

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname StemUp Model Solution

Forename(s) _____

Candidate signature _____

I declare this is my own work.

INTERNATIONAL AS ECONOMICS

Unit 1 The Operation of Markets, Market Failure and the Role of Government

Time allowed: 1 hour 45 minutes

Materials

For this paper you must have:

- the Source Booklet, provided as an insert (enclosed)
- a calculator, which you are expected to use where appropriate.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do **not** write outside the box around each page or on blank pages.
- Do **not** write in the Source Booklet.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a bilingual dictionary for this exam.
- You may **not** use an English dictionary.

For Examiner's Use	
Question	Mark
1–15	
16	
17	
18	
19	
20	
21	
TOTAL	



Section A

Answer **all** questions in the spaces provided.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown.



If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.



0 1 Choices have an opportunity cost because

[1 mark]

A free markets are inefficient.



B government failure is present.



C individuals have limited wants.



D resources are scarce.



0 2 Which one of the following is a feature of a free market economic system?

[1 mark]

A Education and healthcare will not be provided.



B External costs are ignored by the price mechanism.



C Profit is the only objective of firms.



D Public goods are provided by private firms.



0 3

Table 1 shows the demand and supply per week for boxes of popcorn sold at a cinema. Demand is shown before and after a fall in the price of cinema tickets.

Table 1

Price of popcorn (€)	Demand for popcorn before ticket price fall (boxes)	Demand for popcorn after ticket price fall (boxes)	Supply of popcorn (boxes)
5	60	120	390
4	90	150	350
3	200	310	310
2	270	420	270
1	390	530	230

What is the **change** in the equilibrium price?

[1 mark]**A** €1☒**B** €2☐**C** €3☐**D** €4☐

0 4

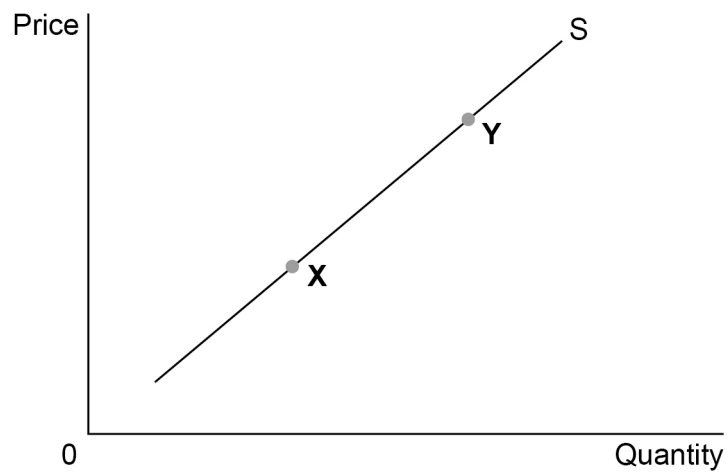
When the price of oranges rises from \$3 to \$3.50, a farm supplies 10% more oranges.

The price elasticity of supply of oranges is

[1 mark]**A** elastic.☐**B** inelastic.☒**C** negative.☐**D** unitary.☐**Turn over ►**

0 5 Figure 1 shows the supply curve for a good.

Figure 1



Which one of the following is most likely to cause a movement from point **X** to point **Y** on the supply curve?

[1 mark]

- A** An indirect tax on the good
- B** Higher spending on advertising the good
- C** Higher wages paid to workers producing the good
- D** Increased productivity of labour

☐
☒
☐
☐


0 6

A pharmaceutical company owns the legal right (a patent) to produce medicine that prevents other firms from manufacturing this medicine. The legal right to be the sole producer of the medicine runs out next year.

Which of the following combination of effects is most likely to result when the firm no longer has the legal right to be the sole producer of the medicine?

[1 mark]

Combination	Competition	Price	Barriers to entry	Output	
A	Falls	Falls	Fall	Rises	☐
B	Falls	Rises	Rise	Falls	☐
C	Rises	Falls	Fall	Rises	☒
D	Rises	Rises	Rise	Falls	☐

Turn over for the next question

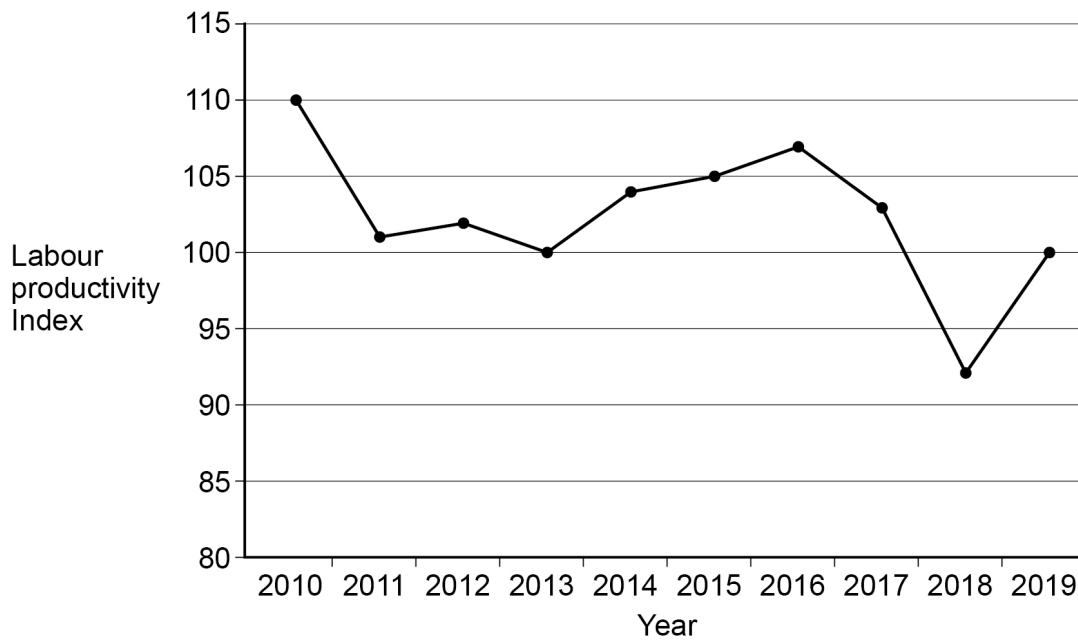
Turn over ►



0 7

Figure 2 shows the index of labour productivity for a firm from 2010 to 2019. The base year is 2013 (2013 = 100).

Figure 2



Which one of the following can be concluded from **Figure 2**?

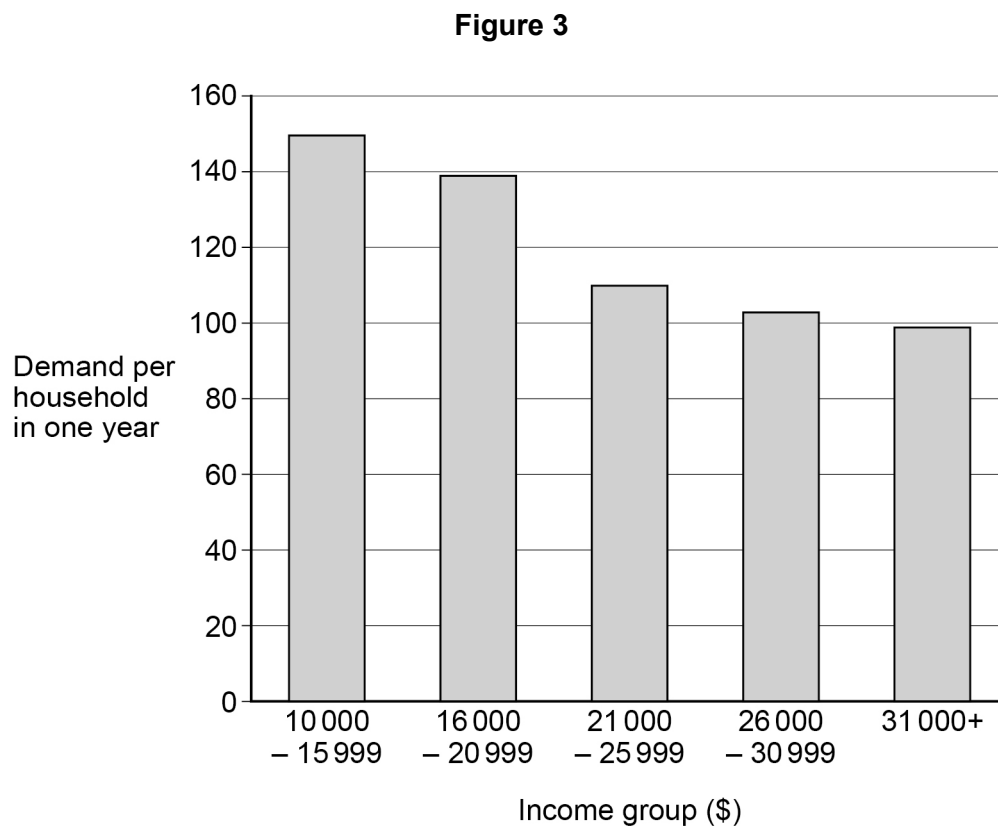
[1 mark]

- A** Employment was highest in 2010.
- B** Labour productivity only decreased in 2018.
- C** Labour productivity was higher in 2015 than in the base year.
- D** The firm's output was lower in 2019 compared to 2010.

☐
☐
☒
☐


0 8

Figure 3 shows the demand for **Good Y** for different income groups.



From **Figure 3**, it can be concluded that **Good Y**

[1 mark]

A has an elastic price elasticity of demand.

☐

B has an inelastic price elasticity of demand.

☐

C is a normal good.

☐

D is an inferior good.

☒

Turn over for the next question

Turn over ►



0 9

A government considers sugary drinks to be demerit goods.

Which one of the following can be concluded from this statement?

[1 mark]

A In a free market, there will be a misallocation of resources.

☒

B Sugary drinks cause harm to users whenever they are consumed.

☐

C The free market is underproducing sugary drinks.

☐

D The government should ban the sale of sugary drinks.

☐**1 0**

The main reason that street lighting does not have a market price is because of the problem of

[1 mark]

A government failure.

☐

B non-excludability.

☒

C positive consumption externalities.

☐

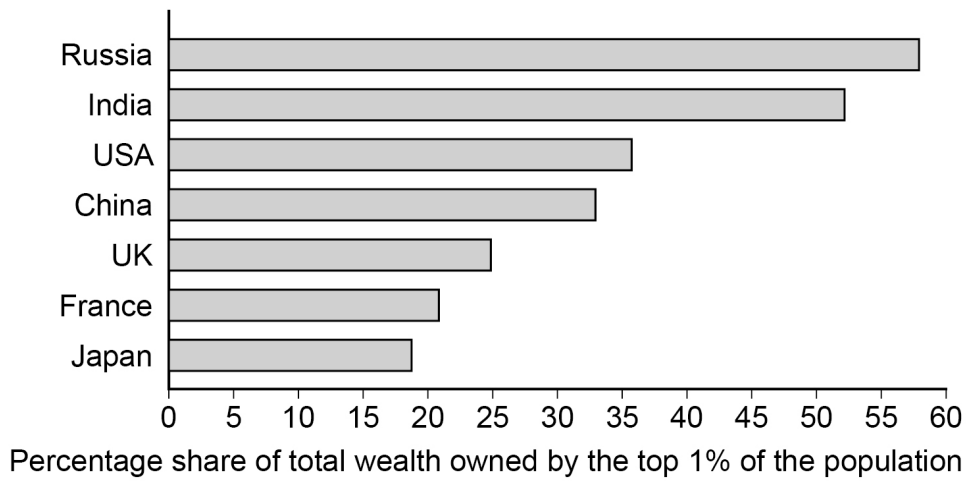
D the tragedy of the commons.

☐

1 1

Figure 4 shows the proportion of wealth owned by the top (wealthiest) 1% of the population in different countries in 2018.

Figure 4



Which one of the following can be concluded from **Figure 4**?

[1 mark]

- A** All countries had wealth inequality.
- B** Income inequality was higher in India than the USA.
- C** Japan had the highest level of equity.
- D** Russia was the least fair society.

☒
☐
☐
☐

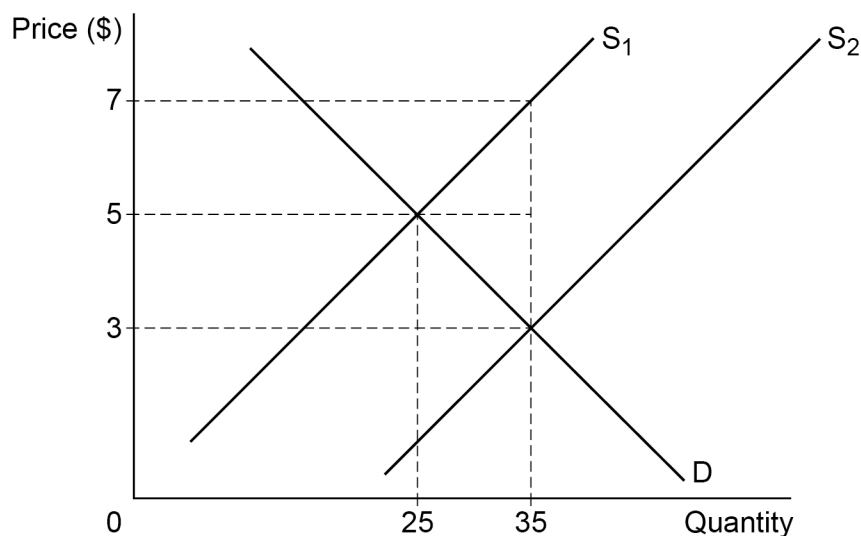
Turn over for the next question

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1 2

Figure 5 shows the original demand (D) and supply (S_1) curves for milk. A government subsidy then shifts the supply curve to S_2 .

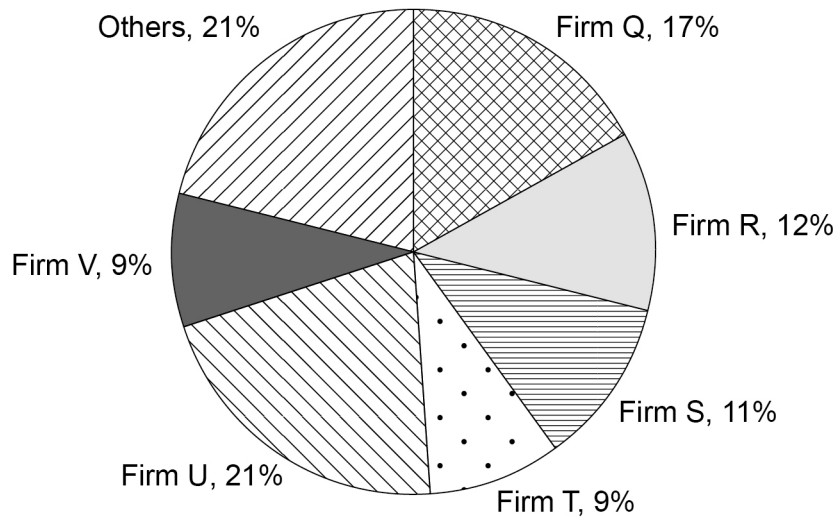
Figure 5

The total value of the subsidy is

[1 mark]**A** \$50☐**B** \$70☐**C** \$100☐**D** \$140☒**1 3**

Which one of the following is a reason why government provision of education can lead to a misallocation of resources?

[1 mark]**A** Education is an example of a public good.☐**B** Government provision means there will be no private sector education.☐**C** Governments only consider external costs and benefits.☐**D** There is a lack of information about the ideal amount of education.☒

1 4**Figure 6** shows the market shares of firms in a country's car market.**Figure 6**

The combined market share of the three largest firms increases by 50%.

What is the new three-firm concentration ratio after this change?

[1 mark]**A** 59%☐**B** 75%☒**C** 88.5%☐**D** 100%☐**1 5**

Which one of the following could result in average cost remaining constant when output increases?

[1 mark]**A** Average fixed cost is constant and average variable cost decreases.☐**B** Average fixed cost is constant and average variable cost increases.☐**C** Total fixed cost is constant and average variable cost decreases.☐**D** Total fixed cost is constant and average variable cost increases.☒**15****Turn over ►**

Section B

Look at the Source Booklet and answer **all** questions in the spaces provided.

Do **not** write in the Source Booklet.

1 6 . 1 Define 'concentrated market' (**Extract B**, line 6).

[3 marks]

A concentrated market is one in which a small number of firms, or possibly only one firm, have a high combined market share, so the market has a high concentration ratio. For example, a high three-firm concentration ratio means that the three largest firms account for a large percentage of total sales in the market.

1 6 . 2 Define 'positive consumption externalities' (**Extract C**, lines 2–3).

[3 marks]

Positive consumption externalities are the benefits that the consumption of a good or service creates for third parties, who are not involved in the transaction and do not pay for these benefits. They mean that the social benefit of consumption is greater than the private benefit to the consumer, for example viewers inspired to take up sport become healthier, reducing healthcare costs for others.



1 7

Extract A shows the revenue from television broadcasting and the profit or loss for each Olympic Games from 1992 to 2016.

You are advised to show your working for the calculations below.

1 7 . 1

Use **Extract A (i)** to calculate the mean Olympic Games revenue from television broadcasting for the years 1992 to 2016.

[3 marks]

$$\text{Mean} = (636 + 898 + 1332 + 1494 + 1739 + 2569 + 2868) \div 7$$

$$= 11\,536 \div 7$$

$$= \$1648\text{m}$$

1 7 . 2

The index for the revenue for cities hosting the Olympic Games was 100 in 1992.

Use **Extract A (ii)** to calculate the index for the revenue in 2012.

Give your answer to **one** decimal place.

[3 marks]

$$\text{Index for 2012} = (\text{revenue in 2012} \div \text{revenue in 1992}) \times 100$$

$$= (4000 \div 3000) \times 100$$

$$= 133.333...$$

$$\text{Index for 2012} = 133.3$$

Turn over for the next question

Turn over ►



1 8

Extract C (lines 18–19) states: 'It is argued that without the large revenues from television broadcasting, countries may not be willing to host the Olympic Games.'

1 8 . 1

Explain how the revenue from television broadcasting could affect the profit or loss of cities hosting the Olympic Games.

[6 marks]

Profit is total revenue minus total costs. Revenue is the income a host city receives from selling goods and services, and the revenue from selling the rights to broadcast the Games on television is one part of its total revenue, alongside ticket sales and sponsorship.

Hosting the Olympic Games involves very large costs, such as building stadiums, transport links and security. Because the Games have a huge global audience, broadcasters are willing to pay very high prices for the rights, so broadcasting revenue is significant. Other things being equal, higher broadcasting revenue raises total revenue and so increases profit or, as the Games usually make a loss, reduces the size of the loss. Without it the Games may be impossible to fund, which is why countries may not be willing to host. Global television coverage also makes advertising and sponsorship more valuable, creating further revenue streams.

However, the effect on profit may be smaller than it seems. Providing facilities for broadcasters adds to costs, and the expectation of large broadcasting revenue may persuade the host to spend more on the Games, so costs rise too and profit may change little.



1 8 . 2

To what extent do the data suggest that the revenue from television broadcasting affects the profit or loss of cities hosting the Olympic Games?

Use the data in **Extract A** to help support your answer.

[6 marks]

The data suggest that broadcasting revenue matters, but it does not decide whether a profit is made. Broadcasting revenue rose at every Games, from \$636m in 1992 to \$2868m in 2016, an increase of \$2232m (351%), yet the only profit was \$10m in 1996, and the average loss across the seven Games was nearly \$9bn. In 2008, despite \$1739m of broadcasting revenue, the Games lost \$36bn, so costs far outweigh broadcasting revenue.

Broadcasting revenue is still a large share of revenue: in 2016 it was \$2868m, almost a third of the total. Without it the 2016 loss would have been 143% larger, and 1996 would have made a loss rather than a profit.

However, other factors matter. Between 2008 and 2012 broadcasting revenue grew by \$830m (48%) but total revenue fell by \$2bn (33.3%), so ticket sales and sponsorship also matter, and costs depend on factors such as the number of venues needed. Higher broadcasting revenue may also have led hosts to spend more.

Overall, broadcasting revenue reduces losses significantly but has only a small effect on whether a profit is made, because profit depends mainly on the costs of hosting.

12

Turn over for the next question

Turn over ►



1 9

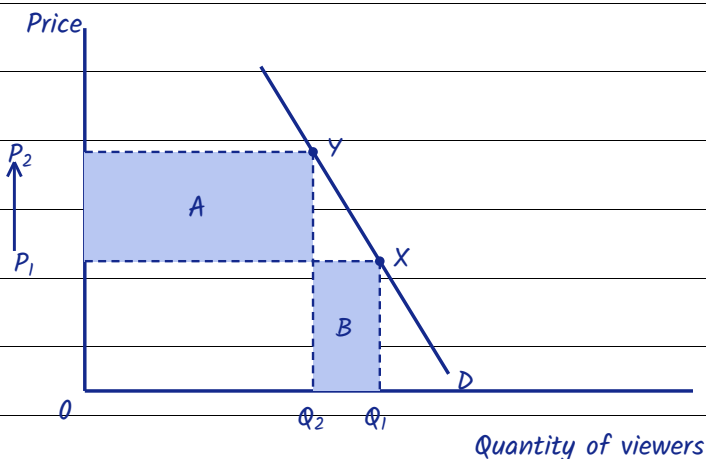
Extract B (lines 14–16) states: ‘The most popular events, such as the 100 metres races, are in high demand. The rights to watch these events and advertise close to them can be sold for very high prices.’

With the help of a diagram, explain why television broadcasters are likely to earn more revenue if they raise the price for viewing the most popular Olympic events.

[9 marks]

Total revenue is price multiplied by quantity sold ($TR = P \times Q$). Whether a rise in price increases revenue depends on price elasticity of demand (PED), the responsiveness of quantity demanded to a change in price: $\% \text{ change in quantity demanded} \div \% \text{ change in price}$. Demand is price inelastic when PED is less than 1, so a rise in price causes a less than proportional contraction in quantity demanded.

Demand for viewing the most popular events, such as the 100 metres races, is likely to be highly price inelastic. There are few or no substitutes: the event is live and happens only once every four years, and when one broadcaster holds the rights it is the only legal way for most consumers to watch. As Extract B says, these events are in high demand, viewers are loyal, and illegal broadcasting is difficult.



A = revenue gained

B = revenue lost

A > B so TR rises

Extra space In the diagram, demand D is steep (inelastic). When the broadcaster raises the price from P_1 to P_2 , quantity demanded contracts only slightly, from Q_1 to Q_2 . The percentage rise in price is greater than the percentage fall in quantity, so total revenue rises from OP_1XQ_1 to OP_2YQ_2 : the revenue gained from the higher price paid by viewers who keep watching (area A) is greater than the revenue lost from viewers who stop



watching (area B).

The same applies to advertisers, as slots close to the most popular events reach the largest audiences, so their demand is also inelastic and higher prices raise advertising revenue. Because the broadcaster has monopoly power it can raise price without losing viewers to rivals. However, if price is raised too far demand becomes more elastic, as viewers switch to highlights or online results, and revenue would then fall.

9

2 0

Extract C (lines 6–8) states: ‘Where consumers have to pay to watch the Olympic Games on television, perhaps there should be government intervention through the introduction of a maximum price’.

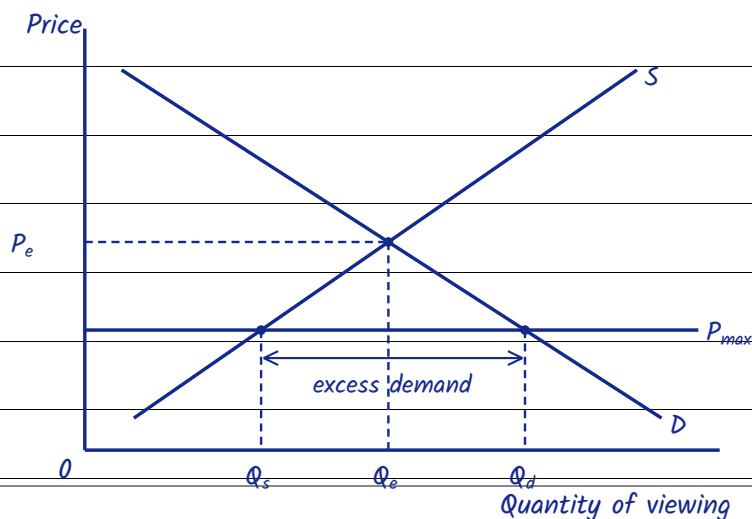
Analyse the likely effects on the market for television broadcasting of the Olympic Games if governments introduce a maximum price to watch the Olympic Games on television.

[12 marks]

A maximum price is a legal upper limit on the price of a good or service, set by the government. To have any effect it must be set below the free market equilibrium price.

Governments may introduce one to improve equity of access so that lower-income households can watch, to increase viewing of Olympic sport, creating positive consumption externalities as more people are encouraged to take part in sport, and to limit the monopoly power of broadcasters.

In the diagram, the free market equilibrium is at P_e and Q_e . A maximum price at P_{max}



Turn over ►



lowers the price consumers pay. Quantity demanded extends to Q_d , as watching becomes more affordable, but quantity supplied contracts to Q_s , because supplying viewers is less profitable, creating excess demand of $Q_d - Q_s$. Consumers who can still watch gain consumer surplus, but some who want to watch at P_{max} cannot, and they may turn to illegal streams. In practice, once the rights are bought the extra cost of one more viewer is close to zero, so broadcasters may still serve most viewers, and viewing figures would rise.

The effect on broadcasters depends on price elasticity of demand. Demand for the Games is price inelastic, so a lower price reduces revenue from viewers and therefore Extra space profit. Broadcasters may respond by cutting costs, for example showing fewer events or reducing the quality of coverage. They may rely more on advertising, since larger audiences make advertising slots more valuable, or use product differentiation, offering premium options such as extra channels or advert-free viewing to raise prices outside the control.

Lower expected profits mean broadcasters will bid less for the rights, so the revenue from broadcasting for the organisers and host cities falls. As the Games usually make large losses (Extract A), this could increase losses and make countries less willing to host.

The impact depends on the level of the maximum price. If it is set above the equilibrium price, as it may be for less popular events, it has no effect. The further below equilibrium it is set, the larger the excess demand and fall in profit. In the short run broadcasters have already paid for the rights and must show the Games, but in the long run supply is more elastic, so some broadcasters may stop bidding or leave the market, and supply contracts further.



2 1

Extract B (lines 5–7) states: ‘The sale of rights to a single firm gives broadcasters monopoly power, since it is a highly concentrated market. In 2016, NBC made \$250m profit from broadcasting the Rio Olympics in the US.’

Use the extracts and your knowledge of economics to assess the case for and against selling the rights to broadcast the Olympic Games to one firm.

[20 marks]

Selling the rights to one firm gives that broadcaster exclusive rights, so it becomes a monopoly supplier of Olympic coverage in its country. Monopoly power is the ability of a firm to influence the price of its product, because it faces few or no close substitutes and there are barriers to entry, here a legal barrier: the exclusive contract. Extract B describes this as a highly concentrated market, and NBC made \$250m profit from broadcasting the Rio Olympics in the US in 2016.

The main case for selling to one firm is revenue for the Games. Exclusive rights are worth much more to a broadcaster, because it can charge viewers and advertisers higher prices without competition, so it will bid more. Extract A shows broadcasting revenue rising from \$636m in 1992 to \$2868m in 2016. Since the Games usually make heavy losses, nearly \$9bn on average and \$36bn in 2008, this revenue is vital: Extract C suggests that without it countries may not be willing to host.

Monopoly profit can also benefit viewers. Supernormal profits such as NBC's \$250m can be invested in high-quality coverage, new technology and online streaming, improving dynamic efficiency. One firm covering every event can spread the high fixed costs of cameras, studios and staff over a very large audience, gaining economies of scale and avoiding the wasteful duplication of several firms filming the same events, so average costs are lower. In addition, many broadcasters earn their revenue from advertising and show the Games free-to-air, so monopoly need not mean high prices for viewers.

However, there is a strong case against. As the diagram shows, a profit-maximising monopoly produces where $MR = MC$, at output Q_m and price P_m , whereas a competitive market would produce at Q_c and P_c , where price equals MC . The price is higher and fewer people watch; as $P > MC$ the outcome is allocatively inefficient, with a welfare

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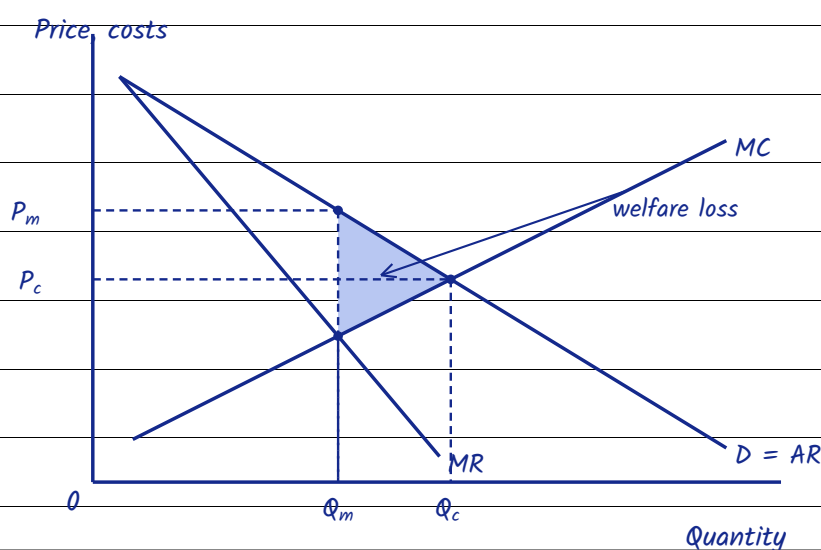


loss (shaded) and consumer surplus transferred to the firm as profit. Where viewers must pay, lower-income households are priced out, which is inequitable, and the positive consumption externalities of watching sport mentioned in Extract C are lost. Without competition the firm may also become X-inefficient, letting costs rise, and may have less incentive to improve its coverage.

There are alternatives. Rights could be sold to several firms, by event or by region, increasing competition, or governments could require the most popular events to be shown free-to-air, or set a maximum price. However, each has problems: the rights would be worth less, so revenue for the Games falls, regulation is costly, and governments may lack the information to set the right price, leading to government failure.

The overall case depends on several factors. First, it depends on how the broadcaster earns revenue: if it is free-to-air and funded by advertising, the harm to viewers is small, but if it uses pay-per-view, monopoly prices exclude many viewers. Second, it depends on regulation: exclusive rights with conditions, such as showing key events like the 100 metres final free-to-air, can keep most of the revenue while protecting access. Third, technology is making the market more contestable, as streaming services, social

Extra space media and mobile networks compete with traditional broadcasters, so a



single firm's power may be limited. Finally, Extract A shows costs far outweigh broadcasting revenue, so the extra revenue from exclusivity may not change whether the Games make a loss, and different countries will weigh revenue against access differently.

In conclusion, the case for selling the rights to one firm is stronger, because the large revenue it raises is essential to funding loss-making Games and allows high-quality coverage. However, because monopoly power can lead to high prices and unequal access, it should be combined with regulation, such as free-to-air coverage of the most popular events, so that the benefits of exclusivity are kept while the costs to viewers are minimised.

END OF QUESTIONS



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ANSWER IN THE SPACES PROVIDED**



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