

OCR A-LEVEL ECONOMICS • H460

ECONOMICS



EXAM QUESTION PACK

BUSINESS OBJECTIVES

SCORE

/124

PERCENTAGE

%

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This image shows a full page of a document template. It consists of approximately 28 horizontal dashed lines spaced evenly down the page, providing a guide for handwriting or typing. The lines are thin and light gray. In the bottom right corner, there is a small black rectangular box containing the number "25" in white font.

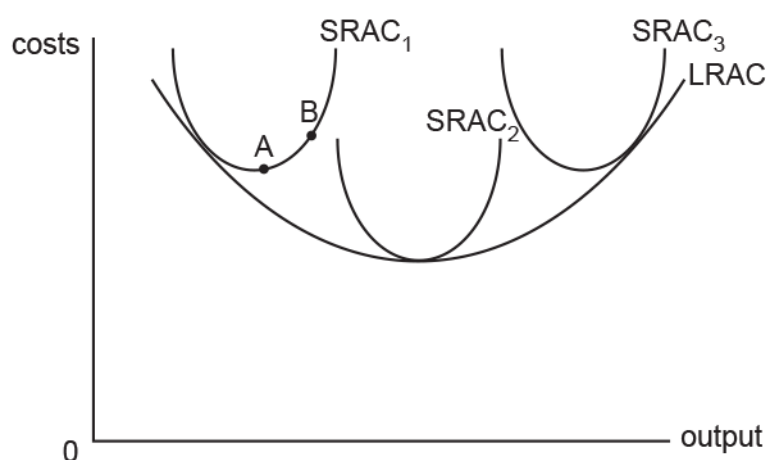
- 2 The total costs for an individual operating a fast food van outside a local DIY store last year were £15,000. If 25,000 sales were made in total and the only fixed cost incurred was the rental of the van at £250 a month, what was the average variable cost?

- A 48p
- B 59p
- C 60p
- D 72p

Your answer

[1]

- 3 Which of the following concepts is represented by the movement from A to B in the diagram below?



- A Allocative inefficiency
- B Diminishing returns
- C Diseconomies of scale
- D Economies of scale

Your answer

[1]

In the build up to the 2016 Rio Olympic Games, Brazilians were divided over the merits of hosting the world's largest sporting event in their country. With the economy in recession for the second year running and costs spiralling 50% over budget, many argued that the \$4.6bn could have been better spent in this developing nation. Such critics point to the loss made by the majority of previous host cities as evidence of wasteful expenditure.

Fig. 1.1 summarises the financial implications for Vancouver and London, hosts of the 2010 Winter and 2012 Summer Olympics respectively. A significant proportion of Olympics revenue goes to the International Olympic Committee (IOC); the figures detailed in Fig. 1.1 reflect what was kept by the host nations.

Fig. 1.1 – Vancouver 2010 & London 2012 Olympic Games Costs & Revenues

	Vancouver 2010 (\$ millions, USD)	London 2012 (\$ millions, USD)
Costs		
General infrastructure	3,497	5,970
Sporting infrastructure	715	1,790
Other	3,344	3,641
Revenues		
Broadcasting rights	414	713
Sponsorship	863	1,450
Ticketing	250	988
Licensing	51	119

However, those in favour of hosting the Olympic Games argue that these statistics significantly underestimate the benefits, many of which will be felt for generations to come. Improvements in the transport infrastructure can enhance productivity, whilst the regeneration of East London in 2012 provided tangible benefits to local residents.

Critics question whether the long run benefits from the Olympics are better than those which would have resulted from alternative infrastructure projects. For example, significant investment to meet a three week period of peak demand may result in severe overcapacity once the event is over, illustrated by the now weed infested cycling racetrack used for the Beijing Olympics.

Recognising that many potential hosts were being put off by the rising costs of hosting an Olympics, the IOC published its Olympic Agenda 2020 in December 2014. At the centre of the agenda is a desire to include sustainability in all aspects of the Olympic Games, in doing so improving the economic viability of hosting the spectacle.

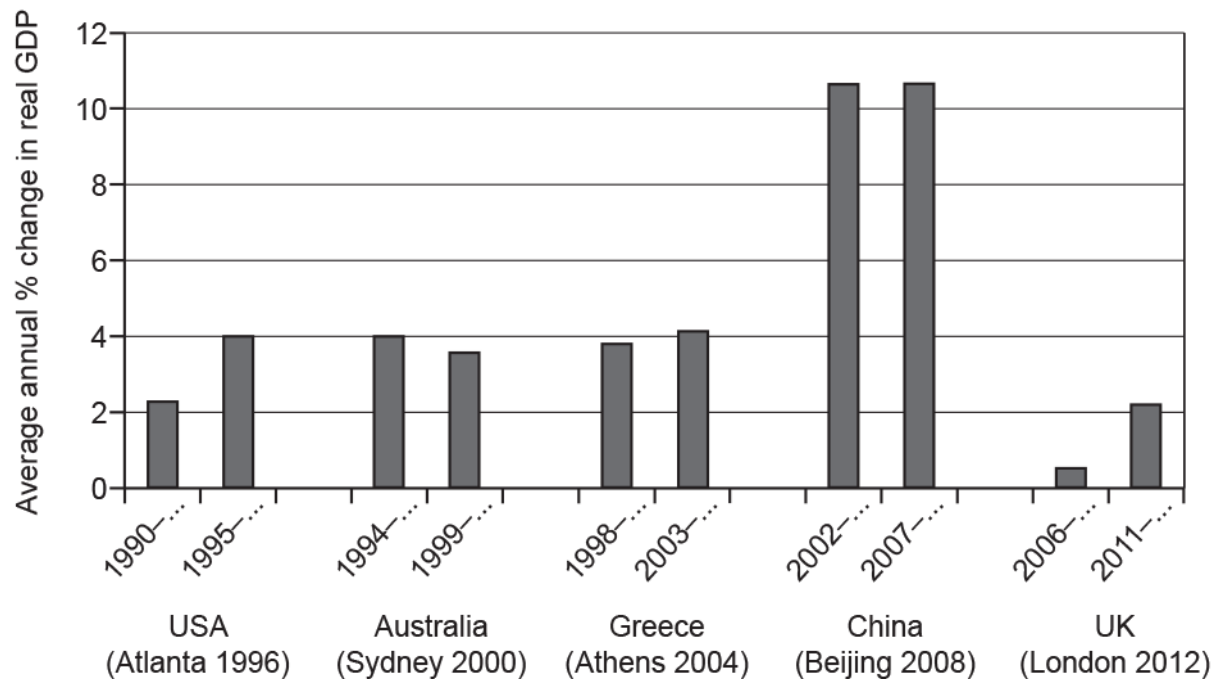
Despite the significant costs involved governments around the world remain attracted to bid for the Olympic Games because of the wider macroeconomic stimulus hosting the event can provide. The Bank of Japan has estimated that the Japanese economy could be boosted by up to \$249bn as a result of hosting the next games in Tokyo.

In many ways expenditure on the Olympic Games can be seen as an example of expansionary fiscal policy, generating thousands of jobs in construction in the build up and a significant amount of tourist expenditure. Economists estimate the multiplier effect of Olympics expenditure to be approximately 1.7; this wider economic effect is used to argue that in the long run hosting the Olympics more than pays for itself. Indeed, the macroeconomic stimulus proved particularly timely for the UK, which was in the midst of recovering from the global financial crisis when the 2012 London Games took place.

However, the size of the injection into the economy from hosting the Games is generally overstated. This is in part because it ignores the substitution effect: money spent on the Olympics by local residents is money that would have been spent on other goods and services had the Olympics not taken place. Projected increases in tourism also fail to take into account the number of people who choose not to come to the country during the Olympics, with holiday or business travellers put off from coming to the country because of the crowds associated with the Olympics. In both Beijing and London tourist numbers during 2008 and 2012 were actually lower in total than in the previous year. Moreover, whilst the employment gains are particularly beneficial during a period of recession, this will only ever occur by chance rather than design, given the Games need to be bid for seven years in advance. When the Olympics takes place in a country during the boom phase of the economic cycle the gains from employment are limited, workers simply switch from alternative employment towards Olympics related employment.

Fig. 2.1 compares historical growth rates with the rate of economic growth experienced by countries in the five year period during which they hosted the Olympic Games.

Fig. 2.1 – Economic growth rates of Olympic hosts



The long run consequences of hosting an Olympics are just as debatable. Some argue that the legacy of hosting the event has a powerful long term impact as a result of improved infrastructure and urban regeneration. Shortly after the 2012 Olympics a BBC survey found evidence of a 'feel good effect', with 80% of people saying they felt proud to be British. This could have an impact on confidence and therefore the propensity to consume.

Ultimately, the gains from tourism depend on the nature of the host city prior to the Olympics taking place. Whilst Barcelona and Salt Lake City saw a sustained increase in tourist numbers after hosting, this is largely attributed to them being destinations that were not popular before. Cities such as London clearly stand to gain less given London was already the world's most visited tourist destination before hosting the games.

The Olympics is also thought to have a positive impact on a country's balance of payments, with short run increases in tourist expenditure and long run increases in foreign direct investment as a result of companies becoming more familiar with the country. Fig. 2.2 outlines the impact on the exchange rates of host countries through use of the 'Olympics index'. This is constructed by following the host country's exchange rate in the four years prior to the Olympics taking place – for example, between 2004 and 2008 the Chinese Yuan is used for the index in the build up to the Beijing Olympic Games.

Fig. 2.2 – Exchange rate changes of Olympic hosts compared to other currencies, 1980–2012

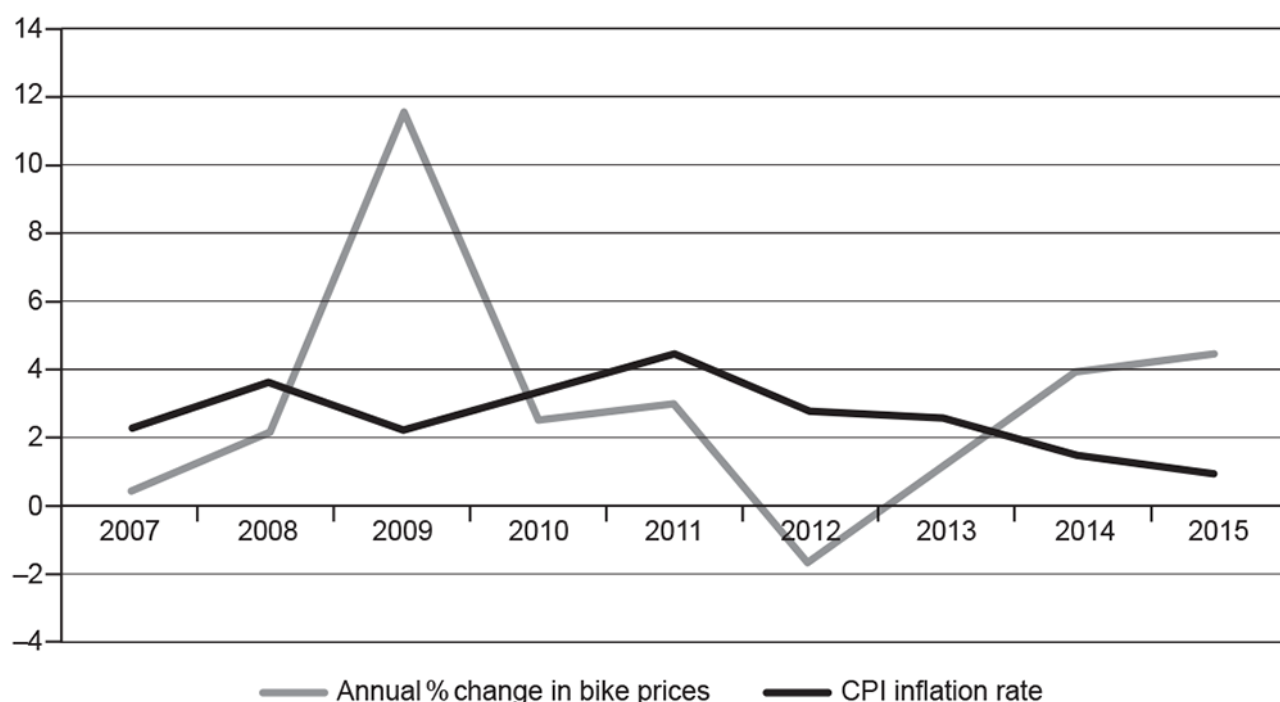
Currency	Exchange Rate Change 1980–2012 (%)
Australian Dollar	19.78
British Pound	–21.52
Indian Rupees	–45.11

Japanese Yen	53.72
Olympics Index	89.27
US Dollar	4.46

Extract 3 – Growth of the UK bicycle market

Gold medal winning performances by British cyclists has contributed to the rapid growth seen in the bicycle market. The increase in popularity of the sport has coincided with large scale infrastructure investment in cycle networks around the UK. This has been driven by a desire to ease traffic congestion, reduce pollution and improve the health of the population. Fig. 3.1 illustrates how the price of cycling has changed over time in the UK.

Fig. 3.1 – Bike prices & inflation in the UK 2007–2015



With £12,000 bikes now available to, and purchased by, consumers, some blame the rising cost of cycling on the lack of competition in the bicycle market. Evans Cycles, Halfords and Wiggle dominate the market, accounting for over 50% of market share between them, with Wiggle's recent takeover of rival Chain Reaction further increasing the collective power of these three retailers.

An alternative explanation for the rising price of bicycles is the fact that bicycle equipment has improved dramatically over the years. Innovations such as electronic gears and carbon fibre mean modern day bicycles are incomparable with those on sale 20 years ago. With the number of independently owned bike shops increasing by more than 10% over the past decade, it is clear firms are looking to take advantage of this ever expanding market.

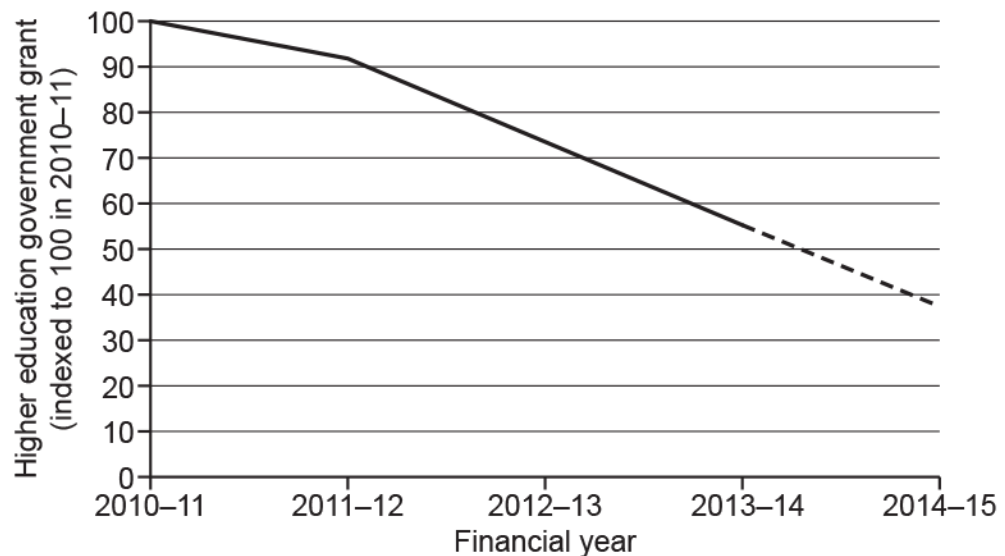
Please refer to insert **H460-03 June 2018, Olympic Games**, which can be downloaded separately and is included above.

Using Fig. 1.1, compare the profitability of hosting the Vancouver and London Olympic Games.

[4]

The proportion of university education provided by the public sector and the private sector varies throughout the world. Most UK universities are generally considered to be in the public sector. In 2017, there were only five private sector universities in the country. The difference between public sector and private sector universities, however, is changing. This is the result of a shift in the funding of higher education, particularly in England. Universities are obtaining less of their income from government financed teaching grants and an increasing proportion from tuition fees. Fig. 1 shows how the amount of government spending on higher education has fallen in recent years.

Fig. 1 – Spending on higher education government grant



Note: Figure for 2014-15 was a predicted figure. Figures are in real terms, adjusted for inflation using the GDP deflator.

Tuition fees were introduced in 1998 at a maximum of £1,000 a year. By 2017, these had risen to a maximum of £9,250 for UK and EU students studying in England. Most universities charge this maximum annual fee. In October 2017, the government announced that it was freezing tuition fees at £9,250 instead of increasing them in line with inflation and raising the student loan repayment threshold from £21,000 to £25,000. Most students would like the government to maintain the freeze for some time or even scrap tuition fees altogether.

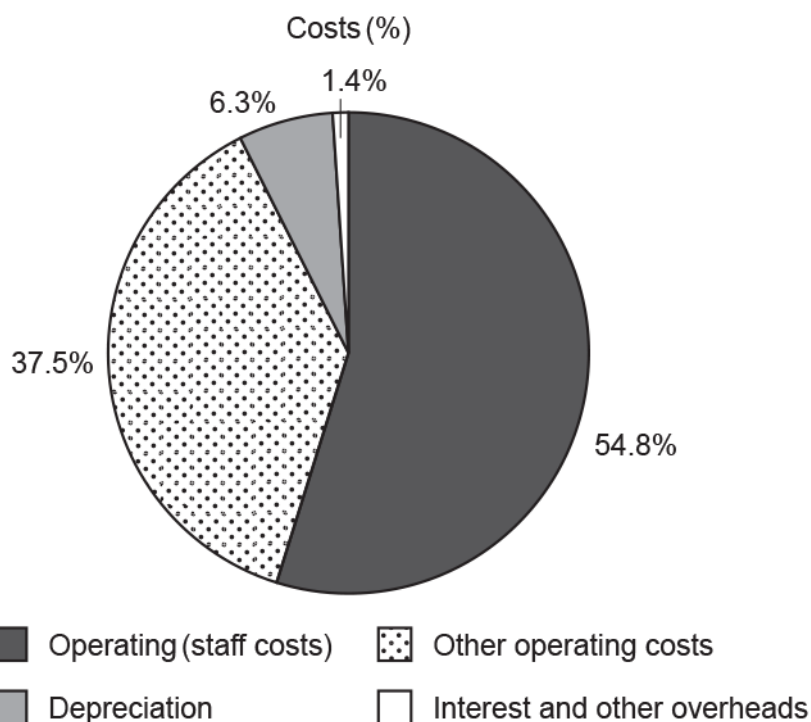
Some A Level students do not gain the grades needed to take up university places. In other cases, however, it is tuition fees which discourage them from applying to university. These students are concerned about future debt levels and value for money. The average pay for university graduates is higher than that for non-graduates. Future earnings, however, vary according to the subject studied, university attended and job gained after graduation. Currently the highest earning post graduates tend to have been students of medicine, veterinary science,

economics and engineering. While the lowest earners are found to be former students of English Literature, communication, agriculture and creative arts. A Level pupils are also aware that the learning experience varies between courses and universities, with some undergraduates complaining about lack of contact hours and high numbers of students in seminar groups.

25 While a limit on tuition fees may be welcome to many students, universities are concerned about the measure. They are worried that if they are not able to charge higher tuition fees and if they do not get more funding from the government, they will struggle to cover their costs. Universities' operating costs vary with the number of students they teach. Fig. 2 shows a breakdown of the total cost of £31.2 billion incurred by UK universities in 2014–2015 when they were educating

30 2.2 million students.

Fig. 2 – The composition of the total cost of UK universities 2014–2015



The cost of providing degree courses varies between subjects and universities. It is, for example, more expensive to provide engineering courses than English Literature courses. The University of Cambridge, for instance, spends more per student than the University of Bedfordshire.

35 The amount spent on education for people above school age (tertiary education), includes spending on degree courses and vocational courses. Such education provides a range of benefits not only to those who undertake the courses but also to others. Tertiary education increases a country's output and the productivity of its workers. UK universities are also creating an increasing number of spin-off companies which create new jobs.

Fig. 3 shows how the proportion of people of two different age ranges who had completed tertiary education varied in selected countries in 2016, as well as average income in those countries.

Fig. 3 – The proportion of people who had completed tertiary education in selected countries in 2016

Country	25–34 year olds who completed tertiary education	55–64 year olds who completed tertiary education	Average income (GDP per head in US\$) 2016
Canada	60.6	46.2	42 200
Germany	30.5	26.3	42 000
Japan	60.1	39.7	39 100
New Zealand	43.4	28.2	39 400
South Korea	70.0	19.7	27 600
United Kingdom	52.0	37.6	39 900
United States of America	47.5	41.9	57 500

Please read the extract above or refer to insert H460-01 June 2018, Who should pay?, which can be downloaded separately.

Calculate, using information from the stimulus material, the average fixed cost of educating a university student in 2014–2015.

[3]

Evaluate whether the main influence on the size of a firm over time is economies of scale.

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[25]

Grocery retailing is often used as an example of an oligopoly market in the UK. Economists sometimes divide oligopoly markets into two types: perfect oligopoly, in which the products sold are homogenous and imperfect oligopoly, in which there are differentiated products. The behaviour of firms in a perfect oligopoly can be significantly different from those in an imperfect oligopoly.

In the UK, since the 1950s, the selling of groceries has become increasingly dominated by supermarkets. Tesco has been the market leader for a sustained period of time with over 25% of the market share. There are, however, other competitors who also maintain a significant share of the grocery market, as shown in Fig. 1.

Supermarket	Percentage share of grocery market	Percentage share of grocery market
	July 2014	July 2016
Aldi	4.8	6.2
Asda	17	15.5
Co-op	6.3	6.4
Lidl	3.6	4.5
Morrison's	11	10.7
Sainsbury's	16.6	16.3
Tesco	28.9	28.3
Waitrose	4.9	5.1
Others	6.9	7.0

Fig. 1 Percentage share of grocery market by supermarket. July 2014 and July 2016.
(As measured by % of total market sales revenue.)

The market for groceries is large with the value of sales exceeding £170bn. This has continued to grow, see Fig. 2, despite the macroeconomic problems of the UK economy and a prolonged price war between the supermarkets.

	UK grocery market by value in £bn
2014	177.4
2016	179.1

Fig. 2 UK grocery market by value £bn. 2014 and 2016.

The larger supermarkets have used price cutting in an attempt to maintain market share. While another method of differentiating their brand has been to offer better home delivery services. At present online ordering accounts for less than 10% of all grocery sales.

Sainsbury's, one of the leading supermarkets, has recently decided to integrate its business by buying out Argos.

This constitutes horizontal integration. Argos specialises in selling non-grocery products such as toys, clothing and household goods. These non-grocery products are part of Sainsbury's wider product portfolio. Argos offers delivery by 10pm for any of its products ordered by 6pm on the same day. One of the potential benefits of this buy out of Argos by Sainsbury's is the delivery network that Argos has established. Sainsbury's hope to increase their ability to deliver food using online ordering. However, the delivery of items such as clothes and household goods creates fewer problems than delivering fresh food products. Food items require different temperatures and items are often fragile or bulky making the process more difficult and costly.

The major problem with online grocery sales is the lack of profitability. There is a very high level of fixed costs involved. It has been estimated that, on average, a delivery costs the supermarket £20 whereas consumers are charged less than £5. Ocado, an online groceries only provider, operated for 15 years before making a profit.

In recent years there have been some successful new entrants to the grocery retailing market such as Aldi, Lidl and Netto. Most recently, Amazon, a market leader in online sales, has also entered the grocery retailing market through a new service called Pantry. The entry of new firms into a market can influence the profits earned by the incumbent firms. Fig. 3 shows how the profits earned by Tesco and Sainsbury's have changed in recent years.

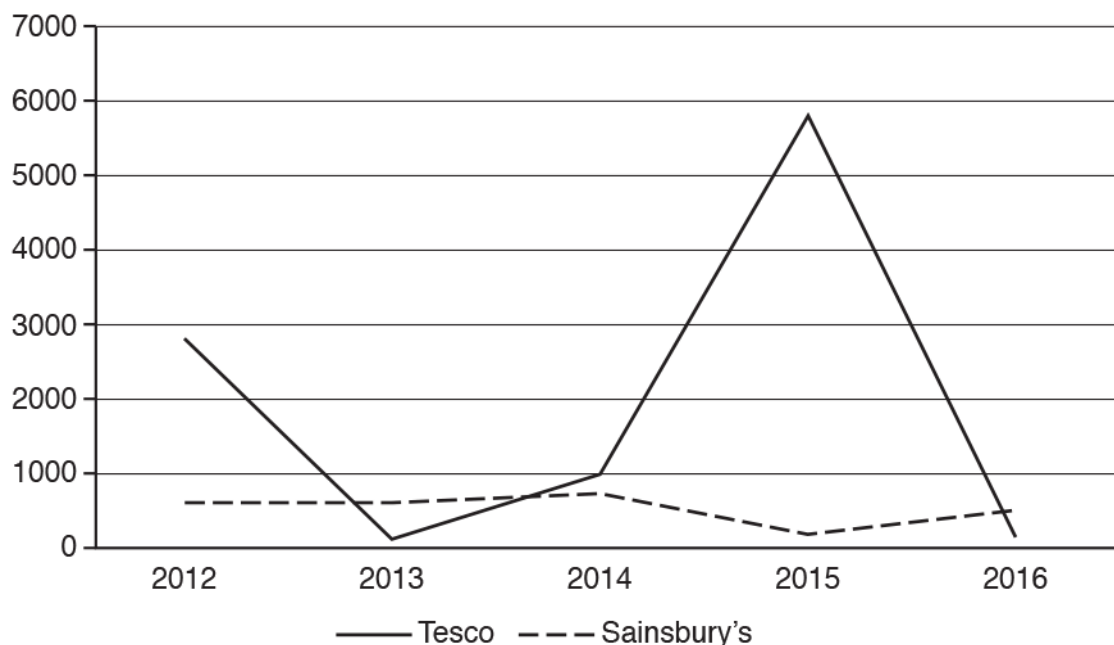


Fig. 3 Profits (£m) earned by Tesco and Sainsbury

Please refer to Insert H460-01 Practice 2, which can be downloaded separately and is also included above.

Fig. 1 shows the growth of new supermarkets, such as Aldi.

Using the information in Fig. 1, calculate the percentage change in total revenue from grocery sales by Aldi between July 2014 and July 2016.

[2]

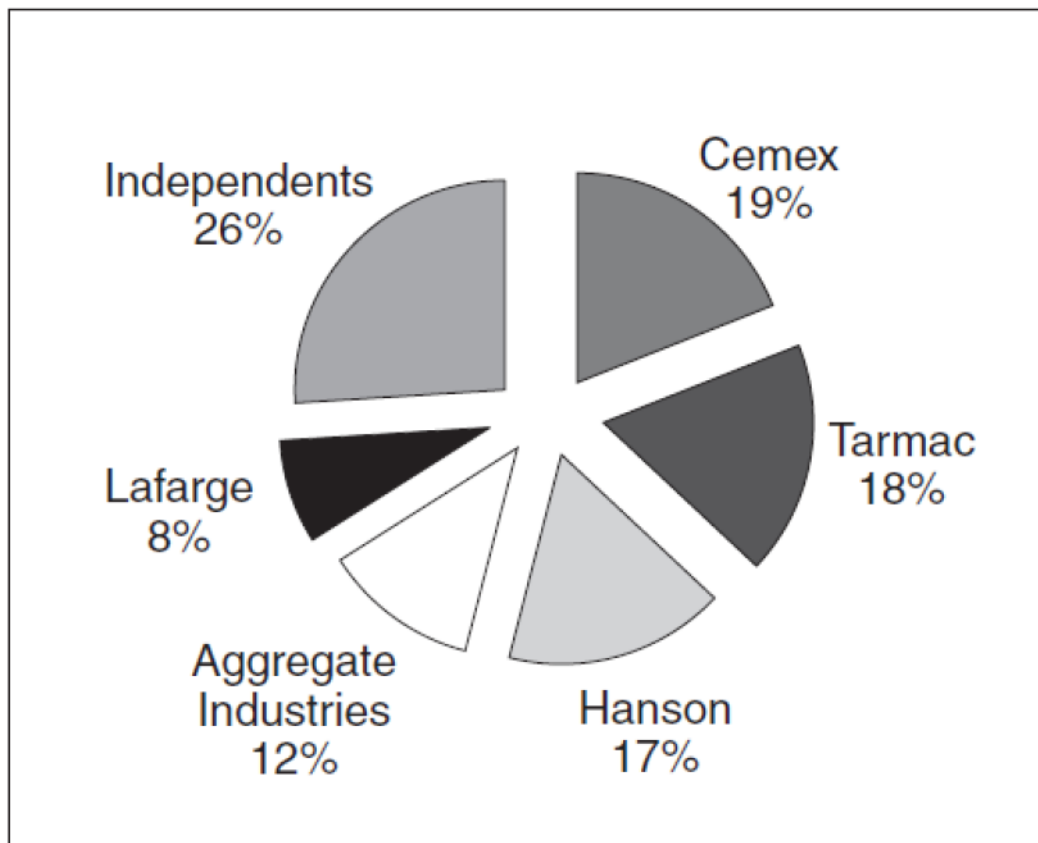
Cement is mainly used to make concrete and accounts for approximately 45% of its production cost. The most common type of concrete is ready-mix concrete. This is a mixture of cement, granular raw materials and water. In 2009 the sales of cement in the UK totalled £0.9bn and the sales of ready-mix concrete came to £1bn. In the same year the output of cement was 7.6m tonnes and the output of

5 ready-mix concrete was 14m tonnes.

Over the last 20 years, a high number of mergers have reduced the number of firms in both markets and combined firms producing both cement and ready-mix concrete. In 2009 the three largest firms in the cement market, Lafarge, Cemex and Hanson, produced 6m tonnes of concrete between them.

Large firms also play a key role in the market for ready-mix concrete. Fig. 1 shows the market shares of
10 the five largest ready-mix firms in 2009.

Fig. 1 – UK shares of ready-mix concrete volumes, 2009



The large firms, all of which are multinationals, concentrate on producing building materials. Each owns quarries which extract granular raw materials. Their factories involved with the production of concrete

sell some of their output internally to other parts of their business. Some is also sold to other firms, including small firms which just produce ready-mix concrete.

- 15 There is little difference in the quality of both the cement and ready-mix concrete produced by the different firms. In the markets for both cement and concrete the large firms have considerable information about the pricing and output strategies of their rivals. This information comes from, for example, buying and selling to each other and details provided in planning proposals.

In both the markets for cement and concrete, there are a number of significant barriers to entry and exit

- 20 which give incumbent firms protection from the potential entry of new firms. There are high set up costs with, for instance, a cement factory costing as much as £100m to build. In addition, there are thought to be significant economies of scale available to the larger operators.

In 2010 and 2011 the Office of Fair Trading (OFT) undertook a study of the cement and ready-mix concrete markets. There was concern about the lack of competition and possible co-ordination of

- 25 market strategies undertaken by the large firms. Small ready-mix concrete firms told the OFT that they were being charged high prices for cement by the large firms, while having to compete against the low prices the large firms were charging for their own ready-mix concrete. They suggested that the large firms were prepared to accept lower profit margins on ready-mix concrete knowing that they could still make a high level of supernormal profit producing cement. These smaller firms claimed that such a
30 strategy, which became particularly evident in 2009, was designed to drive them out of business. Figs 2 and 3 show how the average revenue and average cost changed in the markets for cement and concrete between 2006 and 2010.

Fig. 2 – Cement – average revenue and average cost per tonne

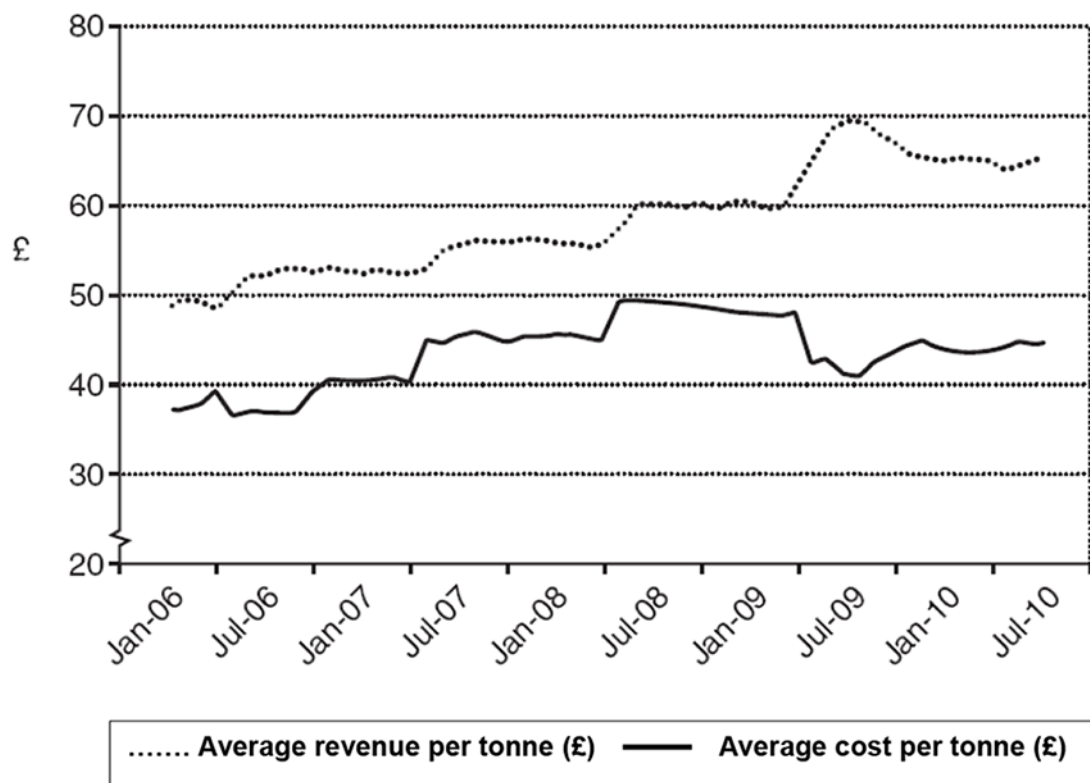
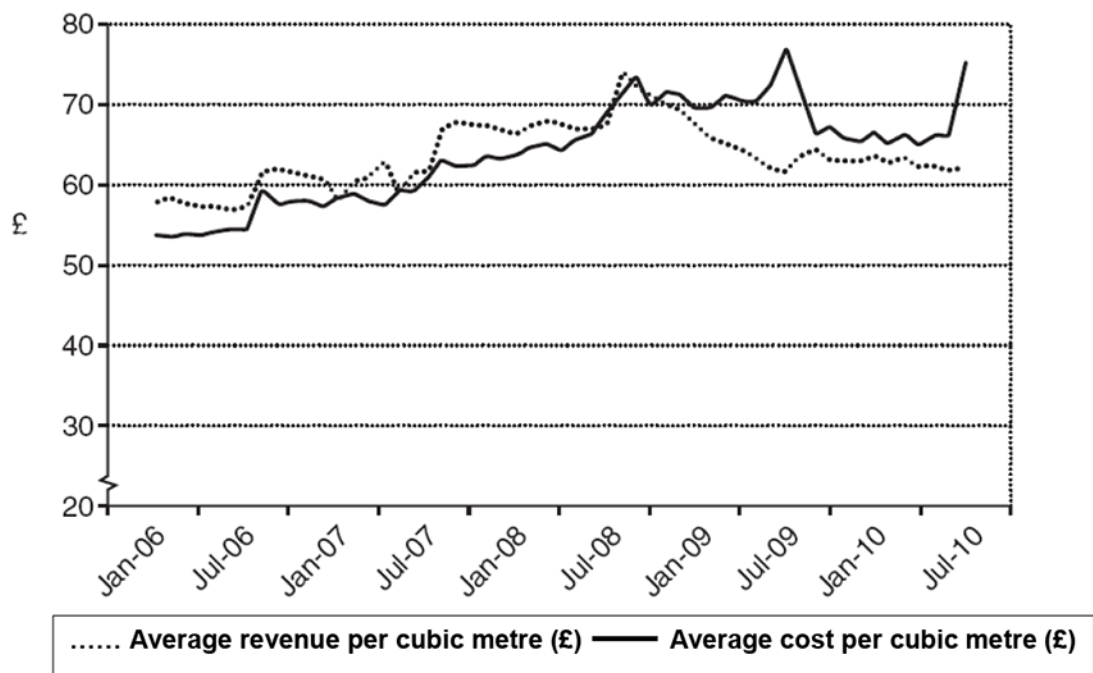


Fig. 3 – Ready-mix concrete – average revenue and average cost per cubic metre



In 2013 a merger took place between Lafarge and Tarmac but to gain permission from the regulatory authorities for this merger, the firms had to agree to sell off some of their quarries and factories to a new entrant, Hope Construction Materials. In early 2014 the Competition Commission ordered the newly

merged firm, Lafarge Tarmac, to sell off more factories to create another major entrant.

It is likely that future years will see further changes in the markets for cement and concrete – nothing is set in stone.

Large firms were accused of more actively trying to drive the smaller firms out of business in 2009 and 2010 than in 2007 and 2008.

Using Figs 2 and 3, explain what evidence there is to support this view.

[4]

(b) Firms in the ready-mix concrete market specialise in one product.

Evaluate whether economies of scale can only be enjoyed by firms which specialise in a narrow range of products.

[8]

- [1]

- 10 The data below shows an index of prices in a country between 2012 and 2016. What was the annual rate of inflation in 2016?

Year	2012	2013	2014	2015	2016
Price Index	97.2	100	105.8	110.1	115.7

- A 1.3%
- B 5.1%
- C 5.6%
- D 15.7%

Your answer

[1]

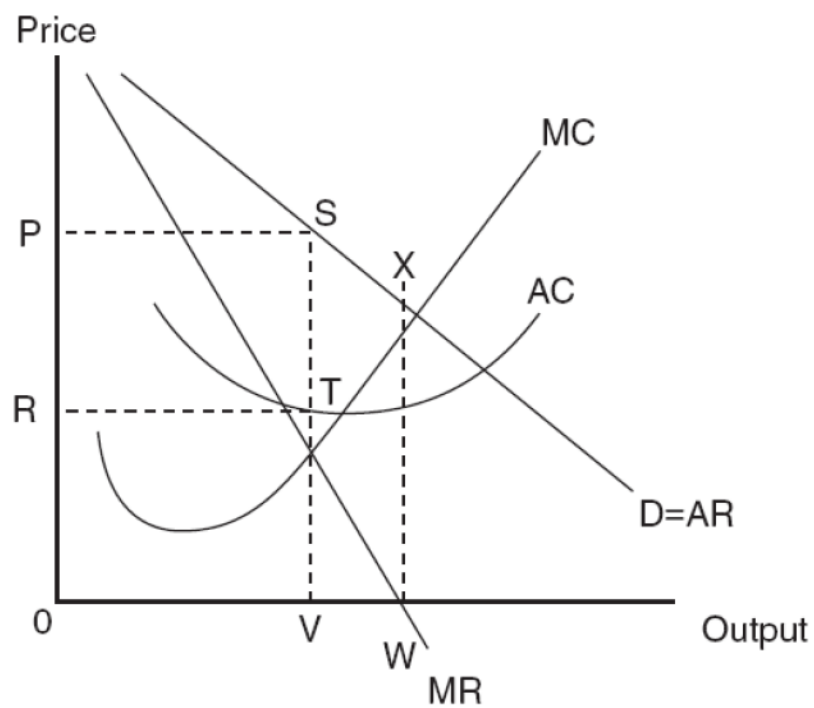
- 11 Which of the following is an example of the principal agent problem?

- A Economic agents are motivated by short term objectives that result in them making bad long term choices.
- B Government intervention can result in government failure because of imperfect information.
- C Owners tend to be profit maximisers but this objective is not shared by managers.
- D Those involved in the market transaction do not care about the impact on third parties.

Your answer

[1]

- 12 The diagram below represents a firm operating in monopolistic competition.



Which of the following statements is correct?

- A The firm achieves productive efficiency
- B The firm earns total revenue represented by the area RPST
- C The firm is operating on the elastic section of its demand curve
- D The firm's supernormal profit is represented by the area 0RTV

Your answer

☐

[1]

- 13 In order to increase production in the short run a firm that produces toys adds units of labour to a fixed supply of capital equipment.

The table below shows the relationship between increasing units of labour and the total output of toys.

Units of labour	1	2	3	4	5	6	7	8	9	10
Output of toys	12	27	46	67	88	107	122	132	136	135

At what point does the firm first begin to experience diminishing returns?

- A When the 4th unit of labour is employed
- B When the 5th unit of labour is employed
- C When the 6th unit of labour is employed
- D When the 10th unit of labour is employed

Your answer

[1]

- 14 A business has a divorce between ownership and control and its management is aware of the need to meet the demand of shareholders.

Which of the following business objectives is the most likely to be adopted by its management?

- A Corporate social responsibility
- B Profit maximisation
- C Profit satisficing
- D Utility maximisation

Your answer

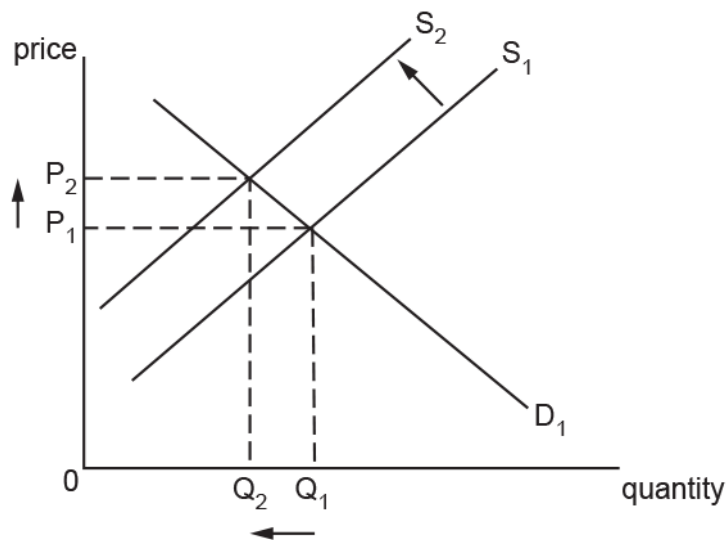
[1]

- 15 Which condition will a sales volume maximising firm use to determine its level of output?

- A $AC = AR$
- B $AR = AVC$
- C $MC = MR$
- D $MR = 0$

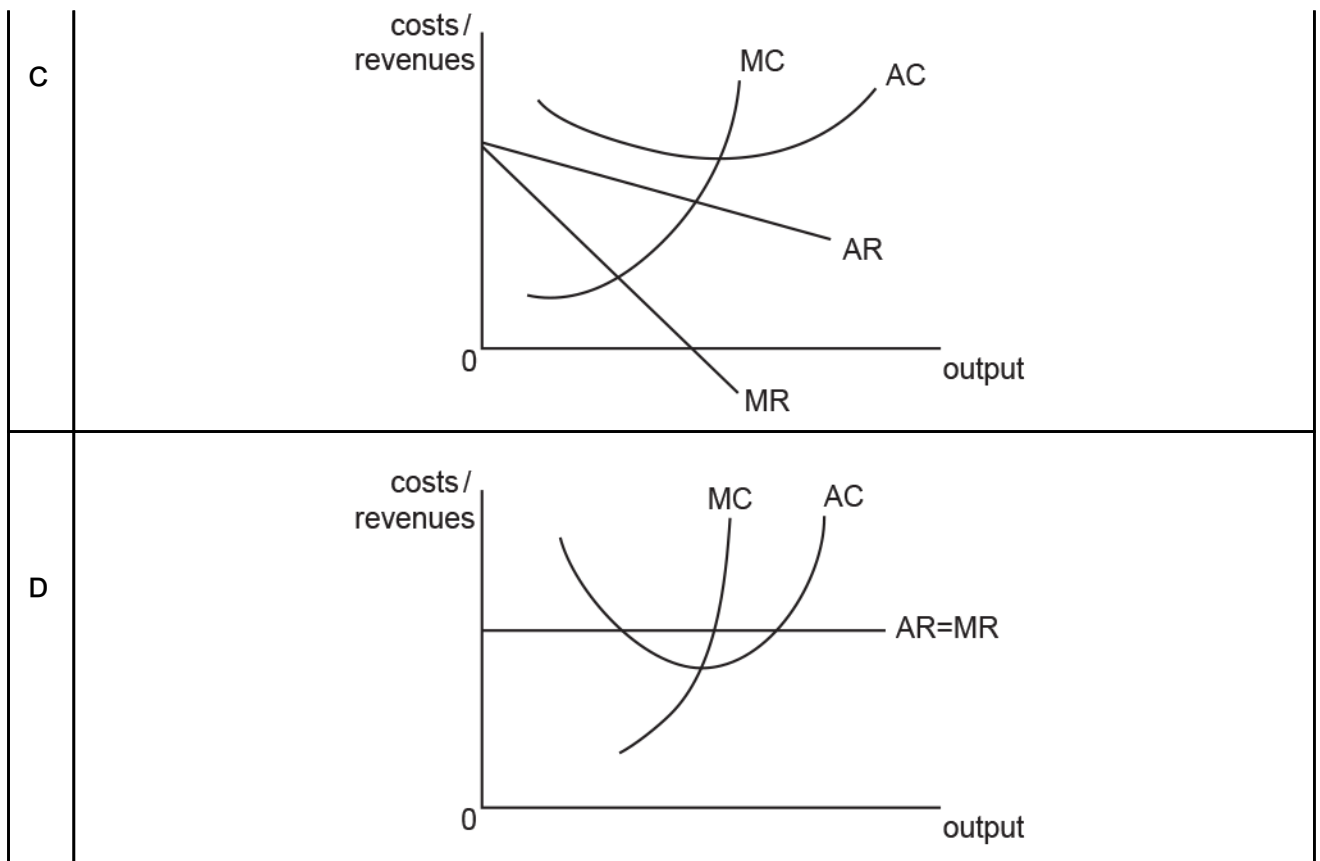
Your answer

[1]



In each of the following cases, firms are operating as profit maximisers. Which would cause the response on an industry level indicated in the diagram above?

A	
B	



Your answer

[1]

17 What is the short run?

- A A period of time in which all factors of production are fixed
- B A period of time in which all factors of production are variable
- C A period of time in which at least one factor of production is fixed
- D A period of time in which at least one factor of production is variable

Your answer

[1]

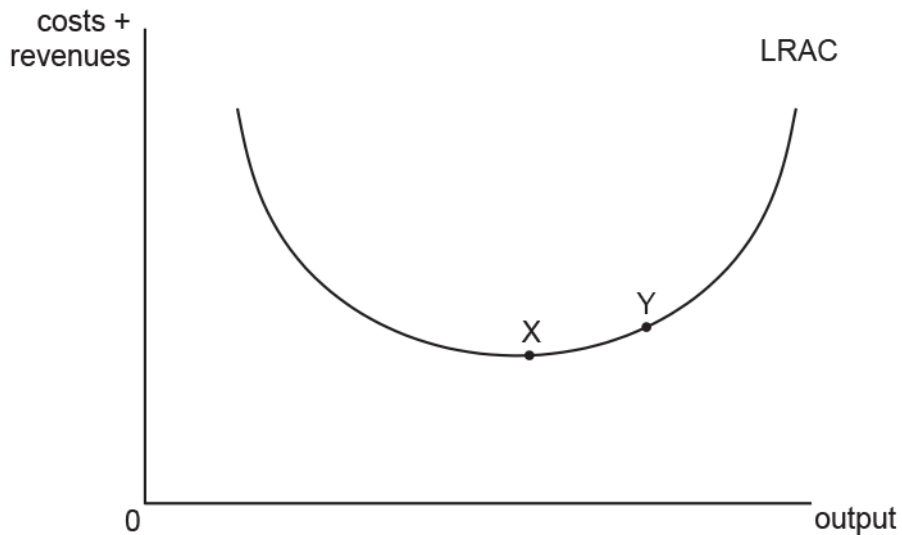
18 What is most likely to lead to allocative efficiency being achieved in an industry that is a natural monopoly?

- A Collusion
- B Competition policy
- C Information provision
- D Regulation

Your answer

[1]

19 What is the most likely cause of a movement from X to Y in the diagram below?



- A A rival firm entering the market increases the cost of inputs into the production process
- B Organisational slack increases as a result of a firm developing monopoly power
- C The growth of the industry results in more individuals undertaking relevant education training
- D Workers become less motivated after the firm they work for takes control of another firm in the industry

Your answer

[1]

20 What efficiencies occur in the model of perfect competition in the long run?

- A Allocative and dynamic efficiency
- B Allocative, dynamic and productive efficiency
- C Allocative, productive and X efficiency
- D Allocative, dynamic, productive and X efficiency

Your answer

[1]

21 Using the table below, what has happened to the three firm market concentration ratio in the global mobile telephone market between 2010 and 2019?

Firm	2010 Market Share (%)	2019 Market Share (%)
Apple	33.2	24.8
Huawei	0	10.6
Nokia	37.6	0.4
Others	18.8	32.9
Samsung	2.4	31.3

- A Decreased by 0.6%
- B Decreased by 6.1%
- C Decreased by 6.5%
- D Decreased by 16.7%

Your answer ☐

[1]

22 Please refer to insert H460-03 October 2020 which can be downloaded separately and is included with Q31. Explain the likely objective of a water or electricity firm if it operated in the public sector.

[3]

23 Please refer to insert H460-03 October 2020 which can be downloaded separately and is included with Q31. Evaluate, using the information in Extract 2, whether the likely objective of a private sector water or electricity firm justifies taking them into public ownership.

[8]

24 * The nature of the market experienced by internet-based firms, such as Amazon Marketplace, eBay and Alibaba, means that they may not have an objective of profit maximisation.

Evaluate, using an appropriate diagram(s), how a firm’s objectives, other than profit maximisation, may affect its price and output decisions.

[25]

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The UK’s biggest airline, easyJet, has reported profits before tax of £445m on revenues of almost £6bn, in the financial year ending September 2018. As the largest of the UK operators (see Table 1), easyJet faces strong competition from other ‘budget’ airlines (Flybe and Jet2), package holiday firms (TUI and Thomas Cook) and the previous market leader, British Airways. The recent growth of easyJet in the UK has been helped by the closure of Monarch in December 2017 and continued labour disputes at British Airways.

	2015	2016	2017
easyJet	58.6	63.3	68.3
British Airways	41.3	42.1	42.8
TUI	10.6	10.9	11.3
Jet2	5.9	6.7	9.7
Flybe	7.8	8.4	9.2
Thomas Cook	6.4	6.6	7.3
Monarch	5.7	5.4	3.4

Source: CAA

Table 1 – UK Passenger numbers (million)

Across the whole of Europe, easyJet flew a record 88.5 million passengers, up 10% on the previous year, and filled 93% of its seats – meaning only 13 seats are empty on an average flight. Over the year, this ‘load factor’ (the percentage of seats sold across all flights) has increased by 9.8%. Typically, airlines have been satisfied with a load factor of around 75%.

Revenue per seat for easyJet in 2018 was £62, leading to a profit of £6.53 on each seat. But the airline had an additional £65 m cost from “a change in approach to IT development” and a £40m cost from taking over the landing slots of the failed Air Berlin, at Tegel airport in Germany.

A growing amount of easyJet’s revenue comes from what it calls ‘ancillary’ sources. When a customer buys a ticket online, they are also able to book hotel accommodation, car hire and airport transfers. The business aims to grow its holiday sales, offer an improved customer loyalty programme and target the business-travel market, with “a more personalised product including new business fares”.

Although it is now common throughout the airline industry, easyJet was one of the first airlines to introduce a ‘dynamic pricing model’ which sees the price of a ticket increase as the date of the flight moves nearer. Table 2 shows how the prices quoted on two separate routes were lower if booked on the 18 December 2018 compared to the 18 March 2019. As the weeks go by, the price quoted will increase as the date of travel moves nearer. There are always exceptions to the rule, due to other supply and demand factors, but, in general, the sooner a customer books the better price they get.

Route	Date when price was quoted	Date of travel		
		6 April 2019	1 June 2019	5 October 2019
London Gatwick to Gran Canaria	18 December 2018	£194	£74	£60
	18 March 2019	£259	£80	£76
London Luton to Barcelona	18 December 2018	£110	£42	£39
	18 March 2019	£122	£46	£42

Source: www.easyjet.com (accessed 18/12/18 & 18/03/19)

Table 2 – Ticket prices quoted on different dates (seat only)

On most routes, customers have a choice of airline, and in each case the service is largely identical. It is now common practice on these short and medium-haul routes that food, seat reservations and luggage are not included in the basic ticket price (see Table 3).

Airline	Basic price including all taxes	Seat reservation	One piece of check-in luggage
British Airways	£143	Included with luggage	£20
easyJet	£74	£6 to £18.50	£42
Thomas Cook	£73	£10	£48
TUI	£311	£11	£25

Source: Company websites (accessed 18/12/18)

Table 3 – Ticket prices quoted for London Gatwick to Gran Canaria (to travel on 1 June 2019)

Air travel is often said to be a demerit good. Politicians and economists have argued over the degree of control needed in the market and whether it is taxed enough. Most passengers entering or leaving the UK on a commercial flight will pay the Air Passenger Duty (APD) which was introduced by the UK government in 1993 for environmental reasons. However, a report published in 2018, called the ‘Roadmap to decarbonising European aviation’ considers other policies to reduce carbon emissions from air travel. The report criticises the lack of taxation of jet fuel across the world, saying: “Artificially cheap tickets through tax exemptions and government subsidies have propped up and propelled the industry.” There is certainly a strong case for the current tax-free status of jet fuel to end.

Substitution, persuading travellers to switch from planes to trains, is another solution proposed in the report. It calls for, “greater competition in the rail sector in order to improve performance and drive down operating costs and fares”. This suggestion would have been unthinkable 20 years ago. Today, speed and comfort have marginally improved for train travel (as there are now more fast routes). While, especially for shorter distances, flying has become increasingly unpleasant and time-consuming.

“It used to be a rule that, in order to compete with a one-hour flight, a train journey could be a

- 45 maximum of three hours,” says Mark Smith, of rail travel website Seat61. “That was allowing for an hour in the air and two for security, boarding and transfers. That simply is not the case anymore, with longer check-in and security times.”
- At the same time as taxing air travel with the APD, the UK government subsidises some routes. One example, introduced in March 2019, is on a new route between Newquay (in Cornwall) and
- 50 London Heathrow. Around 170 000 passengers are predicted to use the service each year. Over the first four years, the Department for Transport and Cornwall County Council will each pay up to £1.7m, representing a subsidy of £10 per passenger for a return flight. The UK Transport Secretary at the time, Chris Grayling, said, “Maintaining and enhancing air routes that help bring together the UK is one of the key benefits. This new route will see the people of the south west
- 55 profit from a direct connection into [Heathrow], building on the government’s ongoing commitment to the Newquay route, protecting choice and strengthening trade and travel opportunities for the whole UK.”

Refer to **line 11**. Calculate, using information from the stimulus material, the average cost of a seat on an easyJet plane in 2018.

[2]

END OF QUESTION PAPER

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
1	Profit maximisation is an unrealistic objective and does not explain the behaviour of firms in the real world. Evaluate the extent to which profit maximization is the most important objective influencing the activities of a firm in the real world. Level 5 (21–25 marks) Good – Strong knowledge and understanding of profit maximisation and of the activities of firms in the context of specific markets and industries. Strong analysis will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Strong evaluation of the extent to which profit maximization is the most important factor influencing choice of objectives, weighing up both sides/comparing alternatives and reaching a supported judgment. <i>There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.</i> Level 4 (16–20 marks) Good knowledge and understanding of profit maximisation and of the behaviour of firms using real world examples. Strong analysis will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant	25 (AO1 x 6) (AO2 x 6) (AO3 x 6) (AO4 x 7)	For a mark at the top of each level the response should be in context. Profits are maximised at the level of output where $MR = MC$. This can be illustrated and explained with the use of diagram(s) and compared to other business objectives. Profit maximisation is an important objective because of the ability to fund investment, allowing a firm to be dynamically efficient, reward shareholders in terms of higher dividend payments, reward and incentivise workers with higher wages and / or fringe benefits, reward and incentivise managers through profit-sharing schemes, resist takeovers and achieve growth through mergers / takeovers which increases horizontal and vertical integration. There are, however, limitations of profit maximisation as an objective. Arguably the main limitation is that it is difficult to identify the marginal cost and marginal revenue, especially for multi-product firms because of the lack of information about cost structures. The divorce of ownership from control and the principal-agent problem means that large firms in particular may pursue other objectives such as revenue maximisation, sales maximisation, satisficing behaviour and corporate social responsibility. Whether profit maximisation is an important objective influencing the activities of firms in the real world depends on the type of business organisation. It is much more likely for public limited companies than other types of business organisation. For example, profit maximisation is less likely to be an important objective for public sector organisations and charities. For organisations in the public sector providing employment, cross subsidisation, universal service, provision of merit goods or goods /

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
	errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Good evaluation will weigh up both sides/comparing alternatives but without reaching a supported judgment. <i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.</i> Level 3 (11–15 marks) Good knowledge and understanding of profit maximisation and of the activities of firms in the context of specific markets and industries. Good analysis of the factors influencing the choice of objectives. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. Reasonable evaluation of the extent to which profit maximization is the most important factor influencing choice of objectives, considering both sides/comparing alternatives. <i>There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.</i> Level 2 (6–10 marks) Good knowledge and understanding of profit maximisation and of the activities of firms in the context of specific markets and industries. Reasonable analysis of the factors influencing the choice of objectives. There is correct analysis largely in the form of		services with positive externalities may be more important. Overall it is difficult to establish what is the most important objective for a firm as this may change over time – profit may be sacrificed in the short term, for example, yet maximised in the long term. Business behaviour is complex and dynamic, so no one objective is likely to be realistic at any one point in time. <u>Examiner's Comments</u> A popular question choice, this question was answered well by better candidates. Weaker candidates showed less understanding of why profit maximisation may be the most important objective for firms in the real world. The mark scheme accommodated a range of possible reasons why profit maximisation is an important objective, including: the ability to fund investment; allowing a firm to be dynamically efficient; rewarding shareholders and managers in terms of higher dividend payments and profit-sharing schemes. Candidates were more convincing in their explanation of why profit maximisation might not be the most important objective and were able to provide examples of markets and firms where other objectives might be more important.

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
	single links. These address the question but are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis. Reasonable evaluation of the extent to which profit maximization is the most important factor influencing choice of objectives, considering both sides/comparing alternatives. <i>The information has some relevance, but is communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear.</i> Level 1 (1–5 marks) Reasonable knowledge and understanding of profit maximisation and of the activities of firms in the context of specific markets and industries. Limited or no analysis of the factors influencing the choice of objectives. There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. Limited evaluation of the extent to which profit maximization is the most important factor influencing choice of objectives in the form of an unsupported statement or no evaluation. <i>Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.</i> 0 marks no response or no response worthy of credit. Note: although a diagram is not required, it may enhance the quality of the answer and should be rewarded at the appropriate level.		

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance										
			<table><tr><th>Descriptor</th><th>Award mark</th></tr><tr><td>Consistently meets the criteria for this level</td><td>At top of level</td></tr><tr><td>Meets the criteria but with some slight inconsistency</td><td>Above middle and either below top of level or at middle of level (depending on number of marks available)</td></tr><tr><td>Just enough achievement on balance for this level</td><td>Above bottom and either below middle or at middle of level (depending on number of marks available)</td></tr><tr><td>On the borderline of this level and the one below</td><td>At bottom of level</td></tr></table>	Descriptor	Award mark	Consistently meets the criteria for this level	At top of level	Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)	Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)	On the borderline of this level and the one below	At bottom of level		
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Consistently meets the criteria for this level	At top of level														
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On the borderline of this level and the one below	At bottom of level														
			Total	25											
2			A	1 (AO2)	Rationale A Correct: $TVC = £15,000 - (£250 \times 12) = £12,000$. $AVC = £12,000 / 25,000 = 48p$ B Specifies total fixed cost as £250 – need to multiply by 12 to find total fixed cost. C $£15,000 / 25,000 = 60p = ATC$ D Adds rather than subtracts total fixed cost to total cost to find total variable cost.										
			Total	1											

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
3			B	1 (AO2)	Rationale A This is where price does not equal marginal cost. B Correct: This is a short run concept where firms experience rising average costs because of a fixed factor of production. C This is a long run concept that is shown by movements up the LRAC curve. D This is a long run concept that is shown by movements down the LRAC curve.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
4			Using Fig. 1.1, compare the profitability of hosting the Vancouver and London Olympic Games. <i>Award up to 2 marks for use of the data:</i> - Vancouver profit = \$ 1,578m - \$7,556m = -\$5,978m (1) - London profit = \$3,270m - \$11,401m = -\$8,131m (1) <i>Award up to 2 marks for explanation:</i> - The London Games made a bigger loss than the Vancouver Games (2) - Both Games made a loss (1) - The Vancouver Games was more profitable than the London Games (1)	4 (AO1 x 1) (AO2 x 3)	1 data mark can be awarded where both numbers are correct but there is only one of the following types of error: - Missing a \$ sign - Incorrect units (e.g. missing millions) - Use of a double negative (London made a loss of -\$8,131m and Vancouver made a loss of -\$5,978m.) Where there is more than one type of error, no marks should be awarded for the calculations. No calculation marks can be awarded to answers without a minus sign, unless the candidate clearly identifies that a loss is being made. <u>Examiner's Comments</u> This was a well answered question, with many candidates securing full marks. Valuable time was wasted by some candidates describing revenues and costs rather than getting straight to calculating profits, but the majority showed a clear understanding of the concept of profit and how to calculate it. Some were thrown by the fact neither Games made a profit and subsequently offered convoluted analysis to try and prove otherwise – it is important candidates do not stray from the data given to them. Often the right approach was adopted but marks were lost because of errors in transcription; common mistakes included missing millions of dollars or presenting the answer as a double negative.
			Total	4	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
5			Calculate, using information from the stimulus material, the average fixed cost of educating a university student in 2014 – 2015. 1 mark for the identification OR understanding of fixed costs - fixed costs are the costs of providing university education which do not vary with the number of students (1) - depreciation and other overheads (1) 2 marks for the calculation of total fixed costs $\text{£}31.2\text{bn} \times 7.7\% (1) = \text{£}2.4024\text{bn} (1)$ 3 marks for the calculation of average fixed costs $\text{£}2.4024\text{bn} (1) / 2.2\text{m} (1) = \text{£}1,092 (1)$	3 (AO1* x 1) (AO2* x 2)	Award 1 mark for calculation of an average (ie by dividing any cost by the number of students = $x / 2.2\text{m}$) If a candidate identifies a valid fixed cost in their calculation they can be awarded full marks eg: $\text{£}31\text{bn} \times 1.4\% (1) = \text{£}0.4368\text{bn} (1) / 2.2\text{m} = \text{£}198.5 (1)$ $\text{£}31.2\text{bn} \times 6.3\% (1) = \text{£}1.9656\text{bn} (1) / 2.2\text{m} = \text{£}893 (1)$ $\text{£}31.2\text{bn} \times 62.5\% (1) = \text{£}19.5\text{bn} (1) / 2.2\text{m} = \text{£}8,863 (1)$ <u>Examiner's Comments</u> This question was challenging for many candidates. The information required to calculate the average fixed cost of educating a university student was given in lines 28 – 30 of the stimulus material and in Fig. 2. Where there was confusion over whether staff costs were variable or fixed, candidates could still achieve full marks and the mark scheme accommodated a number of different calculations made.
			Total	3	

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
6	Many firms seek to maximise growth. Evaluate whether the main influence on the size of a firm over time is economies of scale. Level 5 (21–25 marks) Good - Strong knowledge and understanding of economies of scale. Strong analysis will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Strong evaluation of the significance of economies of scale in the growth of a firm, weighing up both sides/comparing alternatives and reaching a supported judgment. <i>There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.</i> Level 4 (16–20 marks) Good knowledge and understanding of economies of scale. Strong analysis will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Good evaluation will weigh up both sides/comparing alternatives but without reaching a supported judgment.	25 (AO1 x 6) (AO2 x 6) (AO3 x 6) (AO4 x 7)	Economies of scale can be internal or external. Internal economies result in a reduction in the long run average costs of a firm as the scale of production increases. There are several sources of internal economies of scale. These include technological, management, marketing, finance and procurement. External economies of scale benefit all firms as the scale of the whole industry increases. These include; a pool of skilled labour, shared research facilities and shared infrastructure. Economies of scale will encourage firms to grow as they will benefit from the reduction in long run average costs. This reduction might allow them to reduce the price of their product(s) and thus gain a competitive edge in the market. They may decide to keep price the same but earn more abnormal profit. In turn this will allow greater investment in the firm. The firm will become more internationally competitive and have access to a larger market. The extent to which economies of scale exist vary in different industries. Firms in some industries may be able to take advantage of economies of scale over a large range of outputs than in other industries. Other factors influencing growth might include the level of competition determined by the existence or lack of barriers to entry or the number of competitors and the behaviour of those competitors in the market. Other factors influencing growth will be the level of differentiation of the product and

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
	<i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.</i> Level 3 (11–15 marks) Good knowledge and understanding of economies of scale. Good analysis of how economies of scale influence the growth of a firm. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. Reasonable evaluation of the significance of economies of scale in the growth of a firm, considering both sides/comparing alternatives. <i>There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.</i> Level 2 (6–10 marks) Good knowledge and understanding of economies of scale. Reasonable analysis of how economies of scale influence the growth of a firm. There is correct analysis largely in the form of single links. These address the question but are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis. Reasonable evaluation of the significance of economies of scale in the growth of a firm, considering both sides/comparing alternatives. <i>The information has some relevance, but is</i>		the size of the market. Increasing output in order to reduce average costs will be of no value if the demand for the product does not exist. A period of slow, no or negative economic growth in the national economy will reduce the ability of a firm to grow and the state of the global economy will have a similar effect. A firm may seek to grow for other reasons than to achieve economies of scale, for example, a firm may wish to achieve a size which will act as a barrier to entry. A state owned enterprise may grow in order to keep pace with demand. The divorce of ownership and control in larger firms may mean that those running the business may do so more for their personal benefit, so adopting goals that are less than profit maximising. These goals may be goals such as revenue maximising, sales maximising, increasing market share and profit satisficing.

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance								
			<i>communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear.</i> Level 1 (1–5 marks) Reasonable knowledge and understanding of economies of scale. Limited or no analysis of how economies of scale influence the growth of a firm. There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. Limited evaluation of the significance of economies of scale in the growth of a firm, in the form of an unsupported statement or no evaluation. <i>Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.</i> 0 marks no response or no response worthy of credit. Note: although a diagram is not required, it may enhance the quality of the answer and should be rewarded at the appropriate level. <table><tr><th>Descriptor</th><th>Award mark</th></tr><tr><td>Consistently meets the criteria for this level</td><td>At top of level</td></tr><tr><td>Meets the criteria but with some slight inconsistency</td><td>Above middle and either below top of level or at middle of level (depending on number of marks available)</td></tr><tr><td>Just enough achievement on balance for this level</td><td>Above bottom and either below middle or at middle of level (depending on</td></tr></table>	Descriptor	Award mark	Consistently meets the criteria for this level	At top of level	Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)	Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on		
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Mark Scheme

Question			Answer/Indicative content		Marks	Guidance
				number of marks available)		
			On the borderline of this level and the one below	At bottom of level		
			Total		25	
7			Fig.1. shows the growth of new supermarkets, such as Aldi. Using the information in Fig.1., calculate the percentage change in total revenue from grocery sales by Aldi between July 2014 and July 2016. July 2014 4.8% of £177.4bn = £8.5bn July 2016 6.2% of £179.1bn = £11.1bn Both correct (1 mark) Percentage change = 30.458823. Accept 30.5% or 30.6% depending on when rounded up (1 mark) increase (1 mark)		2 (AO1*1) (AO2*1)	
			Total		2	

Mark Scheme

Question		Answer/Indicative content	Marks	Guidance
8	a	Up to four marks: up to two marks for each of Figs 2 and 3. Up to two marks for explanation in relation to Fig. 2. Up to two marks for explanation in relation to Fig. 3.	4 (AO1 x 2) (AO2 x 2)	Explanation of Fig. 2: • it shows the prices of cement rising although costs were relatively stable • profits were increasing as the gap between average revenue and average cost was rising numerically, e.g. profit per unit averaging approximately £14 in 2007 and 2008 but approximately £25 in 2009–10 Explanation of Fig. 3: • it shows profit margins fell in 2009 and 2010 • losses were experienced in June 09–July 10 • higher profit was earned in 2008 than in 2007. Accept candidate use of references to normal and supernormal profit for both Figs 2 and 3.
	b	Level 2 (5–8 marks) Good knowledge and understanding of economies of scale in relation to specialisation in the context of a narrow range of products. Strong analysis of the link between the range of products produced and the ability to take advantage of economies of scale. Strong evaluation including a supported judgement of whether or not firms which specialise in a narrow range of products can take advantage of economies of scale. Level 1 (1–4 marks) Reasonable knowledge and understanding of economies of scale. Reasonable analysis of the link between the range of products produced and the ability to take advantage of economies of scale. Limited or no evaluation of whether or not firms which specialise in a narrow range of	8 (AO1 x 1) (AO2 x 1) (AO3 x 3) (AO4 x 3)	<i>Indicative content</i> Those internal economies dependent on specialisation, e.g.: • buying/purchasing economies – discounts on the purchase of raw materials, e.g. cement • technical economies – larger, more efficient and specialised equipment • selling economies – e.g. transport in specialised vehicles • division of labour economies – production workers specialising in particular parts of the production process • research and development economies – developing new and improved versions of the product. External economies of scale dependent on specialisation, e.g.: • specialist courses for workers put on by colleges and universities • disintegration – firms specialising in a

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
			products can take advantage of economies of scale. 0 marks no response or no response worthy of credit. Note: although a diagram is not required, it may enhance the quality of the answer and should be rewarded at the appropriate level.		particular process - ancillary industries providing services and raw materials. Those internal economies not dependent on specialisation, e.g.: - risk bearing – depends on producing a range of products in order to spread risks - financial economies – borrowing more easily and at cheaper rates - managerial economies – some specialist staff, such as accountants, work across a range of products - advertising economies – advertising the firm's name across a range of products - staff facilities economies – such as staff canteens. External economies of scale, e.g. in the form of transport facilities, such as an airport being set up close to the industry, are not dependent on specialisation. Credit, where appropriate, knowledge/analysis of other, relevant factors. Possible routes into evaluation: - not all economies of scale are dependent on specialisation - it will depend on the nature of the product; e.g. in the case of concrete and cement, technical economies of scale are likely to be very important - a firm may be able to enjoy all types of economies of scale by having large branches producing different types of products. External economies of scale tend to be more dependent on specialisation than internal economies of scale.
			Total	12	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
9			B	1 (AO1)	Rationale A Access to skilled labour will reduce a firm's long run average costs. B Correct: The firm's long run average costs will fall even though output is unchanged because it can take advantage of skilled labour that is already located in the area, reducing training costs/raising productivity and lowering long run average costs. C This occurs when a firm's long run average costs increases when output increases – there is no reason why a firm's output will change when it relocates. D This occurs when a firm's long run average costs decreases when output increases – there is no reason why a firm's output will change when it relocates.
			Total	1	
10			B	1 (AO3)	Rationale A $(115.7 - 110.1) - (110.1 - 105.8) = 5.6 - 4.3 = 1.3\%$ B Correct: $(115.7 - 110.1) / 110.1 \times 100 = 5.1\%$ C $115.7 - 110.1 = 5.6\%$ D $(115.7 - 100) / 100 \times 100 = 15.7\%$
			Total	1	
11			C	1 (AO1)	Rationale A This is a merit/demerit good problem. B This is an information failure problem. C Correct: this separation between ownership and control is most likely to occur in large firms. D This is an externalities problem.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
12			C	1 (AO3)	Rationale A t is to the left of the intersection of MC and AC and therefore not productively efficient. B rpst = profit ie revenue minus cost. C <i>Correct</i> : x is the point where PED = 1 since at w MR = 0 and s is to the left of x so elastic. D Identifying area of total cost only.
			Total	1	
13			C	1 (AO2)	Rationale A This is the first time the increase in MP diminishes. B Even though MP does not rise, it is a case of constant returns. C <i>Correct</i> : at this point MP falls for the first time. D This is a case of negative returns.
			Total	1	
14			C	1 (AO2)	Rationale A Although a possible secondary goal, unlikely to be the focus for the majority of shareholders. B The divorce of ownership and control allows management to run the business to their mutual advantage. Beneficial pension schemes, top spec company cars, lavish corporate entertainment etc will reduce overall profit potential away from the maximum position. C <i>Correct</i> : Whilst running a business to their satisfaction, managers are still aware that they must make sufficient profit in order to pay the dividends that will keep shareholders happy. D Least likely option but a distracter especially for the less well prepared candidates.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
15			A	1 (AO1)	Rationale A Correct – a sales volume maximising firm will continue to produce output until only a normal profit is being made B This is the shutdown price C This is the profit maximising level of output D This is the revenue maximising level of output
			Total	1	
16			C	1 (AO3)	Rationale A This is a monopoly case in which firms are making supernormal profit. Barriers to entry will mean firms are unable to enter the market to compete. B This is an oligopoly case in which firms are making a supernormal profit. Barriers to entry will mean firms are unable to enter the market to compete. C Correct – this is a monopolistic competition case where a loss is being made, which would cause firms to leave the market and the industry supply curve to shift to the left. D This is a perfect competition case in which firms are making a supernormal profit. This would incentivise firms to enter the market, causing the industry supply curve to shift to the right.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
17			C	1 (AO1)	Rationale A Only one factor of production needs to be fixed to be in the short run. B This is the long run. C Correct: The short run is a period of time in which at least one of the factors of production cannot be varied. D This does not define either the short or the long run – it is possible to have a short run and long run situation in which there is at least one variable factor of production.
			Total	1	
18			D	1 (AO3)	Rationale A This is most likely to occur in an oligopoly market and will cause allocative inefficiency. B This is unlikely to achieve allocative efficiency because in a natural monopoly it is more efficient to have just one firm in the market to avoid the wasteful duplication of resources. C This could lead to allocative efficiency when there is market failure caused by information failure. D Correct: If the government allows one firm to operate in the market but regulates it by, for example, setting pricing rules, the benefits of economies of scale can be enjoyed without firms using their monopoly power to exploit consumers.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
19			D	1 (AO3)	Rationale A This is an external diseconomy of scale B This is X-inefficiency C This is an external economy of scale D Correct: This is an internal diseconomy of scale, as the growth in the size of the firm harms worker morale and leads to productivity falling, increasing long run average cost.
			Total	1	
20			C	1 (AO1)	Rationale A X-efficiency will also occur as firms would be driven out of the market if they were not operating on their lowest attainable average cost curve. Firms will not be dynamically efficient as they will not have the supernormal profit to invest in research & development. B Firms will not be dynamically efficient as they will not have the supernormal profit to invest in research & development. C Correct: Firms will produce at the minimum efficient scale, price equal to marginal cost and be operating on their lowest attainable average cost curve. D Firms will not be dynamically efficient as they will not have the supernormal profit to invest in research & development.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
21			C	1 (AO2)	Rationale A Incorrectly includes 'Others' as one of the 3 firms: $33.2 + 37.6 + 18.8 - 24.8 - 32.9 - 31.3 =$ decreased by 0.6%. B This explains what has happened to the 4 firm concentration ratio: $33.2 + 37.6 + 2.4 - 24.8 - 10.6 - 0.4 - 31.3 =$ decreased by 6.1%. C Correct: 3 firm concentration ratio in 2010 = $37.6 + 33.2 + 2.4 = 73.2\%$. 3 firm concentration ratio in 2019 = $31.3 + 24.8 + 10.6 = 66.7\%$. 3 firm concentration ratio has decreased by $73.2 - 66.7 = 6.5\%$. D Uses the same 3 firms in 2019 as in 2010: $33.2 + 37.6 + 2.4 - 24.8 - 0.4 - 31.3 =$ decreased by 16.7%.
			Total	1	

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
22			Explain the likely objective of a water or electricity firm if it operated in the public sector. • A public sector firm will seek to maximise social welfare/utility/achieve allocative efficiency (1) • Government funds public services to deliver high levels of consumer satisfaction to the population (1) • This means they will consider private and external costs and benefits (1), unlike a private sector firm which will only care about profit (1). • Public sector firms aim to keep prices as low/quality as high as possible for consumers (1)	3 (AO1 x 2) (AO3 x 1)	Candidates must recognise that the public sector is government funded to get the second mark exemplified here. A simple statement that private sector firms seek to maximise profit should not be credited unless compared to a public sector firm. <u>Examiner's Comments</u> Several candidates struggled with this question because they did not understand what was meant by the public sector. Those who did were able to identify the likely objective, with many pointing out that this differed the profit maximising behaviour likely to be seen in the private sector. Those who secured two or three marks were able to explain in greater depth what is meant by welfare/utility maximisation and/or why this is more likely to be the objective in the public sector.
			Total	3	

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
23	Evaluate, using the information in Extract 2, whether the likely objective of a private sector water or electricity firm justifies taking them into public ownership. Level 2 (5–8 marks) Good knowledge and understanding of objectives of firms. Good – strong analysis of whether the likely objective of a private sector water or electricity firm justifies taking them into public ownership. Good analysis will be in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. Strong analysis will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Reasonable – strong evaluation of whether the likely objective of a private sector water or electricity firm justifies taking them into public ownership. Good evaluation will weigh up both sides/comparing alternatives but without reaching a supported judgment. Strong evaluation should include a supported judgment. Level 1 (1–4 marks) Limited – reasonable knowledge and understanding of objectives of firms. Limited – reasonable analysis of whether the likely objective of a private sector water or electricity firm justifies taking them into public ownership. Limited analysis will have little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. Reasonable	8 (AO1 x 1) (AO2 x 1) (AO3 x 2) (AO4 x 4)	Guidance: • Whilst most candidates will start their answer explaining why the profit maximising nature of private sector firms justifies nationalisation, the reverse approach is equally valid. • The side of the argument presented first should be credited as Analysis, with the other side credited as Evaluation. • Strong evaluation requires an explained judgement. An explained judgement without Good evaluation can be credited as evaluation. Knowledge & Understanding: Knowledge & Understanding marks should be awarded for material that is given in the case study: ◦ Discipline of the marketplace creates competition that drives efficiency, raises revenue for the government and lowers prices. ◦ Private firms failed to invest in London's water mains and high-speed broadband. ◦ Nationalisation would increase investment. ◦ £170bn bill incurred from nationalisation. ◦ Efficiency would be better served from tight regulation such as energy price caps of 2019. Analysis and Evaluation requires candidates to go beyond what is given in the case study. Analysis may include: • A natural monopoly that profit maximises will charge high prices because there are no substitutes. • Public utilities are likely to be natural monopolies because the high barriers to entry prevents competition.

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
			analysis will have correct analysis largely in the form of single links. These address the question but are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis. Limited evaluation of whether the likely objective of a private sector water or electricity firm justifies taking them into public ownership or no evaluation. 0 marks no response or no response worthy of credit.		• This is particularly problematic in the case of public utilities because they are necessity goods. • Firms will enjoy significant supernormal profits that will benefit shareholders but not service users, who experience little consumer surplus as prices are high. • Firms have no incentive to undertake investment because they do not face competition. • Nationalising these firms would mean supernormal profits are redistributed to service users in the form of lower prices and/or greater investment in the quality of the service. Evaluation may include: • The cost of nationalising these firms will incur an opportunity cost and reduce the ability of the government to spend elsewhere. • The government may not have the funds to invest sufficiently, meaning the quality of the service may not improve. • X-inefficiency may result because there is no profit incentive in the public sector – this could lead to worsening productivity and rising prices and/or a worse quality of service. • Regulation of private sector firms such as setting pricing rules may be more effective – this would enable the benefits of a profit incentive to be enjoyed without consumers being exploited, providing the regulator sets the pricing cap at the right level. <u>Examiner's Comments</u> Making better use of the extract would have helped candidates secure better marks in this question. The extract explained that these industries are monopolies; a good place to start this answer would have been to explain the harm private sector monopolies are likely to cause. Better responses considered the extent to which the industries being natural monopolies changed their conclusion,

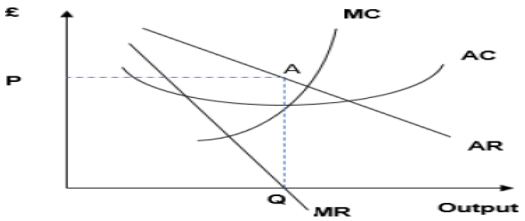
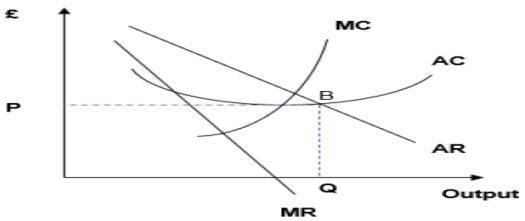
Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
					making powerful arguments that the lack of a profit incentive could lead to inefficiency that results in prices being no lower and quality no higher than if left to the private sector.
			Total	8	

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
24	“The nature of the market experienced by Internet-based firms, such as Amazon Marketplace, eBay and Alibaba, means that they may not have an objective of profit maximisation.” Evaluate, using an appropriate diagram(s), how a firm’s objectives, other than profit maximisation, may affect its price and output decisions. Level 5 (21–25 marks) Good – Strong knowledge and understanding of non-profit maximising objectives and how they may affect decisions. Strong analysis of how non-profit maximising objectives may affect price and output decisions. It will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Strong evaluation of how non-profit maximising objectives have a significant effect, weighing up both sides/comparing alternatives and reaching a supported judgment. <i>There is a well-developed and sustained line of reasoning which is coherent and logically structured. The information presented is entirely relevant and substantiated.</i> Level 4 (16–20 marks) Good knowledge and understanding of non-profit maximising objectives and how they may affect decisions. Strong analysis of how non-profit maximising objectives may affect price and	25 (AO1 × 6 AO2 × 6 AO3 × 6 AO4 × 7)	For a mark at the top of each level the response should be in context. Many analysts may argue that digital marketing firms are one of the closest examples to perfect competition in the modern world. There are many firms offering a homogeneous product. There is freedom of entry and exit and perfect information, firms will only make normal profits in the long-run and prices will be kept low by competitive pressures. However, the markets mentioned are not perfectly competitive; there is some degree of branding and limited barriers to entry/exit. Although supernormal profit may be possible in the short-run, only normal profits will be made in the long-run. All of this assumes an objective of profit maximisation. However, in modern markets this may be unlikely. Non-profit maximising objectives may be pursued instead. <u>Revenue maximisation</u> Occurs where $MR=0$

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
	output decisions. It will have consistently well-developed links through a coherent chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct with no significant errors that affect the validity of the analysis. Any diagrams must be integral to the analysis. Good evaluation of how non-profit maximising objectives have a significant effect, weighing up both sides/comparing alternatives but without reaching a supported judgment. <i>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and in the most part substantiated.</i> Level 3 (11–15 marks) Good knowledge and understanding of non-profit maximising objectives and how they may affect decisions. Good analysis of how non-profit maximising objectives may affect price and output decisions. There is correct analysis in the form of developed links. These links are developed through a chain of reasoning which addresses the question. Any relevant diagram(s) are predominantly correct and linked to the analysis. Reasonable evaluation of how non-profit maximising objectives have a significant effect, considering both sides/comparing alternatives. <i>There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.</i> Level 2 (6–10 marks) Good knowledge and understanding of non-profit maximising objectives and how they may affect decisions.		 Output will be higher but prices lower than profit maximisation. This is only really possible in the short-run, as in the long-run price will be lower than AC. <u>Sales maximisation</u> Occurs where $AC=AR$  Output will be even higher and prices even lower, but only normal profits can be made. <u>Growth maximisation</u> This is a relatively loose concept and both sales and revenue maximisation can be considered in this category. Growth maximisation may come at the expense of lower profits. For example, starting a price war can lead to lower profits but enable higher sales. However, increasing market share can be a way to increase profits in the long-term. A firm operating on Amazon Marketplace may charge a much lower price in the short-run to gain a higher ranking and ratings on the site which it can benefit from in the future. It gives a better potential to dominate the market in the

Mark Scheme

Question	Answer/Indicative content	Marks	Guidance
	Reasonable analysis of how non-profit maximising objectives may affect price and output decisions. There is correct analysis largely in the form of single links. These address the question but are not developed into a clear chain of reasoning. Any relevant diagram(s) may be imperfectly labelled or not linked to the analysis. Reasonable evaluation of how non-profit maximising objectives have a significant effect on decisions, considering both sides/comparing alternatives. <i>The information has some relevance, but is communicated in an unstructured way. The information is supported by limited evidence, the relationship to the evidence may not be clear.</i> Level 1 (1–5 marks) Reasonable knowledge and understanding of non-profit maximising objectives or perfect competition. Limited or no analysis of how non-profit maximising objectives may affect price and output decisions. There is little evidence of reasoning that addresses the question asked. There is a lack of a clear structure. The relevant diagram(s) may not be present or are incorrectly labelled. Limited evaluation of non-profit maximising objectives in the form of an unsupported statement or no evaluation. <i>Information presented is basic and may be ambiguous or unstructured. The information is supported by limited evidence.</i> 0 marks no response or no response worthy of credit.		future. <u>Utility maximisation</u> This assumes that all stakeholders in a firm (who want to maximise their own welfare) will have some power to influence its behaviour. The firm's behaviour is then determined by the relative power of the different stakeholders. Evaluation might include: • most of the firms selling on sites such as Amazon Marketplace and eBay are very small (often operating from a house or small industrial unit) but have to compete against well-known brands, who also sell on these platforms – therefore the objective of these firms may not have an impact on their price and output • price is very much the key factor for firms selling on these platforms (where it is so easy for customers to make price comparisons) so the objective of sales maximisation may have the most significant impact on price and output • customer ratings and comments are vital on these trading platforms and so non-maximising objectives (such as customer service) may have the most significant impact on price and output

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance										
			<table><tr><th>Descriptor</th><th>Award mark</th></tr><tr><td>Consistently meets the criteria for this level</td><td>At top of level</td></tr><tr><td>Meets the criteria but with some slight inconsistency</td><td>Above middle and either below top of level or at middle of level (depending on number of marks available)</td></tr><tr><td>Just enough achievement on balance for this level</td><td>Above bottom and either below middle or at middle of level (depending on number of marks available)</td></tr><tr><td>On the borderline of this level and the one below</td><td>At bottom of level</td></tr></table>	Descriptor	Award mark	Consistently meets the criteria for this level	At top of level	Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)	Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)	On the borderline of this level and the one below	At bottom of level		
Descriptor	Award mark														
Consistently meets the criteria for this level	At top of level														
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)														
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)														
On the borderline of this level and the one below	At bottom of level														
			Total	25											
25			Refer to line11. Calculate, using information from the stimulus material, the average cost of a seat on an easyJet plane in 2018. Profit = TR – TC Profit per seat = AR – AC AC = AR – Profit per seat AC = £62 - £6.53 AC = <u>£55.47</u>	2 (AO2*2)	Annotate with  Award 2 marks for an answer of £55.47 (with or without working) Award 1 mark for evidence of identifying the correct data (£62 and £6.53)										
			Total	2											