



Rewarding Learning
ADVANCED
General Certificate of Education
2019

Economics

Assessment Unit A2 1
assessing
Business Economics



AEC11

[AEC11]
MONDAY 20 MAY, MORNING

TIME

2 hours.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number on the Answer Booklet provided.
Answer **all** questions in Section **A** and **B** and **one** question in Section **C**.
You are permitted to use a calculator in this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 90.

- Section A: 20 marks
- Section B: 40 marks
- Section C: 30 marks

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

ADVICE TO CANDIDATES

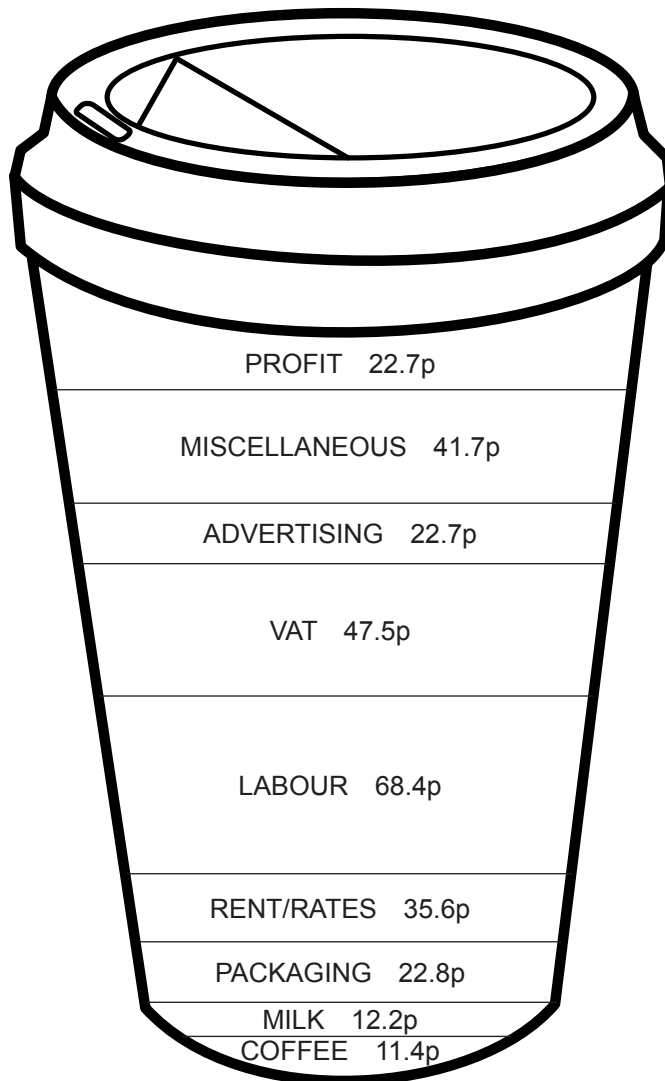
You are advised to take account of the marks for each part question in allocating the available examination time. In questions involving calculations, you are advised to show your workings. Quality of written communication will be assessed in Questions **4(b)**, **(c)** and **(d)**, **5** and **6**. Quantitative skills will be assessed where appropriate.

Section A

Answer all questions (20 marks)

- 1 Costly Coffee is a high street coffee chain which sells a range of high quality coffees and light snacks. It has 10 stores in Belfast and sells 3465 cappuccinos in a typical week. The firm has estimated that the cappuccino has a price elasticity of demand of -0.68 .

The diagram below shows how the price of a typical cup of cappuccino is divided up between its component costs. The cappuccino sells for £2.85.



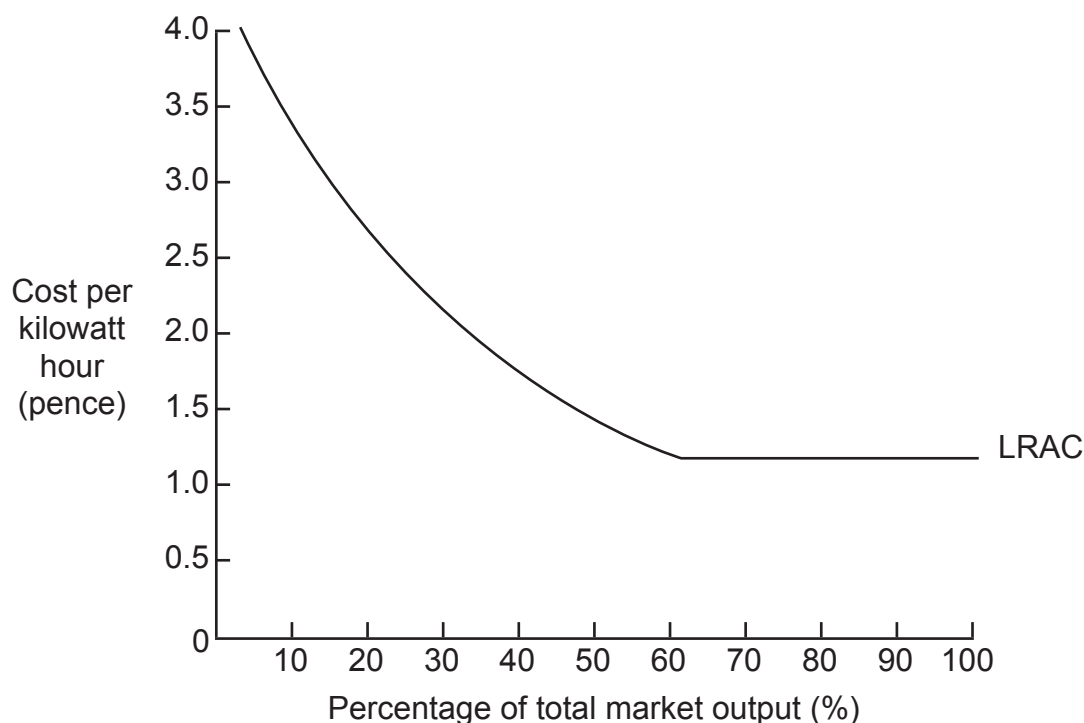
- (a) With the aid of appropriate examples, explain the difference between Costly Coffee's fixed costs and variable costs. [4]
- (b) Calculate Costly Coffee's profit per cup of cappuccino as a percentage of revenue. [2]
- (c) Calculate the total revenue that Costly Coffee is likely to earn each week from selling cappuccinos if it increased the price of its cappuccino from £2.85 to £3.45. [4]

- 2 Classic Glass is a small firm manufacturing bespoke stained glass windows for domestic and commercial use from its factory on the outskirts of Omagh. The table below illustrates how the typical weekly output of stained glass windows varies with the number of employees.

With reference to the table below, explain what is meant by the law of diminishing marginal returns to the variable factor. [4]

Number of employees	Total weekly output
1	4
2	12
3	24
4	42
5	90
6	120
7	126

- 3 The diagram below shows a typical long-run average cost curve for nuclear power firms operating in the UK electricity generation and supply industry.



- (a) With reference to the diagram, explain the term minimum efficient scale. [2]

- (b) Explain why this industry could be described as a natural monopoly. [4]

Section B: Case Study

Answer all questions (40 marks)

The following passages were compiled in September 2017. Read them carefully and answer the questions which follow.

4 Case study: Leisurewear – a highly competitive sport!!

Source 1: Athleisure sales on the rise

Sales in sportswear are expected to rise by 15% to exceed £8bn for the first time in 2017 as the increasingly blurred lines between sports clothing and high fashion drives up demand.

Fig. 1 below shows how growth in UK sales of sportswear has outstripped general retail sales over the last eight years.

Year	UK retail sales (£bn)	UK sportswear sales (£bn)
2010	389.87	4.71
2011	406.01	4.96
2012	401.95	5.39
2013	401.14	5.91
2014	404.75	6.36
2015	410.12	6.88
2016	414.94	7.49
2017	419.92	8.65

Fig. 1: UK Sportswear sales and retail sales 2010–2017 (£bn)

The rapid increase in sales in 2017 is simply a continuation of a trend that has been gathering pace since 2010. The rise is driven in part by high levels of consumer interest in health, fitness and well-being, which has really taken hold since the London Olympics in 2012.

The second big driver of sales is the rise of “Athleisure” – the term coined to describe the trend of wearing gym clothes as everyday fashion. Research shows that in 2017 over 50% of those who bought sportswear did so for non-sports use.

Unsurprisingly, the phenomenal growth in this Athleisure sector has led to increased sales for established sports retailers such as JD Sports and Footlocker. However, it has also seen the traditional clothing sector scramble to get a piece of the action. Topshop is collaborating with Beyoncé on its Ivy Park athletic wear collection, while Marks and Spencer, New Look, H&M and even Sainsbury’s have released new sports-related lines in an attempt to take a bite of the market.

Source 2: JD Sports profits from the rise in Athleisure

Sales at sportswear retailer JD Sports jumped by 40% in the first half of 2017, as the firm enjoyed a record six months. Revenue increased by 41% to £1.3 billion, and pre-tax profit rose 33% to £102.7 million. These encouraging figures caused the share price to jump by 11% when the markets reopened the following day.

The UK-based sportswear chain is benefiting from the current trend for Athleisure clothing among the young and middle aged alike. JD, which also owns the Go Outdoors chain, opened 35 new stores in the first half of 2017 in an attempt to meet the rising demand.

JD Sports chairman Peter Cowgill stated that the sales and profits figures prove that “JD is able to prosper in an increasingly competitive market”.

However, investment consultant Alban Whiterose urged caution for those thinking of investing in the sector in the hope of grabbing a quick profit. “The sportswear market in the UK is highly competitive, with very few barriers to potential entrants. We have already seen a large number of competitors entering the market at both the competitive price point and at the luxury end of the market. JD has been very effective at differentiating itself from others such as Sports Direct through exclusive product tie-ins with the big manufacturers. However, their competitors are upping their game and signing similar deals. This impressive performance is likely to be a short-run phenomenon and I expect to see both sales and profits return to more normal levels in the next 12 to 18 months.”

Source 3: Rising tide does not lift all boats

At a time when the sun is shining on the market for sportswear, it appears that not everyone is making hay. In a week which saw JD Sports announce a 33% increase in profits, its closest rival in the UK, Newcastle-based Sports Direct, announced a 60% drop in profits. The dramatic fall in profits in one of the UK’s biggest sports retailers sent shockwaves through the market.

Retail analyst Kevin Burke stated, “The huge fall in profits has many causes, some of which relate to internal management issues and others which arise from the competitive environment in which they operate. Sports Direct’s strategy of selling last season’s lines at discounted prices was very effective after the financial crisis of 2009, but as confidence and growth in the UK has picked up, shoppers have become a little more discerning and are opting for alternative retailers who sell more exclusive lines.”

However, owner Mike Ashley attempted to comfort investors and claimed that the company had a clear plan to reposition itself further up the value chain. He pointed out that the firm was forming a new strategic partnership with high-end Japanese company Asics and was on course to open 20 new upmarket stores in the UK over the next year. He also stated that the company had taken a controlling stake in a number of retailers in the US in an attempt to break into the world’s largest sports retail market. Finally, he claimed that the firm was addressing concerns about its working conditions and was making huge progress in improving employee motivation and productivity.

Source 4: Concerns over ethical and environmental impact of fashion retail

A report published by a committee of MPs has accused Sports Direct of not treating its workers like humans. The report stated that employees were often paid less than the National Minimum Wage, were employed on zero-hour contracts and were fined for clocking in one minute late. The report stated that in one case an employee had given birth in a toilet at the company's warehouse in Derbyshire, because she feared losing her job if she called in sick!

Committee chairman Iain Wright said evidence heard by MPs last month suggested Sports Direct's working practices "are closer to that of a Victorian workhouse than that of a modern, reputable High Street retailer. The evidence we have heard suggests Mr Ashley was turning a blind eye to conditions at Sports Direct in the interests of maximising profits".

However, Sports Direct is not alone in facing criticism over working practices. Rival sports retailer JD Sports is facing similar criticism after an undercover reporter recorded footage of poor treatment of workers in its Rochdale warehouse. The report for Channel 4 News claimed that workers were routinely paid less than the National Minimum Wage and could be sacked for minor infringements such as chewing gum or carrying a phone.

This criticism comes at a bad time for the industry which is already facing condemnation for its environmental impact, particularly in the area of excessive water usage, carbon footprint and waste.

A spokesman for War On Want stated, "Reports of appalling working conditions at large retailers are shocking yet unsurprising. This kind of exploitation is typical in highly competitive markets where firms abuse workers and the environment in an attempt to get a competitive advantage over their rivals and maximise profits to satisfy greedy shareholders. What experience proves is that intense competition will always lead to firms exploiting staff and the environment in an attempt to survive."

- (a) Using the information in **Fig. 1**, compare the trend in UK sportswear sales with that of retail sales between 2010 and 2017. [4]
- (b) With the aid of appropriate diagrams, explain why the impressive profits of JD Sports may only be a short-run phenomenon. [9]
- (c) Critically examine the range of strategies that a struggling retailer such as Sports Direct could use to compete more effectively in the sportswear market. [12]
- (d) Evaluate the view expressed in Source 4 that "intense competition will always lead to firms exploiting staff and the environment in an attempt to survive". [15]

Section C: Essay section

Answer one question (30 marks)

- 5** UK supermarkets have been investigated a number of times over the last 10 years by the competition authorities over fears that the big four were abusing their market power to exploit consumers and suppliers. While the investigations have highlighted a number of issues, each report has concluded that the UK supermarkets generally work well for all economic agents.

Critically examine the view that oligopoly is the most desirable market structure. [30]

- 6** Taxi company Uber has been criticised for planning to introduce a pricing model that sets a predetermined price based on factors such as the average income in the area from which (or to which) the fare is collected. This means that a 12-minute taxi ride would be more expensive if you were collected in a wealthy area than if you were collected in a poorer area. Critics have argued that this example of price discrimination is unfair on consumers.

Critically examine the view that all forms of price discrimination are unfair and should be outlawed by government. [30]

THIS IS THE END OF THE QUESTION PAPER

Sources

Fig.1.....Data adapted from © Statista and © Research Gate

Source1.....Adapted from JD Sports Fashion rides athleisure boom as sales rise by more than 40% by Sarah Bulter, 12 September 2017 © The Guardian

Source 2.....Adapted from The 'Athleisure' fashion trend helped JD Sports boost sales 41% by Oscar Williams-Grut, 12 September 2017 © Business Insider

Source 3.....Adapted from JD Sports reports surge in first half revenue and forecasts strong profits this year by Josie Cox, 12 September 2017 © The Independent

Source 4....."Adapted from Sports Direct staff 'not treated as humans', says MPs' report, 22 July 2016 © BBC News

Adapted from JD Sports denies 'prison' conditions at warehouse, 14 December 2016 © BBC News"

Surname	<i>StemUp Model Solution</i>
Answer booklet	Write the question number in the left-hand margin at the start of each answer.

Question
number

1(a)

Fixed costs are costs which do not vary with the level of output in the short run and must be paid even if no cappuccinos are sold, for example Costly Coffee's rent and rates (35.6p per cup) and advertising (22.7p). Variable costs vary directly with output, rising as more cups are sold, for example coffee (11.4p), milk (12.2p) and packaging (22.8p). If sales doubled, the total spent on coffee and milk would double, but total rent would stay the same, so fixed cost per cup would fall.

1(b)

Profit as a % of revenue = $(22.7p \div 285p) \times 100 = 7.96\%$, i.e. approximately 8% of revenue.

1(c)

% change in price = $(£3.45 - £2.85) \div £2.85 \times 100 = +21.05\%$

% change in quantity demanded = $PED \times \% \text{ change in price} = -0.68 \times 21.05 = -14.32\%$

New quantity = $3465 \times (1 - 0.1432) = 2968.96$, so about 2969 cups per week

New total revenue = $2969 \times £3.45 = £10,243.05$ per week (up from $3465 \times £2.85 = £9,875.25$, because demand is price inelastic).

2

The law of diminishing marginal returns states that, in the short run, as successive units of a variable factor (labour) are added to a fixed factor (Classic Glass's factory and equipment), the marginal product of the variable factor will at first rise but will eventually fall.

Marginal product (the extra output from one more worker) for workers 1 to 7 is 4, 8, 12, 18, 48, 30 and 6 windows. Up to the 5th worker MP rises from 4 to 48, as specialisation and division of labour increase efficiency. After the 5th

worker diminishing returns set in: the 6th worker adds only 30 windows and the 7th only 6, because each extra worker has less of the fixed capital to work with, so total output rises at a decreasing rate (120 to 126).

3(a) Minimum efficient scale (MES) is the lowest level of output at which long-run average cost is minimised, where the LRAC curve stops falling and becomes horizontal. From the diagram this is at about 60% of total market output, at a cost of about 1.15p per kilowatt hour.

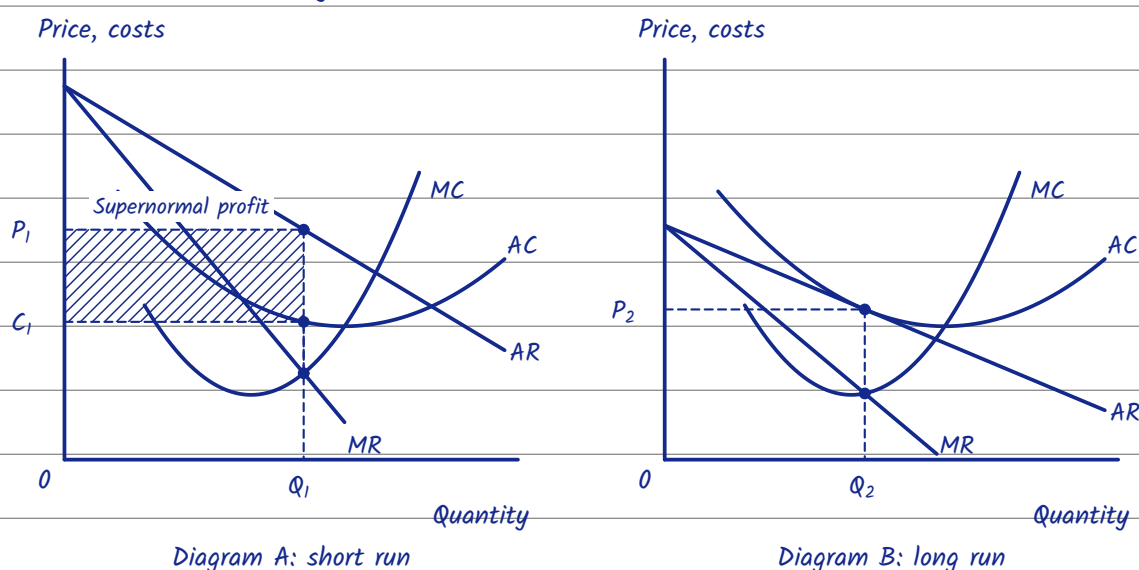
3(b) A natural monopoly exists when economies of scale are so large relative to market demand that one firm can supply the whole market at a lower average cost than two or more firms could, so maximum efficiency is achieved by a single producer. In UK nuclear power the MES is about 60% of total market output, so only one firm can produce at the lowest point of the LRAC curve. If two firms shared the market equally, each would produce only 50%, below the MES, at a higher cost of about 1.35p per kWh rather than about 1.15p. The huge sunk costs of building nuclear power stations also act as a natural barrier to entry, so the industry could be described as a natural monopoly.

4(a) Both UK retail sales and UK sportswear sales increased between 2010 and 2017, but sportswear sales grew far more significantly. Retail sales rose from £389.87bn to £419.92bn, an increase of only 7.71% $((419.92 - 389.87) \div 389.87 \times 100)$, whereas sportswear sales rose from £4.71bn to £8.65bn, an increase of 83.65%, more than ten times as fast.

Sportswear sales increased every year and the growth accelerated, reaching 15.5% in 2017 (£7.49bn to £8.65bn). Retail sales were less consistent: they fell in 2012 (to £401.95bn) and 2013 (to £401.14bn) before rising each year from 2014 to 2017, and grew by only 1.2% in 2017. As a result, sportswear's share of total retail sales rose from 1.21% to 2.06%.

4(b)

The UK sportswear retail market has the characteristics of monopolistic competition: there are many sellers (JD Sports, Sports Direct, Footlocker, and now Topshop, M&S, New Look, H&M and Sainsbury's), each selling a slightly differentiated product so each faces a downward sloping demand (AR) curve, and, crucially, there are 'very few barriers to potential entrants' (Source 2). Firms are assumed to be profit maximisers, producing where $MC = MR$. In the short run JD Sports has differentiated itself successfully through 'exclusive product tie-ins with the big manufacturers', while the Athleisure trend has raised demand. As Diagram A shows, JD produces Q_1 where $MC = MR$ and charges P_1 , which is above average cost C_1 , so it earns supernormal profit (the shaded area), that is, profit above normal profit, the minimum needed to keep the firm in the industry. This is reflected in pre-tax profit rising 33% to £102.7 million and revenue rising 41% to £1.3 billion in the first half of 2017.



However, supernormal profit acts as a signal that attracts new firms into the market. With low barriers to entry, new entrants 'at both the competitive price point and at the luxury end' and rivals 'upping their game and signing similar deals' will copy JD's strategy. Each new entrant offers close substitutes and takes some of JD's customers, so JD's AR curve shifts left and becomes more price elastic. Entry continues until supernormal profit is competed away. As

Diagram B shows, in the long run the AR curve is tangent to the AC curve at Q_2 , where $MC = MR$, so $P_2 = AC$ and only normal profit is earned.

This is why Alban Whiterose expects sales and profits to 'return to more normal levels in the next 12 to 18 months'. The same conclusion follows if the market is treated as contestable: with low entry and exit costs, the threat of hit-and-run entry limits JD to normal profit in the long run. How quickly profits fall depends on how long JD's exclusive deals last and how loyal its customers are; if JD keeps innovating and differentiating, it may sustain some supernormal profit for longer.

4(c)

Sports Direct's profits fell by 60% while JD's rose by 33%, so it needs to compete more effectively. Since profit = total revenue – total cost, its strategies either raise revenue or reduce costs.

Firstly, it could reposition itself further up the value chain, as Mike Ashley plans, opening 20 new upmarket stores and selling more exclusive lines. Kevin Burke notes that its strategy of discounting last season's lines no longer works because consumers have become 'more discerning' as confidence and growth have recovered. Non-price competition through product differentiation would make demand for its products more price inelastic, allowing higher prices and margins. However, success depends on PED: its brand is associated with discounting, so customers may not accept higher prices, and the new stores involve large sunk costs.

Secondly, it could form partnerships with manufacturers to gain exclusive ranges, such as its new strategic partnership with Asics, copying the tie-ins that have made JD successful. However, manufacturers will demand commitments in return, such as minimum orders or premium store space, and JD already has deals with the biggest brands such as Nike and Adidas.

Thirdly, it could grow by expanding abroad or by integration. Taking controlling stakes in US retailers gives access to the world's largest sports retail market, spreads risk and could bring economies of scale such as bulk buying. However,

the US market is very competitive, and growing too large too quickly may cause diseconomies of scale through poor communication and control. A merger with a UK rival would raise market share but would attract the attention of the Competition and Markets Authority. It could also diversify into related areas such as gyms, but may lack the expertise to run them well.

Fourthly, it could increase its online sales and improve its advertising and marketing, for example sponsorship and branding. Online selling has lower costs per sale than stores, but may alienate customers who prefer the physical shopping experience, and advertising is a sunk cost with an uncertain return.

On the cost side, it could use its buying power to negotiate lower prices from suppliers, use technology to manage stock more efficiently, or cut labour costs.

Cutting pay and conditions is risky, as the MPs' report (Source 4) has already caused bad publicity. A better approach is to improve working conditions to raise motivation and productivity, which Ashley claims to be doing, lowering unit labour costs and labour turnover.

In conclusion, the most effective strategy is probably to move upmarket and secure exclusive brand partnerships, because the cause of the fall in profit is a change in consumer preferences towards exclusive lines. However, this depends on how price elastic its customers are and whether rivals respond, and since the market has low barriers to entry any advantage may be short-lived. A combination of differentiation, improving staff productivity and cost control is likely to be most successful in the long run.

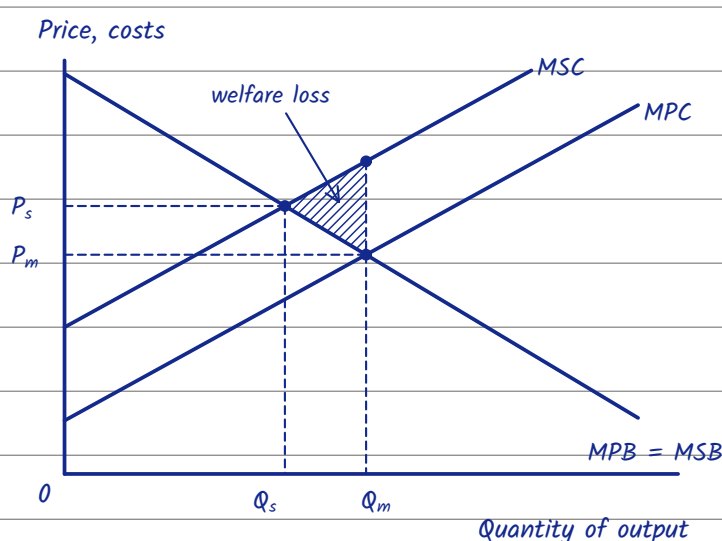
4(d)

The view in Source 4 is that intense competition forces firms to cut costs by exploiting staff and the environment. In a highly competitive market such as sportswear retail, with many firms and low barriers to entry, firms have little control over price and earn only normal profit in the long run. A profit maximising firm producing where $MC = MR$ can only increase profit, or even survive, by cutting costs below those of its rivals.

Labour is a major cost for retailers, so there is an incentive to reduce pay and

conditions. Where the National Minimum Wage limits cuts, firms find other ways to reduce costs: Sports Direct paid workers less than the minimum wage, used zero-hour contracts and fined staff for clocking in one minute late, and JD Sports was accused of paying below the minimum wage and sacking workers for minor infringements. MPs suggested Mike Ashley turned 'a blind eye' to conditions 'in the interests of maximising profits'.

Firms may similarly cut costs by damaging the environment, through excessive water use, a large carbon footprint and waste. These are negative production externalities: the firm pays only its marginal private cost (MPC), but society also bears an external cost, so marginal social cost (MSC) is above MPC. As the diagram shows, the market produces Q_m where $MPC = MPB$ rather than the social optimum Q_s where $MSC = MSB$, so there is overproduction and a welfare loss (shaded).



However, the view that competition will 'always' lead to exploitation is too strong. Firstly, not all firms are profit maximisers; some pursue other objectives such as revenue maximisation, growth or corporate social responsibility. Secondly, exploiting staff is not always the cheapest strategy. Poor conditions cause low motivation, high absenteeism and high labour turnover, raising recruitment and training costs. Paying an efficiency wage and treating staff well can raise productivity and lower unit labour costs, which is why Sports Direct now says it

is improving 'employee motivation and productivity'.

Thirdly, competition can encourage good behaviour. In a competitive market consumers can switch easily, so bad publicity, such as the MPs' report and the Channel 4 footage, can damage brand image and sales. Some firms therefore differentiate themselves through ethical and environmentally friendly images, for example Patagonia, although some of this may be greenwashing, where a firm creates a green image without real change. Fourthly, exploitation is not limited to competitive markets: monopolies and oligopolies with monopsony power in the labour market can pay lower wages, and with no rivals and little consumer choice they face less pressure to protect the environment. Both Sports Direct and JD are in fact large, dominant firms, so their behaviour may reflect market power rather than a struggle to survive.

Finally, government regulation limits exploitation whatever the market structure: minimum wage enforcement, employment law, environmental taxes and regulations internalise external costs, and investigations such as the parliamentary committee increase the cost of being caught.

In conclusion, intense competition does create pressure to cut costs, and Source 4 shows this can lead to the exploitation of workers and the environment.

However, it does not 'always' do so. Whether it happens depends on the firm's objectives, how much consumers value ethical behaviour, the link between working conditions and productivity, and how effectively the government enforces regulation. Exploitation is better explained by profit maximisation combined with weak enforcement than by competition itself, so the view in Source 4 is only partly valid.

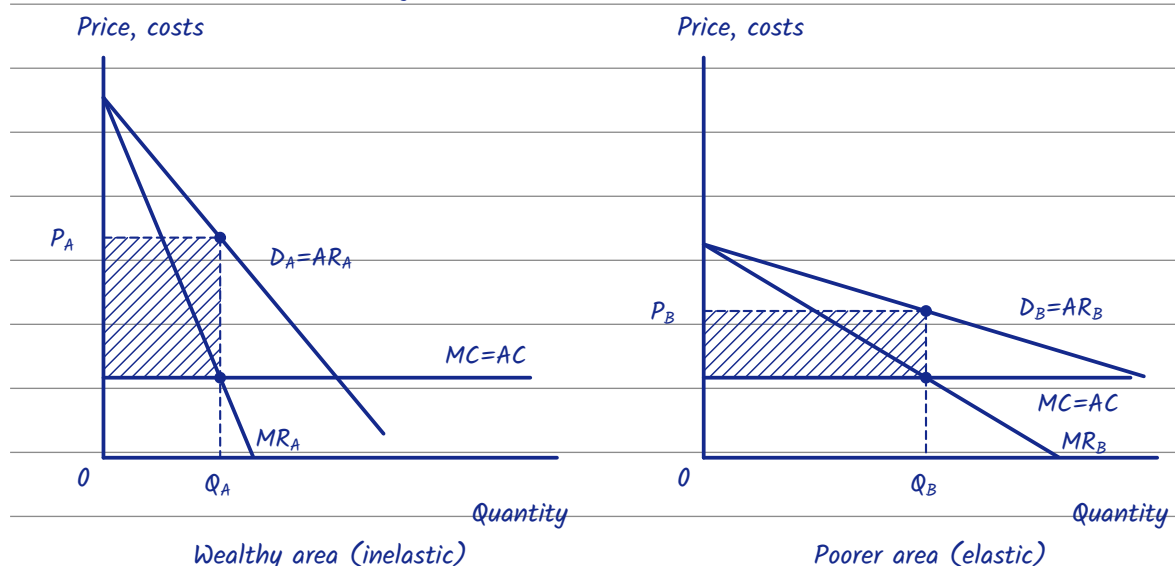
6

Price discrimination occurs when a firm charges different prices to different consumers for the same good or service for reasons not associated with differences in cost. Uber charging more for a 12-minute journey from a wealthy area than from a poorer area, although the cost of the journey is the same, is an example.

For price discrimination to be possible, three conditions must hold. The firm must have some price-setting (market) power; it must be able to separate the market into groups with different price elasticities of demand; and it must be able to prevent resale (arbitrage) between the groups. Uber meets these conditions: it has a large market share, it can identify where a passenger is collected through its app, and a taxi journey cannot be resold.

There are three types. First-degree (perfect) price discrimination charges each consumer the maximum price they are willing to pay, removing all consumer surplus. Second-degree price discrimination charges different prices for different quantities, such as bulk discounts. Third-degree price discrimination divides consumers into groups, such as by age, time or location, which is what Uber proposes.

Under third-degree price discrimination the profit maximising firm sets $MC = MR$ in each market. As the diagram shows, in the wealthy area demand is relatively price inelastic, so the price P_A is high; in the poorer area demand is relatively price elastic, so the price P_B is lower. Total profit (shaded) is greater than if one price were charged in both markets.



There are strong arguments that price discrimination is unfair. Firstly, consumers in the inelastic market pay a higher price than they would under a single price, so consumer surplus is transferred to the producer as producer surplus. Under

first-degree discrimination all consumer surplus is taken by the firm. The firm uses its market power to increase revenue and supernormal profit at the expense of consumers, which is an inequitable distribution of welfare. It also leads to allocative inefficiency where price is above MC.

Secondly, the Uber model uses geography as a proxy for income, which is very imprecise. A low-income worker collected from a wealthy area, such as a cleaner leaving work, would pay the high fare, while a rich person in a poorer area pays the low fare. Charging people more because of where they are, rather than what the service costs, is widely seen as unfair, and could be seen as discriminating against particular areas or communities.

Thirdly, price discrimination can be anti-competitive. High profits from the inelastic market can be used to cross-subsidise low or even loss-making prices in the elastic market to drive rivals out of business, a form of predatory pricing. Uber has faced a backlash due to its impact on traditional taxi firms. Once rivals have left, it could raise prices for everyone, reducing consumer welfare in the long run.

However, there are strong arguments that price discrimination can benefit consumers and society. Firstly, consumers in the elastic market pay a lower price than they would under a single price. Some consumers who would previously have been priced out of the market can now consume the good, increasing output and their welfare. In Uber's case, people in poorer areas may be able to afford taxis for the first time. Other examples include student and pensioner discounts, off-peak rail fares and software firms charging business users high prices so that they can sell the same software cheaply to schools and students. Total output with price discrimination may be higher than under a single-price monopoly, moving closer to the allocatively efficient output.

Secondly, price discrimination is progressive in its effect if the higher prices are paid by those with higher incomes, as Uber intends. This redistributes from richer to poorer consumers, which many would consider fairer than a single price. Thirdly, by selling more output, the firm may be able to exploit economies

of scale, lowering average costs and potentially prices for all consumers.

Fourthly, the extra supernormal profit can be used to fund research and development, leading to dynamic efficiency through new products and better services, such as improvements to the Uber app. In some industries with high fixed costs, such as railways and airlines, price discrimination may be necessary for the service to be provided at all, because without the extra revenue the firm would make a loss.

The argument that all forms should be outlawed by the government is also weak. Price discrimination is extremely common and many forms, such as child fares, off-peak electricity and peak and off-peak train tickets, are generally accepted as fair and spread demand more evenly, making better use of capacity. Banning all forms would be difficult to enforce, would require costly regulation and would risk government failure through imperfect information about costs and demand. It could make some consumers worse off by removing the low prices they currently pay, and in some markets the good would no longer be provided. It would be better for the competition authorities to target harmful cases, such as predatory pricing, on a case-by-case basis.

In conclusion, whether price discrimination is unfair depends on the type and its effects. First-degree price discrimination, which removes all consumer surplus, and price discrimination used to drive out competitors are likely to reduce welfare and should be regulated. However, many forms of third-degree price discrimination raise output, allow lower income groups to consume, fund investment and make the provision of the service possible. Uber's model is more doubtful because location is an inaccurate measure of income, but its overall effect depends on the price elasticities in each area and whether it reduces competition. Therefore not all forms of price discrimination are unfair, and an outright ban would be a mistake: the government should instead regulate abuses of market power where they occur.