often looked at the importance of the magnitude or size of the tax, looking at the elasticity and how it might impact upon the incidence of the tax and the numbers that would be prevented from experiencing obesity.

This candidate achieves 8/8 and 4/6 with a total score of 12/14.

(e) With reference to Extract 3, evaluate the impact of the introduction of an indirect tax on sugary drinks in the UK. Refer to producers, consumers and the Government in your answer.

(14)

Indirect taxes are taxes imposed on goods and services. They could be a specific unit tax or an ad valorem tax. It is used to reduce the consumption of ~~the~~ demerit harmful goods.



Indirect taxes increase the cost of the product hence in this case would increase cost of sugary drinks making them more expensive and causing price to rise. Supply would fall from  $S$  to  $S_1$  and the price would rise from  $P_e$  to  $P_1$ , this would reduce the level ~~of~~ of output and consumption.

Indirect taxes would cause producers to raise prices

~~Indirect taxes would~~ as the cost of the good would go up this would cause demand to fall hence less output to be produced, this would cause producers to earn less revenue and cause a fall in their levels of output because they are selling less amounts.

The introduction of an indirect tax would make the sugary drinks more expensive and consumers would spend less on them as they wouldn't want to finish their disposable income on drinks, so there would be less consumption which would lead to consumers more healthier and more safer as stated in the Extract that sugar can cause obesity which could even lead to heart attacks, other sicknesses such as diabetes and also cancer, so less consumption would protect the consumers from these risks and would also make them more active hence reduce absenteeism to work.

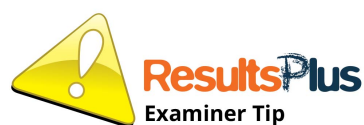
Imposing the indirect tax would lead to an improvement in government budget as the government will earn more tax revenue and their expenditure would fall, for example they would spend less on treating consumers with diabetes and problems related to sugar, so would have more finance hence would use ~~this finance~~ the finance to improve ~~some~~ public goods and services and could also use it to subsidise healthy drink producers.

However, the impact ~~it will~~ of the indirect tax would depend on the Magnitude of the tax. If the indirect tax imposed is ~~a~~ ~~b~~ causes a big change in price then it is likely to have a significant impact, but if the change of price due to tax is minimal then the impact would be less significant. It would also depend on the PED (Price elasticity of demand) for sugary drinks, if it is inelastic in demand it is likely to have a small impact as some people maybe addicted to or love sugar, but if it is price elastic then the tax would have a significant impact. The impact would also depend on the ~~% of~~ ~~the~~ percentage of income spent on the goods, if ~~the~~ a small percentage of a consumers income is spent then it would have a minimal effect.



This candidate has defined indirect tax accurately. The diagram is Level 2 as it is basic and only shows the correct shift in supply. To reach Level 3 more would need to be added for example the incidence of the tax. The candidate then discusses how the increased costs and price will lead to less revenue again for Level 2. They then start to move to Level 3 when looking at how it makes consumers healthier before developing this by looking in detail, for example, at absenteeism. Similarly the candidate looks at the government budget, tax revenue and the fact less spending will be needed for the treatment of cancer etc.

The evaluation work is consistently in Level 2. It looks at magnitude, the impact of the PED and the fact it might be minimal impact as it is a small proportion of income.



Whilst a diagram is not needed or expected, candidates can be well rewarded if they use a diagram in their analysis to look at the impact on each economic agent.

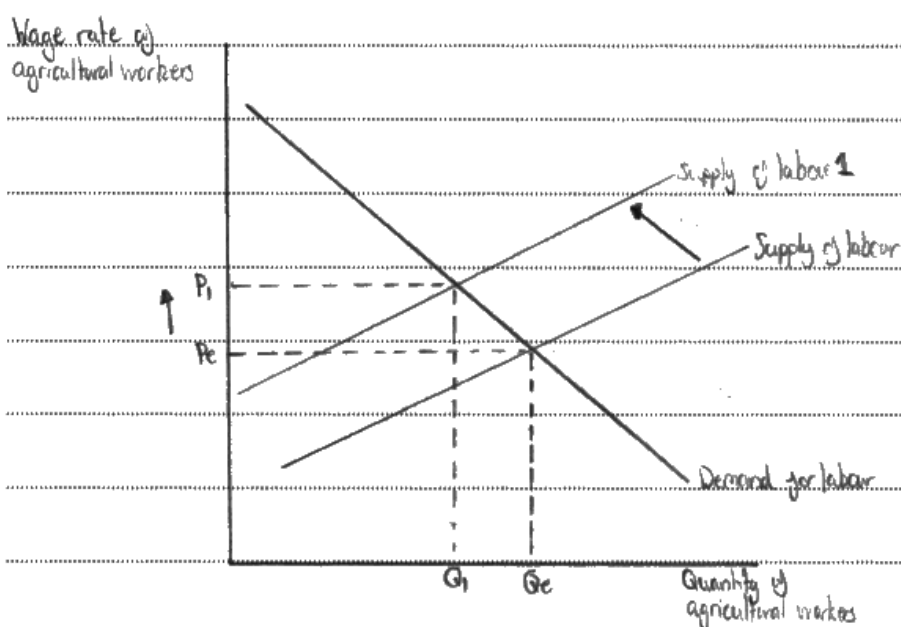
## Question 10 (a)

This question required candidates to explain why the wages of agricultural workers had increased. They were expected to include a labour market diagram in their answer. The diagram was awarded up to 3 marks. One for the original equilibrium, one for the shift in labour supply and the final mark for the new equilibrium. In terms of reasons there were lots of reasons that could be found within the Extract. Candidates could receive up to 3 marks for reasons offered; these included the long hours in the sector, the declining and ageing rural population, workers not being willing to move to rural locations, the physical challenge of the work and less people wanting to seek work in this sector. Explicit reference to the number of hours and job vacancies was also credited.

Here the data is used well and an accurate diagram has been drawn. Doing this enables the candidate to achieve full marks.

(a) Explain why 'the wages of agricultural workers have increased' (Extract 1, lines 8–9). Illustrate your answer with a labour market supply and demand diagram.

(6)



Wage rates of agricultural workers have increased due to a fall in the supply of labour. This was because agriculture takes place in rural areas where the population is falling and ageing. There was also falling supply of labour due to the long physical and unsocial hours of employment (44.8 hours per week opposed to average of 35.9 hours per week).





The diagram achieves full marks for including the original equilibrium, supply shift and new equilibrium. Although it has P we will award as wages were clearly labelled on the y axis. The candidate achieved 3 marks for using the Extract to identify the declining rural population and for identifying the physical and unsocial nature of the work. Finally, they gained a mark for identifying that the hours were long by referring to the fact hours are 44.8 hours compared to 35.9 hours in other sectors.



When drawing labour market diagrams it is important to label the y axis wages.

## Question 10 (b)

Most candidates were able to gain a mark for understanding that people do not move between locations but many missed the mark for explaining that they are unwilling to move for employment. There were two marks available for data reference to examples from the Extract. Many candidates considered that workers are unwilling to move between urban and rural areas. Others focused on the fact that in Australia there is unemployment in some cities but vacancies in another. Finally, candidates looked at the UK and how after exit from the EU geographical mobility will worsen.

Full marks have been awarded in this response for demonstrating knowledge of the concept and for using examples from the Extract.

(b) With reference to the information provided, explain what is meant by the term *geographical immobility of labour*.

(4)

geographical immobility of labour is the inability of workers to move from job to job in a different area / country / location.

"Agriculture needs seasonal workers and these workers often have to come from other countries."

"People living in urban areas are unwilling to travel to rural locations where agricultural work is located."

e.g. Agricultural workers from Thailand / Cambodia moving to Canada to work. This might have geographical immobility as it might be too expensive for them to relocate or might be too far away.



The definition of geographical immobility has included reference to moving for jobs for the first mark and then reference to between different locations for the second mark. To achieve the data mark the candidate looks at the movement of workers in the agricultural sector. They consider how workers are unwilling to move between urban areas and rural areas. They also look at why people are unwilling to move for example from Thailand to Canada.



## **Question 10 (c)**

This question asked candidates to make reference to Extract 2. By referring to the changes in the minimum wage in the 18 states in the USA, candidates were able to achieve the higher levels. Most responses defined minimum wage as the wage floor below which wages cannot go. Candidates were asked to draw a diagram and most did so. The minimum wage change referred to in the Extract was an increase in the minimum wage rather than an introduction. Therefore, the best diagrams showed an original minimum wage and a new higher minimum wage rate. Most candidates considered the impact in terms of contracting demand for labour and extending supply of labour and the excess supply or unemployment that results. Many candidates also linked to the impact on product markets in terms of raising costs and prices. Some candidates also looked at labour saving that might occur to lower costs.

For evaluation, the candidates used the Extracts effectively. Many referred to the fact it led to a substantial increase in average wages of the lowest paid workers and also referred to raising real wages. These improvements were experienced without the expected increase in unemployment. Other evaluative points made which were less applied included reference to magnitude, measuring the correct minimum wage, the time period and whether they might not be binding.

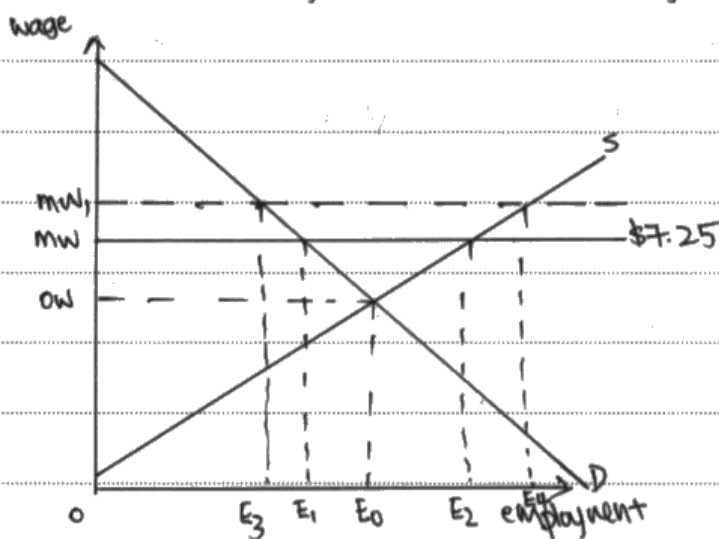
This candidate has achieved Level 3 for their Knowledge, Application and Analysis. The Evaluation is weaker and achieves Level 1. Overall, the candidate scores 7/8 and 2/6 giving a total of 9/14.

(c) With reference to Extract 2, evaluate the impact of an increase in the minimum wage rate. Illustrate your answer with an appropriate diagram.

(14)

Minimum wage is the floor wage. The minimum amount employers must pay to workers. This is to prevent exploitation of workers.

"the effect of raising the minimum wage above \$7.25 in 18 states."



original wage is  $ow$  at  $E_0$  employment.

the increase in minimum wage ( $mw (\$7.25) \rightarrow mw_1$ ).

this caused demand for labour to decrease from ( $E_1 \rightarrow E_3$ )

and supply of labour to increase from ( $E_2 \rightarrow E_4$ ).

causing an increase in unemployment. ( $E_1 E_2 \rightarrow E_3 E_4$ ).

"causes higher unemployment and increases costs of production."

higher unemployment causes incomes to fall. income tax receipts to fall.

Decrease in living standards. the increased cost of production would

"pass higher costs onto customers by raising prices." this causes

some firms to shut down and go out of business ~~and~~ as costs would

be too high for them. fall in employment causes a fall in

productivity. Output falls. Bigger fall in employment (derived demand.)

Fall in supply  $\Rightarrow$  Due to increased cost of production leads to a fall in consumer and producer surplus.

However, "or invest in labour-saving equipment." This could help increase employment in another sector that builds equipments.

"high minimum wage contributed to substantial increases in average wages for workers in low-wage jobs."

"This occurred without any impact on employment levels or hours worked."



**ResultsPlus**  
Examiner Comments

The candidate has defined the minimum wage by referring to the floor wage. They then explain the motivation for introducing it in terms of the prevention of exploitation. It is the diagram and write up below that moves this candidate to Level 3. They also link to how it causes higher unemployment and costs to firms. They look at how these may cause a decrease in living standards or even shut down. Much of the work is Level 2 but it is the effective use of the diagram that elevates to Level 3.

The evaluation is weaker and only really identifies a number of relevant evaluative comments and links to the fact that the data suggests there was no impact on employment.



**ResultsPlus**  
Examiner Tip

When doing minimum wage diagrams it is important to consider whether it is the introduction or increase in a minimum wage. This should then dictate the diagram drawn.

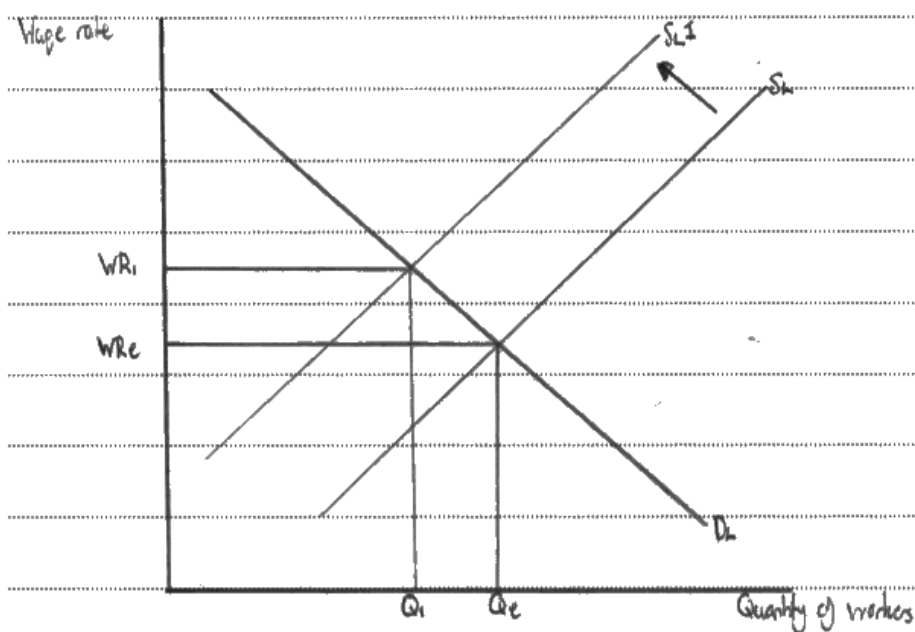
## **Question 10 (d)**

This question required candidates to evaluate the impact of the exit of the UK from the EU. Candidates had to focus on the labour market in the food manufacturing sector. Many defined immigration and suggested the supply of labour would fall. Candidates suggested this would cause the contraction of demand, lower employment and higher wages. Many drew a labour market diagram to support their answer. Many candidates emphasised the difficulty in getting UK workers to work in the sector and the challenges this would bring with less migration. Evaluation often focused on the fact 31% of worker in the food manufacturing sector are EU citizens. Many candidates commented on the two year time frame before the EU exit is likely to happen. The replacement of labour with capital was also discussed.

The candidate scores 7/8 and 3/6, giving a total of 10/14.

(d) With reference to Extract 3, evaluate the likely impact of the UK's exit from the EU on the labour market in the UK food manufacturing industry.

(14)



In the UK, EU workers make up 31% of all workers in the manufacturing of food products. This is a very large percentage of the workforce. Following the UK's exit from the EU, the food manufacturing ~~work~~ workforce will fall by 31% leading to a contraction of supply ( $S_1$  to  $S_2$ ). As a result wage rates will increase (wage to  $WR_1$ ) leading to an increase in manufacturing costs. However, if the government negotiates a deal to allow EU workers to stay, this will not occur.

Due to improvements of technology, automation in the food production industry will continue to increase. As a result the demand for labour will further decrease leading to rising unemployment for the 69% still employed.

Following the increase employment, there will be high levels of occupational immobility of labour, as the skills are not transferable, therefore the unemployment could be long-term until

workers increase their demand.

Due to rising wages (see  $W_2 > W_1$ ), the food manufacturing firms could relocate from the UK to the EU, where wages could be cheaper and there'd still be large supply of work due to low levels of geographical mobility of labour.



This candidate has included a diagram showing the supply shift, wage rise and quantity fall. They make reference to the loss of 31% commenting that this is a large percentage and that this might lead to a large increase in manufacturing costs. They also look at firms switching from labour to technology. Overall this work is just in Level 3 for Knowledge, Application and Analysis. The evaluation talks about the fact that the EU workers deal to stay may not happen. The candidate also talks about the idea of relocating production. This evaluation has detail sufficient to access Level 2.

## **Question 10 (e)**

This question requires a discussion of the likely effects of relocation subsidies on the mobility of labour within Australia. Most candidates could define relocation subsidies and looked at how it could help with geographical immobility. Candidates typically used the data to show the size of the subsidy. The focus was on how it helps transfer workers from high unemployment areas to high vacancy areas. Evaluation focused on other factors being more important than just financial considerations. Common evaluative comments related to time, magnitude and opportunity costs were offered.

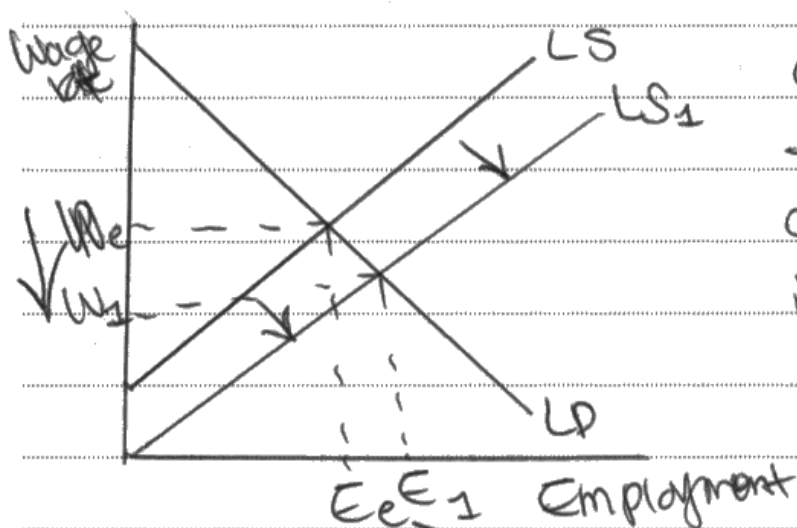
This candidate scored 4/6 and 4/4, giving a total of 8/10.



(e) With reference to Extract 4, discuss the likely effects of relocation subsidies on the mobility of labour within Australia.

(10)

A subsidy is a grant given from the government to cover some costs in this case, of moving. The mobility of labour is how easily workers can switch between jobs. By giving a subsidy for moving, Australia is trying to improve their geographical mobility of labour. In the article it states that job seekers who are eligible can receive payments of up to AUD 8000, if they are moving to a capital city, and that goes up to AUD 6000 if they are moving to a new regional area.



Giving that that subsidy acts as an incentive for workers to move to a new location where the demand for jobs is higher



leaving an area where there is an excess of supply of workers. Hence increasing supply in the areas which need more workers <sup>decreasing</sup> the wage rate and increasing the employment. Occupational mobility is a <sup>balance</sup> ~~mix~~ between where workers want to go and where there are jobs available. However, ~~workers still may not~~ there are other factors involved in deciding if they can move other than just the money. ~~the~~ If workers have a family where their children are in school then they are less likely to ~~move~~ <sup>relocate</sup> them, even with the subsidies.

Also giving a grant for many would do nothing for the occupational mobility of labour, since if workers are still not trained in a <sup>skilled</sup> field they are unable to go into it, even if they are willing to move for it.



They have defined a subsidy and the mobility of labour. They make the link to how this improves geographical mobility of labour by making explicit reference to data in the Extract. They have used a diagram to show how wages decrease and how employment falls. For evaluation they look at the importance of other factors, for example the family. They also look at how occupational mobility may be the problem that needs dealing with.



## Paper Summary

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

### Section A: supported multiple choice

- Define accurately the key economic term(s) used in each question.
- It is important to not just identify the free rider problem associated with public goods but to also be able to explain why it leads to firms being unable to make a profit from public goods.
- Clarifying energy sources and whether they are renewable and non-renewable would be helpful as a significant number of candidates were unable to calculate accurately.
- Centres also need to make sure candidates know that the tradeable permit scheme does not rely on fines or taxes but on the buying and selling of spare permits.

### Section B: data response

- When asked to consider the impact of an indirect tax on producers, consumers and the government it is important each is considered. It is difficult to access Level 3 without doing so.
- When defining geographical immobility, it is not just an unwillingness to move location but to move location for employment that is important.
- Focus on developing economic analysis in the high mark base questions. Quite often candidates moved from definitions and a brief explanation of an economic issue straight into evaluation. This was evident on the 14 mark questions. Economic analysis typically involves explaining the sequence of events leading up to a particular outcome.
- Where diagrams are requested these should be drawn, as they will be well rewarded – but do be careful with the accuracy of these. The external costs diagram was well rewarded when it was labelled explicitly with the market equilibrium, social optimum and welfare loss. Similarly, the minimum wage diagram to show an increase in the minimum wage was well rewarded.

## 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>



