Economics

Answers and commentaries
AS (7135)

Paper 1: The operation of markets and market failure

Marked answers from students for questions from the June 2022 exams. Supporting commentary is provided to help you understand how marks are awarded and how students can improve performance.

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Contents

The below content table is interactive. You can click on the title of the question to go directly to that page.

Answers and commentaries

Context 1

Water

3 mark question

Question 21

Define 'profit' **Extract B** (line 9).

[3 marks]

Mark scheme

Level of response	Response	Max 3 marks
3	A full and precise definition is given.	3 marks
2	The substantive content of the definition is correct, but there may be some imprecision or inaccuracy.	2 marks
1	Some fragmented points are made.	1 mark

Example of acceptable definition worth 3 marks:
total revenue minus total cost.

Examples of a definition worth 2 marks:
- revenue minus cost (no total)
- the difference between total revenue and total cost (no direction)
- the reward to an entrepreneur.

Examples of a definition worth 1 mark:
- the difference between revenue and cost (no total or direction)
- money made by firms.

Student responses

Response A

Profit is the money left over from your total revenue after all expenses have been deducted

This is a Level 3 response

This answer scores the full 3 marks. The student has correctly given a full and precise definition and achieves Level 3.

3 marks

Response B

profit is the amount of money that business' make after their costs of production is subtracted from their total revenue. This is the money that they have made ~~upon spending on~~ ~~modern~~

This is a Level 2 response

The student receives 2 marks for their answer. The substantive content of the definition is correct but there is some imprecision. The student needed to be clear that total costs are deducted from total revenue in order to receive full marks.

2 marks

4 mark questions

Question 22

Extract C (line 11) states: 'a bath may use 80 litres of water but a shower half as much'.

If a litre of water costs 0.4p, calculate how much money would be saved in a week if a family of four each had a shower every day instead of a bath.

[4 marks]

Mark scheme

Calculation involves $40 \times 4 \times 7 \times 0.4p = 448p$ or £4.48

Response	Max 4 marks
For the correct answer (units required): £4.48 **or** 448p	**4 marks**
For the correct answer but with incorrect or missing units: 4.48 **or** 448 **or** £448 **or** £44.8 (for example)	**3 marks**
For the correct answer per person: £1.12 (or 112p) **or** per day £0.64 (or 64p) **OR** For the correct calculation but the wrong answer: $40 \times 4 \times 7 \times 0.4$	**2 marks**
For the correct answer per day or per person but with incorrect or missing units: 1.12, 112, 0.64, 64 **or** £64 (for example) **OR** For multiplication of any three of the four required figures, with or without correct units or answer: $40 \times 4 \times 7$ **or** $40 \times 4 \times 0.4$ **or** $40 \times 7 \times 0.4$ **or** $4 \times 7 \times 0.4$	**1 mark**

Student responses

Response A

```
0.4 × 80 = 32
0.4 × 40 = 16
32 × 4 = 128
128 × 7 = 896        896 − 448 = 448
16 × 4 = 64          They would save
64 × 7 = 448         448p or £4.48
```

This is a 4-mark response

This answer scores the full 4 marks for the answer £4.48. They have carefully shown their working – so in the absence of the correct answer due to a computational error they would have secured some marks for their working.

4 marks

Response B

```
0.4p × 80 = £32    per bath × 4 = £128
                              × 7 = £896 week
0.4 × 40 = £16     per shower × 4 = £64
                              £448 week
896 − 448 = £448

They would save £448 weekly.
```

This is a 3-mark response

The student receives 3 marks for their answer. They have arrived at an answer that rewards the process but loses a mark for not recognising that the answer should include the unit of pence instead of pounds.
It is advisable to double check the final answer to ensure it makes sense.

3 marks

Question 23

Use **Extract A** to identify **two** significant points of comparison between the average annual water usage of households with and without a water meter.

[4 marks]

Mark scheme

Award up to 2 marks for each point of comparison made.

Response	Max 4 Marks
Identifies a significant point of comparison. Makes accurate use of the data to support the comparison identified. Unit of measurement given accurately.	**2 marks**
Identifies a significant point of comparison but only one piece of data is given when two are needed **and/or** no unit of measurement is given **and/or** the unit of measurement is inaccurate **and/or** the wrong date is given. **OR** Identifies a significant feature of one data series with accurate use of the data (including the unit of measurement) but no comparison is made.	**1 mark**

If a candidate identifies more than two significant points of comparison, reward the best two.

Significant points include:
- the lowest annual water usage with a meter is 66 cubic metres for a 1-person household and the lowest annual water usage without a meter for a 1-person household is 54 cubic metres
- the highest annual water usage with a meter is 216 cubic metres for a 6-person household and the highest annual water usage without a meter for a 6-person household is 200 cubic metres
- the average annual water usage is lower with a meter than without for households of 1–4 people, for example a 1–person household uses 54 cubic metres with a meter and 66 cubic metres without a meter
- the average annual water usage is higher with a meter than without for households of 5 and 6 people, for example a 5–person household uses 191 cubic metres with a meter and 182 cubic metres without a meter
- the greatest saving in average annual water usage with a meter is for a 1–person household, using 54 cubic metres with a meter and 66 cubic metres without a meter (a saving of 12 cubic metres)

- the smallest saving in average annual water usage with a meter is for a 4–person household, using 164 cubic metres with a meter and 165 cubic metres without a meter (a saving of 1 cubic metre)
- the greatest increase in average annual water usage with a meter is for a 6–person household, using 216 cubic metres with a meter and 200 cubic metres without a meter (an increase of 16 cubic metres)
- the smallest increase in average annual water usage with a meter is for a 5–person household, using 191 cubic metres with a meter and 182 cubic metres without a meter (an increase of 9 cubic metres)
- the most similar average annual water usage with and without a water meter is for 4–person households, who use 164 cubic metres with a meter and 165 cubic metres without a meter (a difference of 1 cubic metre)
- the range of differences in average annual water usage with and without a water mater is a saving of 12 cubic metres for a 1–person household to an increase of 16 cubic metres for a 6–person household (a range of 28 cubic metres)
- the greater the number of people in the household, the greater the average annual water usage with and without a meter, for example, for a 1–person household usage is 54 cubic metres with and 66 without a meter, but for a 6–person household it is 216 and 200 cubic metres respectively.

Student responses

Response A

Comparison 1 _The lowest annual water usage without a meter was at 54 66 cubic meters per annum with 1 person per household. the lowest annual water usage with a meter was at 54 cubic meters per annum_

Extra space _with 1 person per household._

Comparison 2 _The highest average annual water usage without a meter was at 200 cubic meters per annum with 6 people per household. The highest average annual water usage with a meter was at 216 cubic_

Extra space _meters per annum with 6 people per household._

This is a 4-mark response

The important principle for this question is that students need to identify and clearly state a significant point of comparison which must be supported by accurate use of the data. The student receives 4 marks for their answer. They have identified 2 significant points of comparison and used the data accurately to support the comparison. The units of measurement (cubic meters) are used accurately.

4 marks

Response B

Comparison 1 with a water meter the amount of water used by one person is 54cm and without a meter it is 66cm. This is more than a 20% increase.

Extra space

Comparison 2 the closest that both values get is when 4 people live in a household. Since with a meter they use 164 cm and without they use 165 cm.

This is a 2-mark response

The student receives 2 marks for their answer. The student does not identify a reason why the first point of comparison is significant. The second point correctly identifies that the smallest saving in average annual water usage with a meter is for a 4-person household, using 164 cubic metres with a metre and 165 cubic metres without a metre.
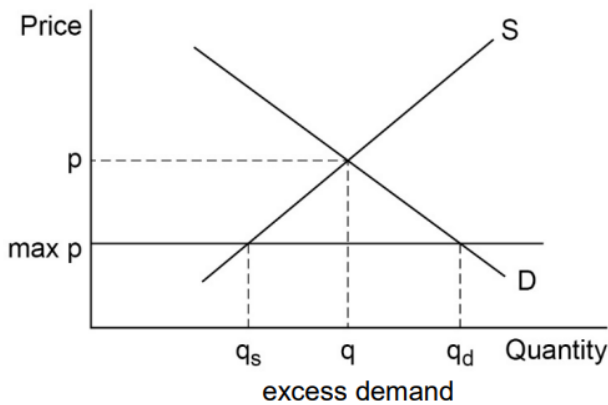
2 marks

Question 24

Extract C box (line 20) states: 'Perhaps a maximum price should be set for water'.

Draw a diagram to show the impact on the market for water of setting a maximum price below the equilibrium.

[4 marks]

Mark scheme

The correct diagram involves a supply and demand diagram, illustrating an initial equilibrium point, a maximum price below equilibrium and some indication of excess demand, either by writing 'excess demand' in the appropriate place or by labelling the two coordinates for supply and demand at this new price (q_1 and q_2 would be acceptable, for example, instead or q_s and q_d).

Response	Max 4 marks
Accurately drawn D/S diagram showing initial equilibrium, a maximum price drawn below equilibrium, and the resulting disequilibrium with excess demand clearly illustrated, with both axes and all curves and coordinates correctly labelled. Excess demand could be illustrated by just showing q_d and q_s as above (for example) or by indicating the excess demand in some other meaningful way.	**4 marks**
Accurately drawn D/S diagram showing a maximum price below equilibrium with one label missing or incorrect (on axis or curve). **OR** Accurately drawn D/S diagram showing a maximum price below equilibrium with one coordinate missing or incorrect (P or Q).	**3 marks**
Accurately drawn D/S diagram showing a maximum price below equilibrium with two labels/coordinates missing/incorrect (treat excess demand as one label).	**2 marks**

| Accurately drawn D/S diagram showing an initial equilibrium point with both axes, both original curves and both coordinates correctly labelled, eg p, q (max p may be missing or not below equilibrium).	**1 mark**

Notes:
Horizontal axis allow: Quantity of water, Quantity or Q (but not QD or QS or output).
Vertical axis allow: Price, P, £ or some monetary symbol (but not Price level).
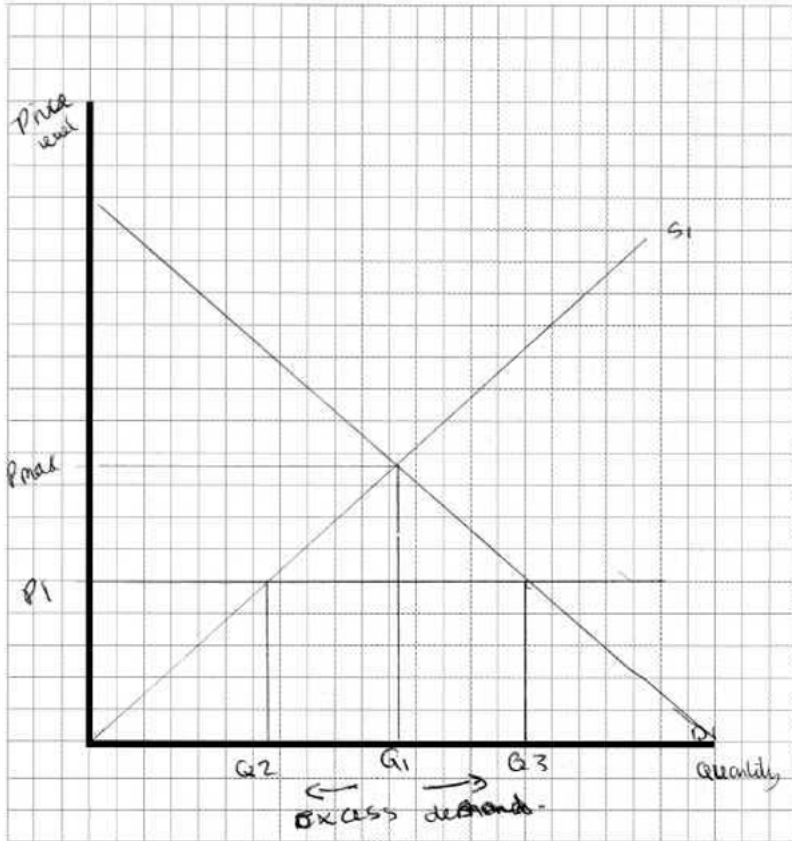
Student responses
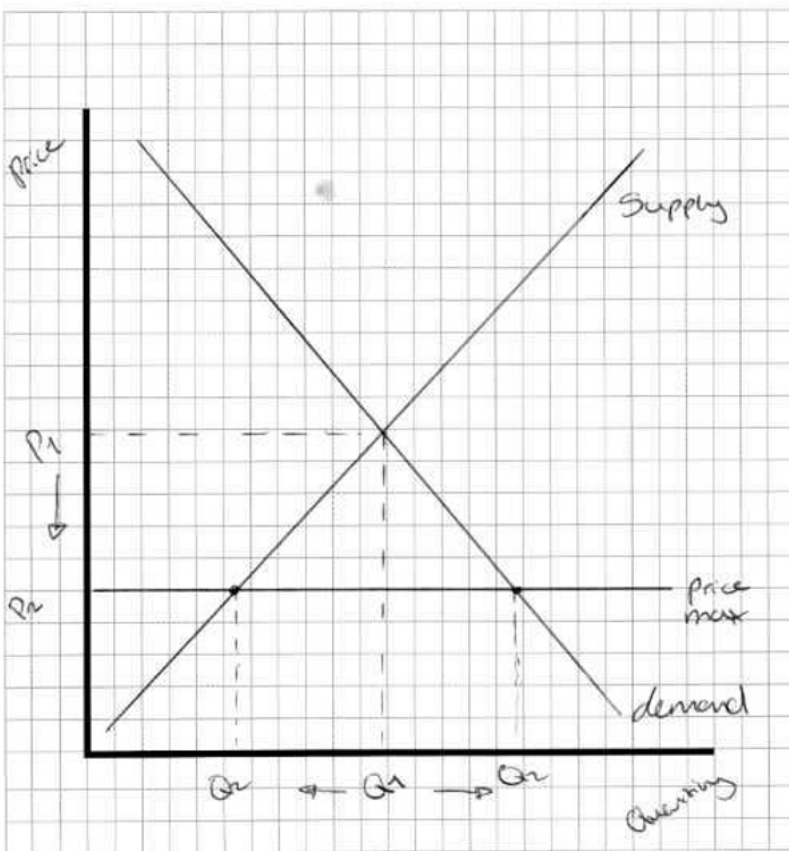
Response A

> **This is a 4-mark response**
>
> This answer scores the full 4 marks. The student has correctly placed the maximum price below the equilibrium price and labelled the axes, demand and supply curves and price and quantity coordinates correctly.
>
> **4 marks**

Response B

This is a 2-mark response

The student receives 2 marks for their answer. They have accurately drawn a demand and supply diagram with the demand and supply curves labelled accurately. The maximum price is shown at the equilibrium and the axes is labelled 'price level' rather than 'price' – therefore the student loses 2 marks for 2 errors.

2 marks

10 mark question

Question 25

Extract B (lines 13–14) states: 'Most water (and sewerage) services are not provided by competitive markets… Only businesses can choose their water supplier'.

Explain how firms in the water industry could compete to attract businesses or other customers.

[10 marks]

Mark scheme

Level of response	An answer that:	Max 10 marks
Level 3	- is well organised and develops one or more of the key issues that are relevant to the question - shows sound knowledge and understanding of relevant economic terminology, concepts and principles - includes good application of relevant economic principles and/or good use of data to support the response - includes well-focused analysis with a clear, logical chain of reasoning - may include a relevant diagram to support their explanation.	**8–10 marks**
Level 2	- includes one or more issues that are relevant to the question - shows reasonable knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present - includes reasonable application of relevant economic principles and/or data to the question - includes some reasonable analysis but it might not be adequately developed and may be confused in places - may include a relevant diagram to support their explanation.	**4–7 marks**
Level 1	- is very brief and/or lacks coherence - shows some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely - demonstrates very limited ability to apply relevant economic principles and/or data to the question - may include some very limited analysis but the analysis lacks focus and/or becomes confused	**1–3 marks**

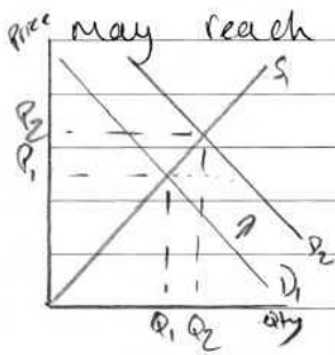|	• may include a diagram but the diagram is likely to be inaccurate in some respects or is inappropriate.	

Relevant issues include:
- meaning of 'competitive markets' and/or 'competition'
- distinction between price and non-price competition
- competition by price
- improvement of 'product'
- quality of service provided
- reduction of costs
- promotion/advertising.

Student responses

Response A

Demand is the consumers desire to purchase goods and services at a given price.

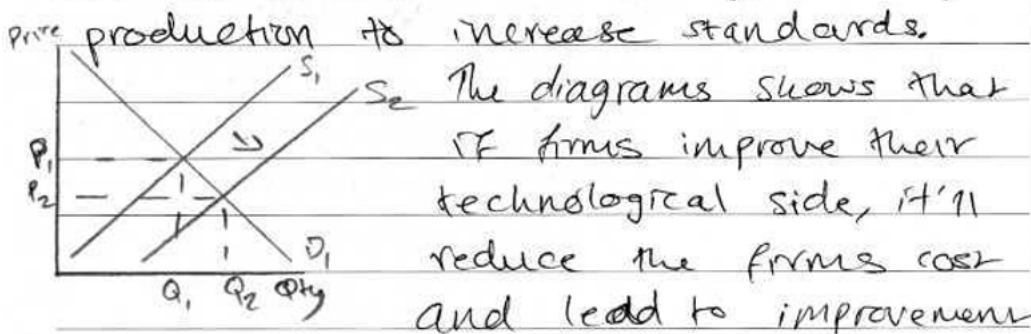One way firms could attract businesses is through advertising. Adevertising their package, they bought from the water industry could attract more consumers as it may reach a range of people. The diagram shows the effects of advertising, as it reaches more businesses/customers it'll increase consumption, this is illustrated in the shift of the demand curve from D1 to D2. The increase in demand has led to an increase in price level from P1 to P2. As water is seen as a neccessity consumers will still pay higher price for water as it's a basic human need.

Supply is the price sellers are willing to s Supply is the quantity supplied by sellers at any given price.

Another way would be for firms to increase quality of service, by investing in some capital to get factors of production to increase standards.

The diagrams shows that if firms improve their technological side, it'll reduce the firms cost and lead to improvement in quality. This will allow firms to produce more increasing their capacity from Q1 to Q2. The shift in supply from S1 to S2 shows the effect of increasing capital. Furthermore, it has also led to a reduction in price, (P1-P2) which will further attract customers with low price and high quality.


This is a Level 3 response

This question is marked using a level of response mark scheme that assesses knowledge and understanding, application and analysis. When awarding the mark, a judgement is made regarding the overall quality of the response.

This answer scores 9 marks out of 10. The student has written an answer that is well organised. They have considered factors that firms in the water industry could use to compete to attract businesses or other customers by drawing upon the conditions of demand and supply. They show sound knowledge and understanding of relevant economic terminology and concepts, including using 2 relevant diagrams to analyse how firms can compete. To achieve full marks, the student could make more use of the context.

9 marks

Response B
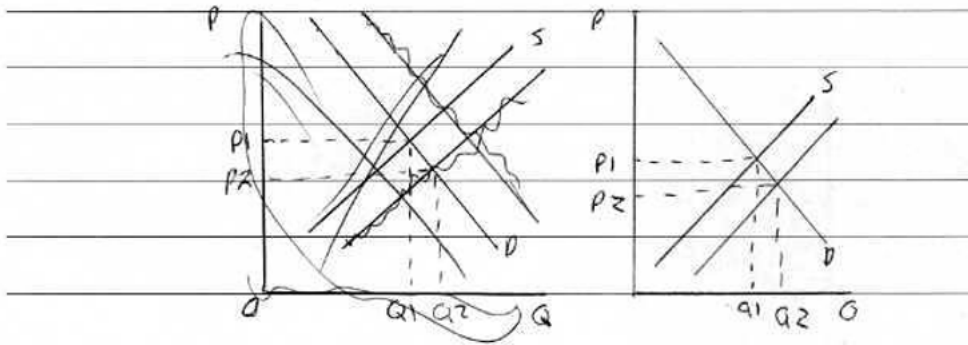

firms in the water industry can compete by lowering their price (p1, p2) this will attract businesses, this is because lowering price will mean that businesses are more likely to come to you instead of rival competitors since rival competitors also rely on businesses since services aren't provided by competitive market this will mean a fall in demand for competitors since prices are higher.
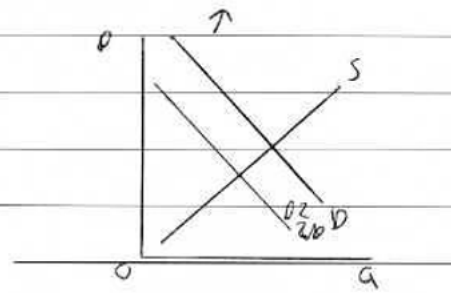
water firms
another thing bullette) can do are
non price method eg expand, for
example if a water supplier 1)
only in the South, that limits them
to only HQ Southern region, setting
up in multiple locations, this will
allow the the water firms to reach
a wider market thletbly increwing
& the amount of businesses firms
can reach out to in order to
be ther water supplier, an increye
in total businesse) supply of water
for that business results in a
increase in busress attracted the retlal
an increase in profith. firms can offer
higher prices to regions which have lack of
water suppliers.
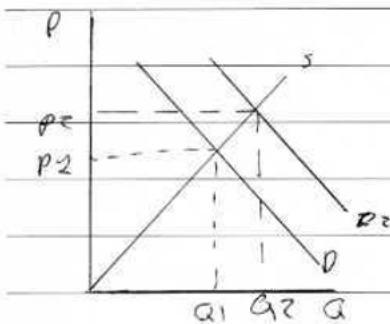
25 mark question

Question 26

Extract C (line 9) states: 'When people pay according to quantity used, they are less likely to be wasteful'.

Use the extracts and your knowledge of economics to assess whether all households should pay according to the amount of water they use.

[25 marks]

Mark scheme

The levels of response grid below should be used when marking the 25 mark questions.

Level of response	Response	Max 25 marks
5	**Sound, focused analysis and well-supported evaluation that:** • is well organised, showing sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes good application of relevant economic principles to the given context and, where appropriate, good use of data to support the response • includes well-focused analysis with clear, logical chains of reasoning • includes supported evaluation throughout the response and in a final conclusion.	**21–25 marks**
4	**Sound, focused analysis and some supported evaluation that:** • is well organised, showing sound knowledge and understanding of economic terminology, concepts and principles with few, if any, errors • includes some good application of relevant economic principles to the given context and, where appropriate, some good use of data to support the response • includes some well-focused analysis with clear, logical chains of reasoning • includes some reasonable, supported evaluation.	**16–20 marks**

3	**Some reasonable analysis but generally unsupported evaluation that:** • focuses on issues that are relevant to the question, showing satisfactory knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present • includes reasonable application of relevant economic principles to the given context and, where appropriate, some use of data to support the response • includes some reasonable analysis but which might not be adequately developed or becomes confused in places • includes fairly superficial evaluation; there is likely to be some attempt to make relevant judgments but these are not well-supported by arguments and/or data.	**11–15 marks**
2	**A fairly weak response with some understanding that:** • includes some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely • includes some limited application of relevant economic principles to the given context and/or data to the question • includes some limited analysis but it may lack focus and/or become confused • includes attempted evaluation which is weak and unsupported.	**6–10 marks**
1	**A very weak response that:** • includes little relevant knowledge and understanding of economic terminology, concepts and principles • includes application to the given context which, at best, is very weak • includes attempted analysis which is weak and unsupported.	**1–5 marks**

Areas for discussion include:

- uses of water – drinking, washing, cooking
- water as a scarce resource requiring allocation and rationing
- analysis of pros and cons of current systems of paying according to property value or amount used
- water as a basic human need with characteristics of a merit good
- potential external benefits
- potential underconsumption and consequences of paying according to use
- financial incentive to be more economical with water if metered
- likely savings, both of water and on energy bills, including impact on the environment
- usage for different numbers in households, with and without meters
- cost of introduction of meters versus benefits of savings
- equity versus efficiency
- who gains, who loses?
- either way, there is a lack of choice of supplier and potential for exploitation, depending on effectiveness of regulation
- could something be done to help vulnerable households?
- could anything else be done as well or instead, for example a maximum price or introducing more competition, as with businesses, and gas and electricity?
- if metering is compulsory in some areas, why not all?
- market failure versus government failure
- an overall assessment of whether *all* households should pay according to the amount of water they use.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the candidate's response to the question.

Student responses

Response A

The basic economic problem is that resources are scarce (limited) but consumer wants are potentially unlimited. resulting in the need for choice. with regards to ~~alte~~ the allocation of these scarce resources. what they are used to produce. how its produced and who gets it. Water is just one of these scarce resources, however. it is also a fundamental human need. Therefore it ~~must be allocated~~ ~~in such a way~~ ~~that it meets~~ is rivalrous, meaning that ~~the its~~ consumption by one individual has an effect on the amount that another individual can consume, so it must be allocated in such a way that it meets the basic needs of all individuals, with ~~bis~~ as little wastage as possible.

Paying according to quantity used may lead to households being less wasteful. ~~for ensuing~~ for example, if ~~an i~~ a household only takes baths using an average of 80 litres per bath, they may be able to afford this without a metre, where they pay a rateable value based on the
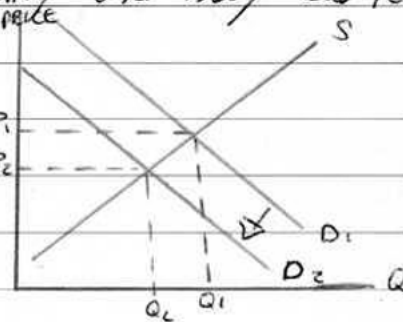
value of their house. However, if they have to pay per litre, this may go above their means and take up a large percentage of their disposable income, reducing the amount that they can spend elsewhere. Because of this, they may opt to take showers instead, using only 40 litres per shower and ~~and reducing~~ their water costs. The increase in price for their water will lead to a decrease in their demand for it, as per the basic law of demand.

However, ~~charging households~~ this may not work for households with greater incomes. It assumes that ~~all households~~ the price elasticity ~~of demand~~ ~~water~~ for all households is the same. ~~For~~ ~~a~~ Households with larger incomes, & may be more willing to spend a larger proportion of their income on water usage, so their demand for water is less sensitive in response to a change in price. Therefore they may still waste water by continuing to use the same, or a similar quantity.

PRICE

~~Revenue~~
PED

0

QUANTITY
OF WATER
Demanded
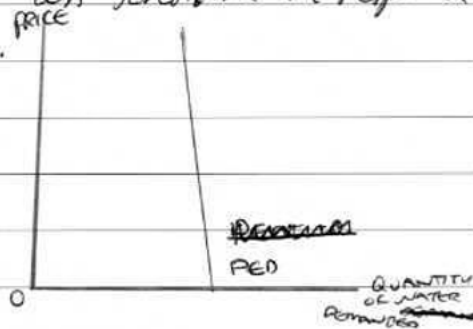
Another drawback of households paying according to the amount of water that they use is that it may

Extra space lead to inequality. It will have a greater impact on lower income households, or large families, who will have to pay greater water bills. This would have negative effects elsewhere in the economy, as they'd have less disposable income after tax and their water bill. This would lead to a decrease in their ~~gross~~ Marginal propensity to consume, ~~and~~ decreasing consumption and demand by poorer ~~households~~ or larger households. Provided that a ~~too~~ significant proportion of the population is within the brackets for being a low income household this will also lead to a ~~g~~ decrease in aggregate demand, as consumption ~~~~ is a component of it, which may then lead to a slow in economic growth. It may also lead to market failure elsewhere, as these households may choose to spend their remaining income on ~~goods~~ more affordable goods that do not maximise consumer welfare, ~~such~~ and may have negative externalities, such as buying unhealthier food at a cheaper price, which may have a long run effect on the NHS if the become burdened with individuals with conditions such as obesity, heart disease and diabetes, all conditions that ~~may~~ disproportionately affect lower income individuals. To add to this, they may have a lower water intake than ~~that the~~ the 2 litres that ~~the~~ the NHS recommends, further increasing the

burden on the NHS.
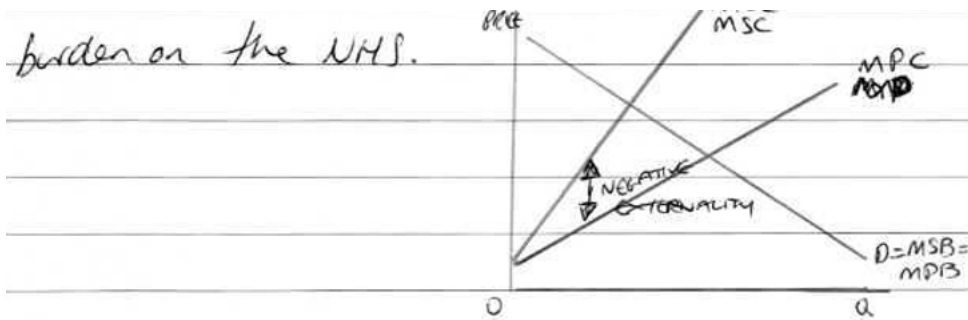
On balance ~~the~~ charging ~~to~~ households for the quantity of water that they use may be ineffective at reducing waste, ~~or more~~ ~~to have~~ more as wealthier households will remain relatively unaffected, and ~~poorer household~~ inequality may increase as poorer households ~~are~~ ~~that~~ left with higher bills and less disposable income, and having negative externalities as ~~so~~ these poorer households make decisions ~~that~~ ~~don't~~ ~~maximise~~ ~~we~~ and consume demerit goods that are more affordable but don't maximise their welfare.

This is a Level 5 response

The student begins by explaining the basic economic problem and relates this to the demand for water. They show a good understanding of economic terms and principles in the first part. The flow of reasoning is logical and considers the issues in the context of the water industry. The student evaluates by using the concept of price elasticity of demand for water. They draw a diagram, which is good. However, they could improve their analysis of the diagram by explaining the impact of a price change using coordinates.

The next paragraph considers the impact of water metres on inequality. It then considers the macroeconomic implications and possible negative externalities caused by low income households substituting healthy food for unhealthy food because of paying a higher price for water. The student draws a negative externality in production diagram which is not explained and not relevant.

The final conclusion is fully focused on the demands of the questions and makes a clear, supported judgement, just pushing the answer into a Level 5 response.

21 marks

Response B

One advantage of households paying based on the amount they use is that consumers are more wary of the amount of water that they use. Consumer being more wary of the amount of water one use means that less water is wasted. This is proven by the fact that on average homes with a meter installed use between 10 to 15 percent less water than those without. A water meter is more beneficial option for households with a fewer amount of people being less residents as it is assumed they will use less water than a larger household.

A disadvantage of installing meters in homes is that households with more resident will have to pay more due to higher consumption whereas before they was a fixed cost depending on the payment or value of their home and not was independent on the usage of water. Another downside is that installing meter in all households and making it compulsory is that it removes the consumers choice of having or not having a meter. Installing meter also would come at a cost which could either be subsidised by the government to encourage the installment of water meters or by water firms which would increase the cost for their companies.

Another benefit of installing meters is that consumers reducing water usage would in turn reduce stress on water companies across the UK. For example In 2017, seven water companies in Southern England were classified as areas of serious water stress' this is significant because water is a basic human need which means the demand for it is very high and will not fall at in demand in respect to price. Due to this constant demand that only increases alongside population growth, cost of production such as land, labour and capital increases. As more labour and capital is required to meet ever lasting demand for supe and rang it

for use water. By introducing Meters and making them compulsory in all homes the stress on water companies diminishes due to consumers being more aware of their consumption and more wary on there usage of water. By reducing country wide water usage, It reduces the need for government intervention and investment into the production of safe and clean water. And allows the overall supply to be in equilibrium with demand. This allows government spending to be invested into other sectors such as reducing consumption and public services such as public transport.

In conclusion, I think the introduction of compulsory water metrs is more beneficial due to the fact that it makes consumers more aware of their water usage and would in turn not reduces the consumption on using of a human necessity which allows there to be less stress on water companies as well as the government in spending to help resolve a potential water crisis.

This is a Level 4 response

This answer achieves Level 4. The student begins by considering the cost to water companies of installing water metres and relates this to reducing consumer demand for water. There is some good application to the context and some good use of economic terminology. The analysis is well focused with clear, logical chains of reasoning.

The next paragraph considers the impact of a growing population on water usage. It then considers the opportunity cost of government intervention. The student shows sound knowledge and understanding and makes few errors.

The final conclusion is clearly focused on the requirements of the questions and makes a reasonable attempt to reach a judgement. Overall, a mid-Level 4 response.

17 marks

Context 2

Alcohol

3 mark question

Question 27

Define 'income' **Extract F** (line 10).

[3 marks]

Mark scheme

Level of response	Response	Max 3 marks
3	A full and precise definition is given.	3 marks
2	The substantive content of the definition is correct, but there may be some imprecision or inaccuracy.	2 marks
1	Some fragmented points are made.	1 mark

Examples of acceptable definitions worth 3 marks:
- a flow of (or over a period of time) money, received by an economic agent/individual/household/firm/country (any of these is acceptable)
- a flow of (or over a period of time) money in exchange for factor services.

Examples of a definition worth 2 marks:
- money received by an economic agent/individual/household/firm/country (no flow or time period)
- return to factors of production
- money from work.

Examples of a definition worth 1 mark:
- an example of a source of income, eg wages, rent, interest, profit, revenue or benefits.

Student responses

Response A

Income is the amount a worker is paid per a year subtract tax, for example John makes £33,200 - £4,000 (for tax) so 29,200 is his income

This is a Level 3 response

This answer scores the full 3 marks. The student has correctly given a full and precise definition and achieves Level 3.

3 marks

Response B

Income is money earnt by people in employment. It determines

This is a Level 2 response

The student receives 2 marks for their answer. The substantive content of the definition is correct but there is some imprecision. The student needed to be clear that income is a flow or that income is received over a specific time period to achieve full marks.

2 marks

4 mark questions

Question 28
According to **Extract E** (lines 6–7), the price of a standard bottle of whisky had to rise from £10 to £14 in a discount supermarket, as a result of minimum unit pricing (MUP).

If the demand for whisky fell by 6.3% in the first year as a result of the price change, calculate the price elasticity of demand for whisky, to **two** decimal places.

[4 marks]

Mark scheme
Calculation involves –6.3 ÷ 40 = –0.1575 which rounds to –0.16 (to 2 dp)

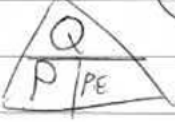| Response	Max 4 marks
For the correct answer: –0.16	**4 marks**
For the correct value, without the minus sign **or** not rounded to 2dp **or** rounded the wrong way **or** with added/incorrect units: 0.16 **or** –0.1575 **or** –0.15 **or** –0.16% (for example)	**3 marks**
For the correct value, without the minus sign **and** not rounded to 2dp **or** rounded the wrong way **or** with added/incorrect units: 0.1575 **or** 0.15 **or** 0.16% (for example) **OR** For the correct calculation but the wrong answer: –6.3 ÷ 40	**2 marks**
For the correct equation for PED: % change in QD ÷ % change in price **OR** For the correct calculation of the percentage change in price: 40%	**1 mark**

Student responses

Response A

This is a 4-mark response

This answer scores the full 4 marks for the answer -0.16. They have carefully shown their working – so in the absence of the correct answer due to a computational error they would have secured some marks for their working.

4 marks

Response B

This is a 3-mark response

The student receives 3 marks for their answer. They have arrived at a correct answer but lose a mark for not expressing the result to 2dp.

It is advisable to read the question carefully to meet the specific requirements.

3 marks

Question 29

Use **Extract D** to identify **two** significant features of the affordability of alcohol index for the UK, over the period shown.

[4 marks]

Mark scheme

Award up to 2 marks for <u>each</u> significant feature identified.

Response	Max 4 Marks
Identifies a significant feature. Makes accurate use of the data to support the feature identified. Unit of measurement given accurately.	**2 marks**
Identifies a significant feature but only one piece of data is given when two are needed **and/or** no unit of measurement is given **and/or** the unit of measurement is inaccurate **and/or** the wrong date is given.	**1 mark**

If a candidate identifies more than 2 features, reward the best two.

Significant features include:
- affordability of alcohol was highest in 2017 at 163.8 on the index
- affordability of alcohol was lowest in 2011 at 149.0 on the index
- the range of affordability of alcohol was 14.8 on the index (from 149.0 to 163.8)
- alcohol was more affordable at the end of the period than the beginning, rising from 160.0 to 163.8 on the index (or 2.4%)
- affordability fell **each** year from 2008 to 2011, from 160.0 to 149.0 overall on the index (or 6.9%)
- affordability rose **each** year from 2011 to 2017, from 149.0 to 163.8 overall on the index (or 9.9%)
- the greatest decrease in affordability was between 2010 and 2011, when the index fell from 154.4 to 149.0 (a fall of 5.4 on the index, or 3.5%)
- the greatest increase in affordability was between 2014 and 2015, when the index rose from 153.7 to 161.3 (a rise of 7.6 on the index, or 4.9%)
- the smallest decrease in affordability was between 2009 and 2010, when the index fell from 154.9 to 154.4 (a fall of 0.5 on the index, or 0.3%)
- the smallest increase in affordability was between 2013 and 2014, when the index rose from 152.9 to 153.7 (a rise of 0.8 on the index, or 0.5%)
- throughout the period, alcohol was more affordable than in the base year of 1980, with the lowest level of affordability being 149.0 in 2011 (or any other figure could be quoted as an example), compared to 100 in the base year.

Note: Reference to index numbers is needed for each feature, or the equivalent percentage change, where applicable.

Student responses

Response A

Feature 1: Alcohol index was at it's lowest of 149.0 in 2011, whereas it was at its highest of 163.8 in 2017.

Extra space

Feature 2: The largest increase in alcohol index in one year was from 2014 to 2015 with an increase of 7.6. The largest decrease in the affordability of alcohol index in one year was

Extra space: from 2010 to 2011, with a decrease of 5.4.

This is a 4-mark response

The important principle for this question is that students need to identify and clearly state a significant point of comparison which must be supported by accurate use of the data. The student receives 4 marks for their answer. They have identified 2 significant points of comparison and used the data accurately to support the comparison. They express the answer as an index number.

4 marks

Response B

Feature 1 The affordability for alcohol In 2008 was at 160.0 however, it dropped to it's lowest In 2011 from 160.0 to 149.0, which was a huge Impact.

Extra space

Feature 2 The affordability for alcohol rised to it highest later In time at 163.8 In 2017. This shows the difference between the lowest which is 149.0 and the highest to be 163.8.

This is a 2-mark response

The student receives 2 marks for their answer. The student does identify 2 significant points of comparison but does not express the numbers in index form.
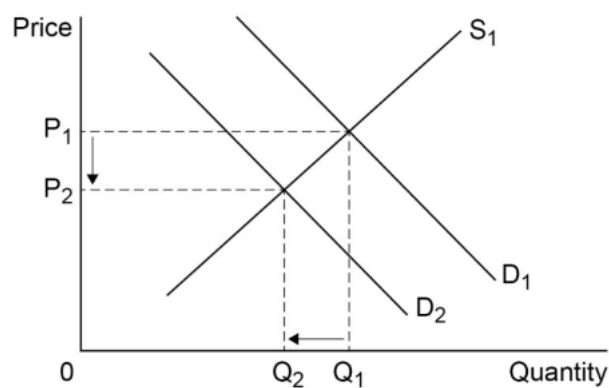
2 marks

Question 30

Extract E (lines 2–3) states: 'The minimum age for buying alcohol is 18, although in some countries, such as the US, the minimum age is 21'.

Draw a diagram to show the impact on the market for alcohol of raising the age for buying alcohol in the UK from 18 to 21.

[4 marks]

Mark scheme

The correct diagram involves a decrease in demand/shift to the left of the demand curve resulting in a decrease in quantity sold and a decrease in price.

Response	Max 4 marks
Accurately drawn D/S diagram showing a leftwards shift in D, old and new equilibrium price and quantity, eg P1Q1, P2Q2, with both axes and all curves and coordinates correctly labelled (arrows not needed).	**4 marks**
Accurately drawn D/S diagram showing a leftwards shift in D with one label missing or incorrect (on axis or curve). **OR** Accurately drawn D/S diagram showing a leftwards shift in D with one coordinate missing (P or Q).	**3 marks**
Accurately drawn D/S diagram showing a leftwards shift in D with two labels or coordinates missing/incorrect. **OR** Accurately drawn D/S diagram showing an initial equilibrium point and a leftwards shift in D but also a leftwards shift in S.	**2 marks**

| Accurately drawn D/S diagram showing an initial equilibrium point with both axes, both original curves and both coordinates correctly labelled, eg P1Q1. **OR** Accurately drawn D/S diagram showing an initial equilibrium point and a leftwards shift in D but also a leftwards shift in S and one or two labels missing.	**1 mark**

Notes:
Horizontal axis allow: Quantity of alcohol, Quantity or Q (but not QD or QS or output).
Vertical axis allow: Price, P, £ or some monetary symbol (but not Price level).

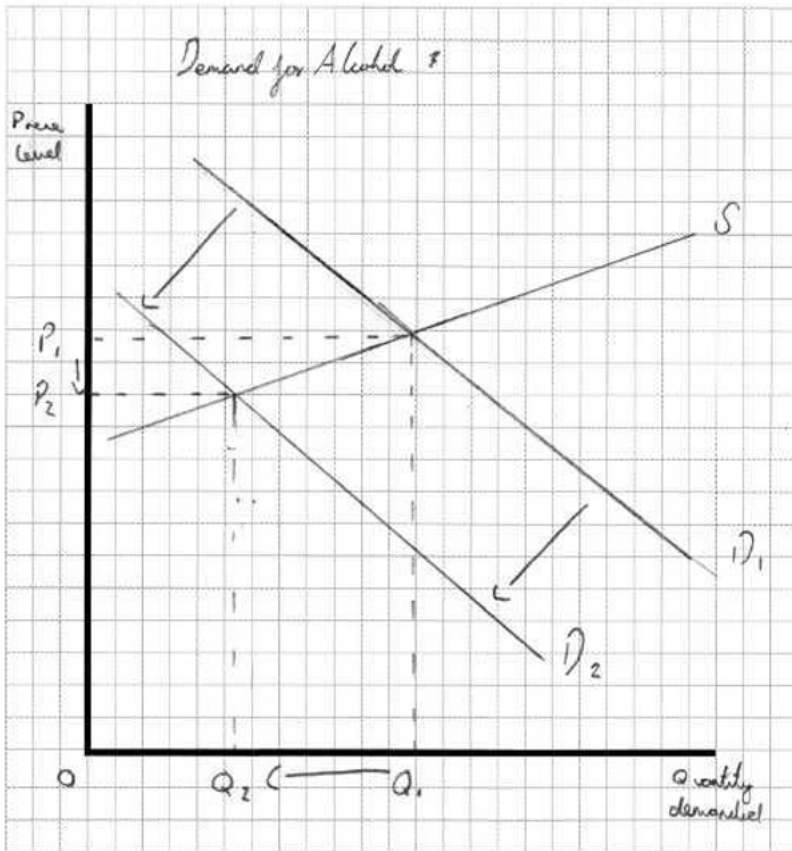## Student responses
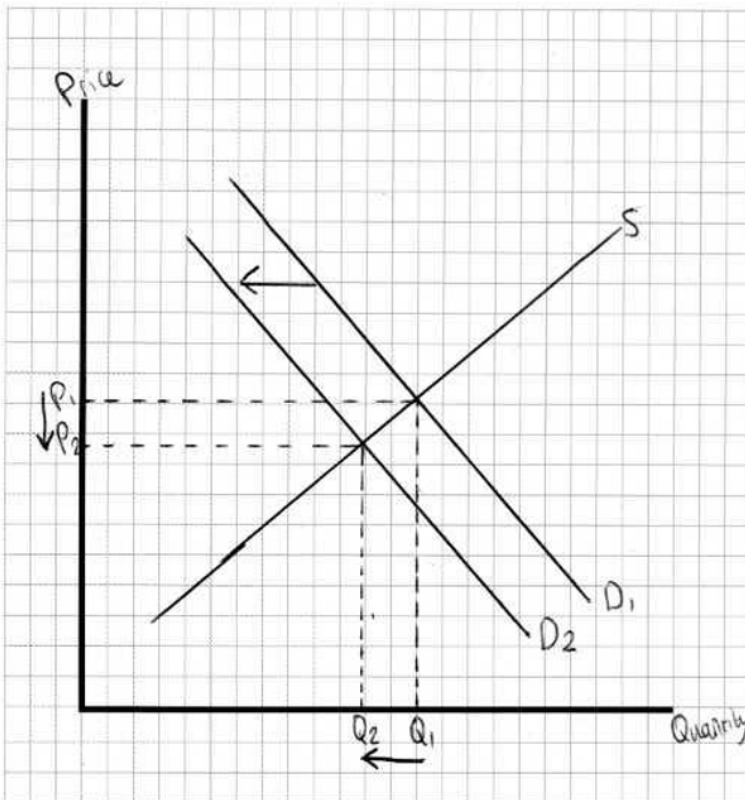
Response A

This is a 4-mark response

This answer scores the full 4 marks. The student has correctly shown an inwards shift in the demand curve and labelled the axes, demand and supply curves and price and quantity coordinates correctly.

4 marks

Response B

This is a 2-mark response

The student receives 2 marks for their answer. They have accurately drawn a demand and supply diagram showing a leftwards shift in demand with the demand and supply curves labelled accurately. Two labels or coordinates are missing/incorrect.

2 marks

10 mark question

Question 31

Extract E (lines 1–2) states: 'alcohol has traditionally been viewed as a demerit good, subject to high indirect taxes'.

Explain the likely effects of imposing indirect taxes on alcohol.

[10 marks]

Mark scheme

Level of response	An answer that:	Max 10 marks
Level 3	• is well organised and develops one or more of the key issues that are relevant to the question • shows sound knowledge and understanding of relevant economic terminology, concepts and principles • includes good application of relevant economic principles and/or good use of data to support the response • includes well-focused analysis with a clear, logical chain of reasoning • may include a relevant diagram to support their explanation.	**8–10 marks**
Level 2	• includes one or more issues that are relevant to the question • shows reasonable knowledge and understanding of economic terminology, concepts and principles but some weaknesses may be present • includes reasonable application of relevant economic principles and/or data to the question • includes some reasonable analysis but it might not be adequately developed and may be confused in places • may include a relevant diagram to support their explanation.	**4–7 marks**
Level 1	• is very brief and/or lacks coherence	**1–3 marks**

| | • shows some limited knowledge and understanding of economic terminology, concepts and principles but some errors are likely | |
	• demonstrates very limited ability to apply relevant economic principles and/or data to the question	
	• may include some very limited analysis but the analysis lacks focus and/or becomes confused	
	• may include a diagram but the diagram is likely to be inaccurate in some respects or is inappropriate.	

Relevant issues include:
- meaning of 'indirect taxes' and/or 'demerit goods'
- impact on price and quantity perhaps supported by a diagram
- the significance of price elasticity of demand
- incidence of taxation
- effect on different income groups
- impact on other economic agents – sellers, government, local communities, etc.

Student responses

Response A

A demerit good is a good which contains negative externalities. Alcohol is a demerit good as it has many negative externalities, such as more pressure on the NHS due to liver problems.

Indirect taxation is where schemes such as VAT are placed upon a product in order to reduce the ~~effect of the negative~~ ~~externalities from demerit goods~~ output of demerit
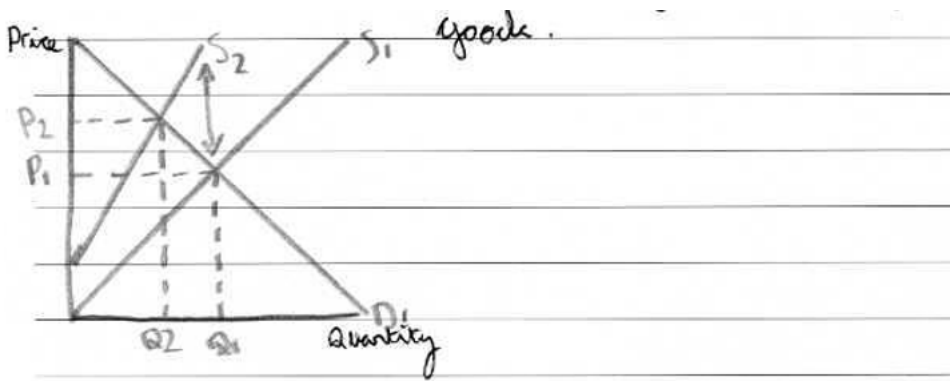
One likely effect of indirect taxation on alcohol will be a reduce in the output.

Extra space As presented in my graph you can see that the shift in supply and the effect on the gradient vastly increase the price.

This will mean that consumer will not be able to buy the same quantity at the same expense.

With a reduction on the output of alcohol we would likely see reduced strain on the NHS as there will be a reduced amount of liver issues.

Line 15 states "the misuse of alcohol has external as well as private costs". This would would be another likely effect, ie external costs are reduced, this money could be spent elsewhere.

This is a Level 3 response

This question is marked using a level of response mark scheme that assesses knowledge and understanding, application and analysis. When awarding the mark, a judgement is made regarding the overall quality of the response.

This answer scores 9 marks out of 10. The student has written an answer that is well organised. They have a recognised that alcohol is a demerit good and creates negative externalities. The student analyses the impact of imposing an indirect tax on alcohol and the impact this has on the price and quantity of alcohol using a supply and demand diagram. There are logical chains of reasoning and good use of the extract material.

To achieve full marks, the student could extend some of the chains of reasoning.

9 marks

Response B
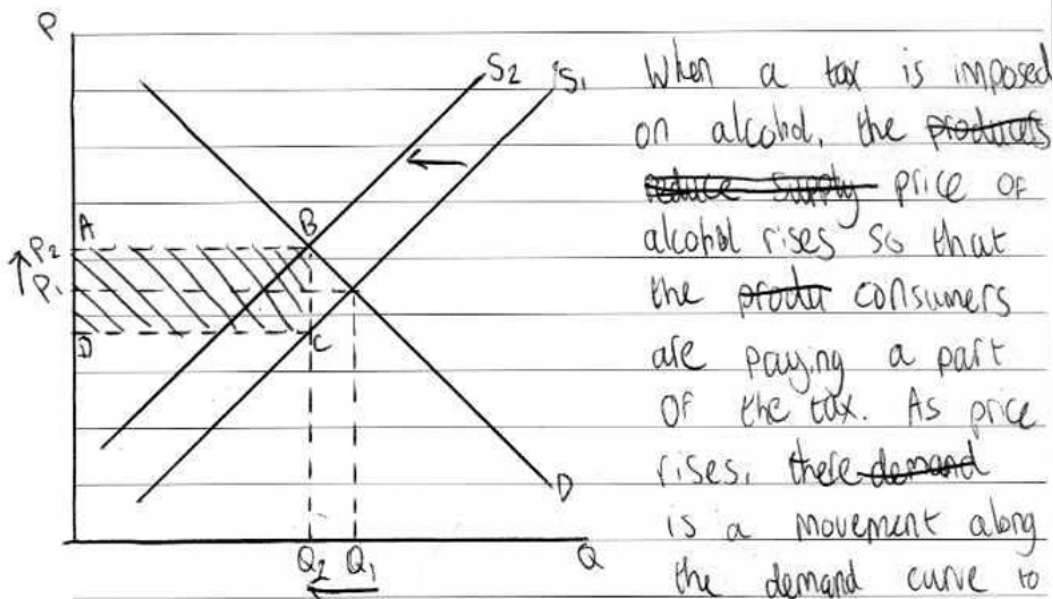
When a tax is imposed on alcohol, the ~~products~~ ~~reduce supply~~ price of alcohol rises so that the ~~produ~~ consumers are paying a part of the tax. As price rises, their ~~demand~~ is a movement along the demand curve to the left, which has a lower point of quantity sold. This then leads to a left shift of the supply curve, to eliminate excess supply. ~~The reduction in~~ So a ~~th~~ likely effect is that quantity sold reduces, which means that the negative externalities decrease, as alcohol is a demerit good. The total tax paid is shown as ABCD on the diagram. There is also dead weight loss, where money is lost in the market.

This is a Level 2 response

This answer scores 6 marks out of 10. The student demonstrates some reasonable knowledge and understanding of the impact of an indirect tax. There is reasonable analysis of a demand and supply diagram but the student could extend the analysis further. The extracts are not used and so the best fit is a mid-Level 2 response.

6 marks

25 mark question

Question 32

Extract F (lines 20–21) states: 'Cheap alcohol is wrecking lives and livelihoods in England as well as Scotland'.

Use the extracts and your knowledge of economics to assess whether a minimum price for alcohol should be introduced in England and Northern Ireland.

[25 marks]

Mark scheme

Use the [levels of response table on page 18 and 19](#).
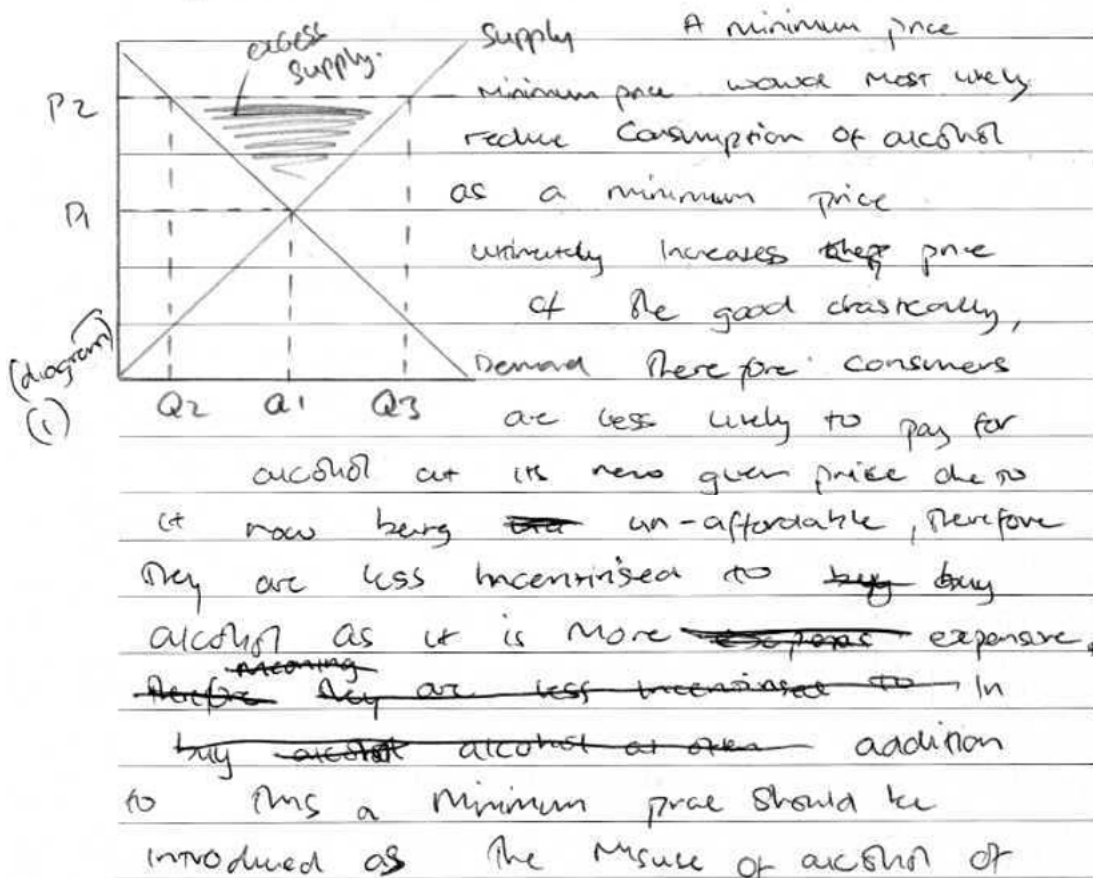
Areas for discussion include:
- recent trends in affordability and pricing of alcohol
- alcohol as a demerit good and examples of private and external costs
- analysis of impact of a minimum price set above equilibrium
- current position on MUP in different parts of the British Isles
- problems and expectations in Scotland
- experience so far in Scotland
- significance of price elasticity of demand
- impact on different people – according to income, extent of alcohol use, etc
- equity issues
- analysis of impact of alternative/existing policies
- pros and cons of alternative policies
- effectiveness of MUP versus other policies
- whether there is a need for more action
- market failure versus government failure
- an overall assessment of whether a minimum price should be introduced in England and Northern Ireland.

The use of relevant diagrams to support the analysis should be taken into account when assessing the quality of the candidate's response to the question.
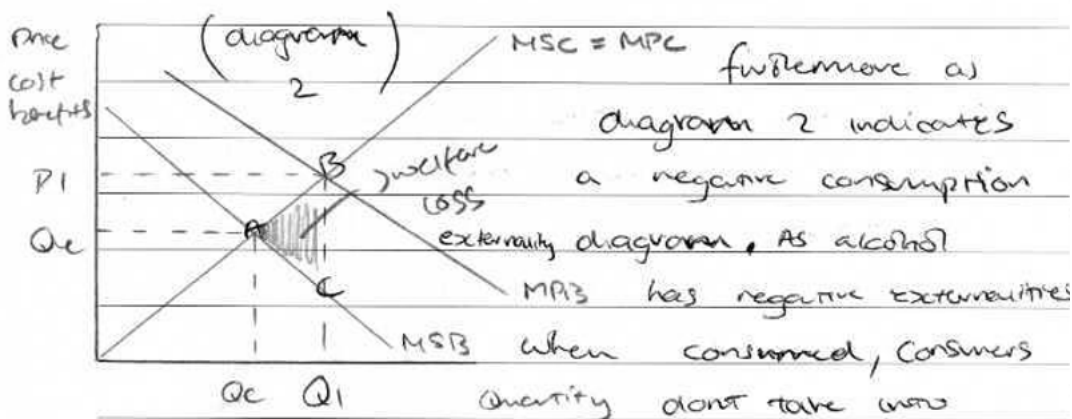
Student responses

Response A

Minimum price is the ~~minimum~~ (not lowest) price where firms must sell their products which is ~~legal~~ imposed by the government. In this case, is to assess whether governments should introduce a minimum price for alcohol, which is a demerit good, so when consumed it produces negative externalities.

A minimum price would most likely reduce consumption of alcohol as a minimum price ultimately increases the price of the good drastically, therefore consumers are less likely to pay for alcohol at its new given price due to it now being un-affordable, therefore they are less incentivised to ~~buy~~ buy alcohol as it is more ~~so far as~~ expensive. ~~Therefore they are less incentivised to buy alcohol at often~~ In addition to this a minimum price should be introduced as the misuse of alcohol of

alcohol has its external benefits as well as private costs, as stated in extract E '46% of violent crime in 2017/18 was reported to be alcohol related', therefore imposing a minimum price would mean not as many consumers would openly purchase alcohol as its too too to expensive, ultimately decreasing external & private costs from consumption of alcohol.

Price cost benefits

Furthermore as diagram 2 indicates a negative consumption externality diagram, As alcohol MPB has negative externalities when consumed, consumers dont take into account any externalities hence why MPB is greater than MSB, implying that government must intervene and ultimately introduce a minimum price, as seen in shaded region A, B, C, there is a welfare loss, ultimately giving more reason to introduce a minimum price to control the consumption and reduce the social costs third parties must suffer due to overconsumption of alcohol.

Extra space   However it can be argued that government should intervene the alcohol industry by imposing indirect taxes.

Price (Diagram 3) (S2 +tax) S1
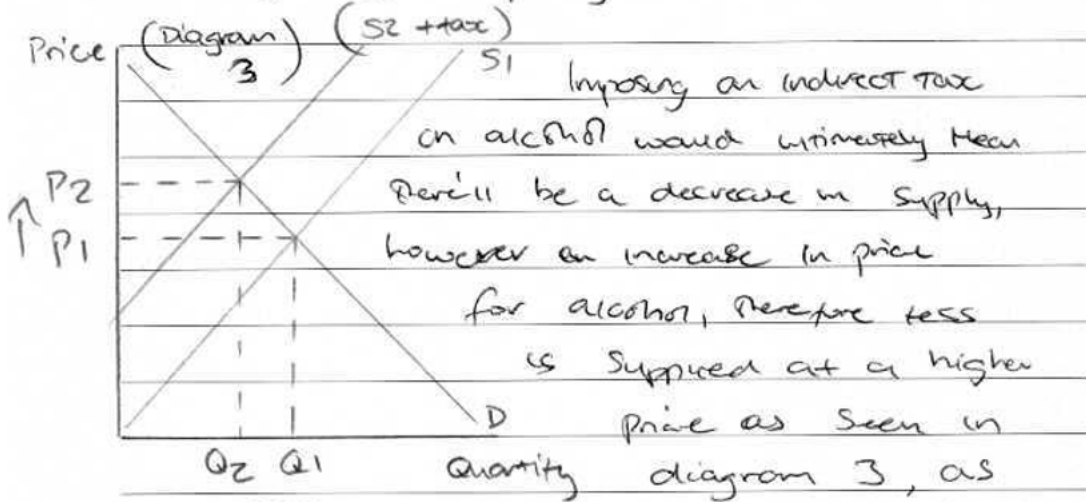
Imposing an indirect tax on alcohol would ultimately mean there'll be a decrease in supply, however an increase in price for alcohol, therefore less is supplied at a higher price as seen in diagram 3, as Q1 shifts to Q2 an S1 shifts outwards from S1 to S2(+tax), respectively prices increase. As firms begin to charge more, consumers are less likely to buy at a given price as if some may not be able to afford it. So it can be argued that an ~~ultimately a decr the best~~ opti imposing of indirect taxes on alcohol may be the best option.

Ultimately a minimum price should be introduced, although it may leave excess supply causing potential wastage, consumers are less likely

to purchase at a higher given price. Although it can be argued that an imposing of indirect tax also may benefit the government as they gain a revenue. Extract F supports the idea of a minimum price, as Started 'research suggest that Scottish adults have bought 1.2 £ fewer units of alcohol per week' followed on by a 'fall of 7.5%, which was double than expected' ultimately indicating that a minimum price reduces consumption thus leading to a reduction in alcohol related death and crime are a potential improvement in healthcare.

This is a Level 5 response

The student begins by analysing the impact of a minimum price on alcohol using a clear, accurate diagram. The chains of reasoning flow logically and are developed using the context of alcohol. The extracts are used well with relevant quotes selected and blended into the analysis.

The student then compares a minimum price with imposing an indirect tax. They again use a clear, accurate diagram to develop their analysis in context.

The final conclusion is supported by using the extracts to support the judgement. Overall, the answer achieves a low Level 5 mark of 21.

21 marks

Response B

Alcohol is a recreational drug that is found in a wide variety of products. 'cheap alcohol' is alcohol that is ~~purchasable for~~ available for a lower price and is consequently consumed more due to higher demand. A minimum price is a form of government intervention that is set on businesses that makes it compulsory for a good to be sold at a specific price or above, ~~the~~ usually with the intent of reducing demand or over-consumption of a demerit good.

A minimum price for alcohol should be introduced in England and N.Ireland, as it has been a success in Scotland, and will help in reducing crime rates. Alcohol ~~is~~ contributes to a large portion of violent crime in the UK, eg 46% of violent crime in Scotland in 2017/18 was alcohol related. A minimum price level will reduce demand and disposable income will not change meaning that those with less disposable income will have to reduce the amount of alcohol they consume, reducing demand which means there will be less people ~~and~~ consuming alcohol, and at a lower quantity be consumed reducing chances of alcohol related crime.

However, a minimum price shouldn't be set as it can increase inequality. Only lower-income households would be affected more as they have less disposable income; this could be seen as unethical. A minimum price could also increase the likelyhood of an economic crash. For E6% in Scotland, there were cases of people stockpiling on alcohol (mass-buying before the law came into place), which just encourages a higher demand for alcohol (a demerit good) which is the opposite of the government's aims.

Overall, a minimum price shouldn't be set as it would negatively affect lives worse than without it and won't change demand for those addicted.

A minimum price also shouldn't be set as there are many jobs reliant on the demand of alcohol. The alcohol industry is massive and the high demand provides a constant need for supply and thus labour, being necessary for a source of income for many

This is a Level 3 response

The student begins with an introduction that receives some merit for a satisfactory explanation of the aim of a minimum price. They use the extracts to justify implementing a minimum price but do not include a diagram or explain in detail how a minimum price will affect demand and supply. The knowledge and understanding is satisfactory but there are some weaknesses present.

The student attempts an evaluation by considering the impact on inequality, which is a reasonable point but then they drift into an unlikely scenario of individuals stockpiling alcohol and causing an economic crash.

The final conclusion is superficial and is not supported by previous analysis or data. Overall, the answer achieves a mid-Level 3 mark of 13.

13 marks

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