Answers to Questions in Case Studies

Part B: Markets, demand and supply

Case Study B.1

1. Why were house prices in Aberdeen the highest in the UK in the late 1970s? Why did they fall in the mid 1980s and in 2016?

Because of the boom in the oil industry in that part of Scotland. The movement into the area of oil workers and workers in the construction industry related to the oil industry led to an increase in the demand for houses. In the mid-1980s and in 2016, with the fall in oil prices, the number of workers connected to the industry in the area declined and with it the demand for housing.

2. Trace through the effects on a small mining town of the closure of the local pit.

The effects would be the reverse of those described in the case. As people moved out of the area, the demand for local goods and services would fall. This would lead to a fall in local wages and local prices (e.g. the price of houses and the price of local services).

Case Study B.2

1. What do you think caused the large increase in the price of coffee in 1997?

Poor coffee harvests worldwide resulted in a considerable fall in supply (see chart in case study). The leftward shift in the supply curve led to a sharp rise in the price. This was aggravated by speculation as buyers sought to obtain stocks before the price rose further.

2. Use supply and demand diagrams to explain (a) the fall in coffee prices in the late 1990s and early 2000s, in the period 2011–13 and the latter part of 2015 and into 2016; (b) the increase in coffee prices from 2004 to 2011 and in 2014.

(a) Your diagram should show a rightward shift in supply. This increased supply resulted partly from the massive growth in the coffee industry in Vietnam and partly from other countries planting extra coffee trees in response to the high prices of the late 1990s and then these trees yielding their crop only when they had matured.

(b) Your diagram should show a rightward shift in demand and either just a small rightward shift in supply or no shift. You could break this period down into smaller periods and illustrate years of bad harvest, such as in 2011 and 2014, by a leftward shift in supply and years of good harvests, such as 2008 and 2012/13, by a rightward shift in supply. The rightward shift in demand has not been even, with faster shifts in boom years, and slower shifts (or even leftward shifts) in years of recession, such as 2008/9.

Case Study B.3

Referring to the same table, what is the price elasticity of demand between a price of (a) £6 and £4; (b) £4 and £2? What do you conclude about the elasticity of a straight-line demand curve as you move down it?

Using the formula: (ΔQ/mid Q) ÷ (ΔP/mid P) gives the following answers:

(a) 10/25 ÷ –2/5
= 10/25 × 5/–2
= 50/–50
= –1 (which is unit elastic)

(b) 10/35 ÷ –2/3
= 10/35 × 3/–2
= 30/–70
= –0.43 (which is inelastic)

Thus we can conclude that the price elasticity of demand decreases as you move down a straight-line demand curve.

Case Study B.4

1. Estimate the price elasticity of demand between 40p and 50p and between 50p and 60p.

The mid-point formula (see Case Study B2) for price elasticity is ΔQ_d/average Q_d ÷ ΔP/average P.
Thus between 40p and 50p, price elasticity equals –2/5 ÷ 10/45
= –2/5 × 45/10 = –9/5 = **–1.8** (elastic)
And between 50p and 60p, price elasticity equals –1/3.5 ÷ 10/55
= – 1/3.5 × 55/10 = –11/7 = **–1.57** (elastic)

2. Was the 50p fare the best fare originally?

No. A profit of £2 000 000 – £1 800 000 = £200 000 was made. At a price of 40p, however, a higher profit of £2 400 000 – £1 800 000 = £600 000 could have been made.

3. The company considers lowering the fare to 30p, and estimates that demand will be $8^1/_2$ million passenger miles. It will have to put on extra buses, however. How should it decide?

If it lowers the price to 30p, the revenue will rise to £2 550 000 (30p × 8.5m). But putting on extra buses will also increase costs. It will be worth lowering the price, therefore, only if the increase in revenue is *greater* than the increase in costs. (See Chapter 2 of the textbook.)

Case Study B.5

1. Why may a restaurant charge very high prices for wine and bottled water and yet quite reasonable prices for food?

Because the demand for food is relatively elastic: people may well compare restaurant food prices when deciding where to eat. The demand for drinks in restaurants, however, is likely to be relatively inelastic. People's decision where to eat is unlikely to be influenced by drink prices. Then, once people are eating in a restaurant, there is *no* alternative supply of drinks to the restaurant's own. People either have to pay the high prices or go without.

2. Why are clothes with designer labels so much more expensive than 'own-brand' clothes from a chain store, even though they may cost a similar amount to produce?

Because fashion is an important determinant of demand. The more fashionable a product, the higher will be the demand, and the less elastic will be the demand, at any given price. Thus it is profitable for shops to charge higher prices for fashion products than for own-brand products.

Case Study B.6

1. The income elasticity of demand for milk is negative (an 'inferior' good). What is the implication of this for milk producers?

Milk producers would expect to earn less as time goes past, given that national income rises over time. Thus if the incomes of *individual* milk producers are to be protected, production should be reduced (with some dairy farmers switching to other foodstuffs or away from food production altogether).

2. Why do pork and lamb have relatively high price elasticities of demand compared with the other foodstuffs in the table? What are the implications of this for the relative stability or instability of the prices of pork and lamb compared with other foodstuffs?

They have relatively high price elasticities of demand because they are relatively close substitutes for each other and for other meats. Shifts in supply of a particular meat will have a relatively small effect on price. This suggests that their prices would be more stable than those of other broader categories of foodstuff, assuming similar variations in supply. If the supply of *all* meats are affected, however, there will be a greater effect on the price of each of the meats, since the demand for meat as a whole (as opposed to a particular type of meat) is relatively price inelastic.

If, however, we compare them with narrower categories of other foodstuffs (e.g. a particular type of vegetable), which therefore themselves have more substitutes and hence have a higher price elasticity of demand, then the prices of the meats might not expected to be more stable. If, however, particular crops vary *more* in supply than the output of particular meats, then the price of meats *would* be more stable, even if the price elasticity of demand were no different from that of particular crops.

Case Study B.7

Give some examples of things that could make the demand for oil more elastic. What specific policies could the government take to make demand more elastic?

The development of substitutes, such as battery-powered cars and alternative sources of electricity generation and home heating. The closer they are as substitutes, the more elastic will the demand for oil become. Government policies could include subsidising research into the use of alternative fuels, and tax relief or subsidies for their use.

Case Study B.8

How might it be beneficial for the economy if speculators were less efficient?

If speculators were less responsive to new information, or if information was less readily available, then share price movements would probably be less. This would allow investors to focus more on long-term fundamentals, rather than short-term gain. This, in turn, would allow firms to concentrate on the long-term growth and health of their business, rather than on making a short-term profit at the expense of investment.

Case Study B.9

1. From this equation, calculate what would happen to the demand for butter if:
(a) the price of butter went up by 1p per kg and the RPI was 100.
(b) the price of margarine went up by 1p per kg and the RPI was 200.
(c) the index of personal disposable incomes went up by 1 point.

(a) The demand would go down by 0.1088 grams per person per week (i.e. 1/100 × –10.88).
(b) The demand would go up by 0.0618 grams per person per week (i.e. 1/200 × 12.36).
(c) The demand would go up by 0.29 grams per person per week (i.e. 1 × 0.29).

2. How does the introduction of the TIME term affect the relationship between the demand for butter and (a) the price of margarine and (b) personal disposable income?

(a) The demand for butter is less sensitive to a rise in the price of margarine than in the first equation.
(b) The demand for butter is more sensitive to a rise in disposable income than in the first equation.

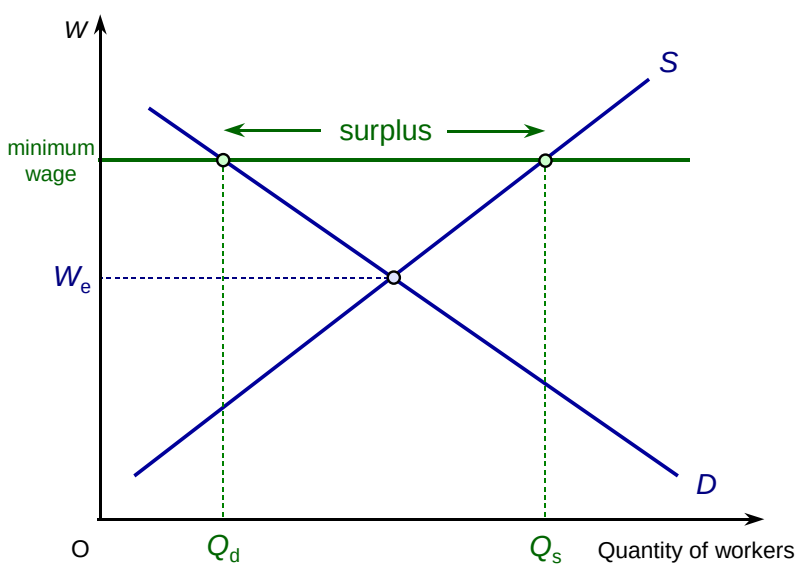
3. Is butter a normal good or an inferior good?

A normal good: in both equations, as personal disposable income rises so the demand for butter rises. In the second equation, demand rises more than in the first for any given rise in personal disposable income (i.e. only 0.5 grams per person per week, rather than 0.29 grams, for a 1 point rise in the index of personal disposable income). The reason is that, by introducing the *TIME* term, we are now allowing for the *fall* in demand for butter over time as a result of a shift in tastes away from butter to margarine and low-fat spreads.

Case Study B.10

1. Draw a supply and demand diagram with the price of labour (the wage rate) on the vertical axis and the quantity of labour (the number of workers) on the horizontal axis. What will happen to employment if the government raises wages from the equilibrium to some minimum wage above the equilibrium?

In the diagram below, the wage rate is plotted on the vertical axis and the horizontal axis plots the quantity of workers rather than the quantity of goods. Employment will fall to Q_d workers. The supply of workers will rise to Q_s. There will thus be unemployment (a surplus of workers) of Q_s minus Q_d.



2. Think of some examples where the price of a good or service is kept below the equilibrium. In each case consider the advantages and disadvantages of the policy.

Two examples are:

(a) Rent controls. Advantages: makes cheap housing available to those who would otherwise have difficulty in affording reasonable accommodation. Disadvantages: causes a reduction in the supply of private rented accommodation; causes demand to exceed supply and thus some people will be unable to find accommodation.

(b) Tickets for a concert. Advantages: allows the price to be advertised in advance and guarantees a full house; makes seats available to those who could not afford the free-market price. Disadvantages: causes queuing or seats being available only to those booking well in advance.

Case Study B.11

1. How could housing supplied by the public sector be made to rectify some of the problems we have identified above? (What would it do to the supply curve?)

It would shift the supply of rental accommodation to the right, and thereby reduce the free-market rent; or it would reduce the shortage of accommodation in the case where rents are fixed below the equilibrium.

2. If the government gives poor people rent allowances (i.e. grants), how will this affect the level of rents in an uncontrolled market? What determines the size of the effect?

They will increase (the demand for rented accommodation will increase). The size of the increase will depend on the size of the grants and the number of people receiving them and on the price elasticity of supply of rental accommodation. The bigger the grants and the less elastic the supply, the bigger will be rise in the equilibrium rent.

3. The case for and against rent controls depends to a large extent on the long-run elasticity of supply. Do you think it will be relatively elastic or inelastic? Give reasons.

Relatively elastic. Below a certain rent, it will not be worth the owners incurring the costs and time of renting out the accommodation. The solution, therefore, to cheap affordable accommodation is to tackle the supply directly: either by public housing or by subsidising or giving tax relief to the private sector.

Case Study B.12

What is the effect on output of replacing high minimum prices with grants to farmers unrelated to current production?

By making the grants unrelated to output, they provide no incentive for farmers to increase output, since farmers would not get a bigger subsidy if they did. If income support were *completely* to replace the system of intervention prices set above market prices, there would be no surpluses at all. The market would clear. As it is, the switch from price support to income support has helped to eliminate surpluses, and thus saved the costs of storing them.

Case Study B.13

1. Can you think of any other (non-farming) examples of the fallacy of composition?

Two examples are:

- People standing to get a better view at a concert. When one person does this, then that person *will* get a better view. When everyone does it, there is *no* gain. In fact, there is a net loss, because people would presumably prefer to sit than stand!
- If one person gets a pay increase 5 per cent above the current rate of inflation, he or she will be 5 per cent better off (assuming no change in the rate of inflation). If *everyone* gets a pay increase 5 per cent above the current rate of inflation, then that will drive the rate of inflation up. People will *not* be 5 per cent better off.

2. Would the above arguments apply in the case of foodstuffs that can be imported as well as being produced at home?

In the case of a foodstuff that can be imported, the demand curve for the *domestically* produced foodstuff would be more elastic (given that the imports are a substitute). Thus a good domestic harvest may only depress the price slightly, with consumers merely switching from the imported to home-grown food. Thus producers would *gain* from a good harvest (their incomes would rise if elasticity was greater than one).

If, however, the good harvest were *worldwide*, so that total world supply of the product increased, then the problem would still occur if the *overall* demand (for home-grown plus imported food) were inelastic.

Case Study B.14

1. What common factor might explain the high price paid for drinks on trains or at pop concerns and the high price paid by supporters to watch top football clubs?

The lack of substitutes. People's decision where to eat or whether to catch a train is unlikely to be influenced by drink prices. Then, once people are eating in a restaurant or travelling on the train, there is *no* alternative supply of drinks. People either have to pay the high prices or go without.

The factors limiting the number of substitutes for watching top football clubs include: emotional attachment, loyalty, expectation of success and watching top-class or international superstars.

2. A football club is newly promoted to the top league in its country. How might this impact on the position and the slope of its demand curve for season tickets? How might this demand curve change for the following season if it was to survive relegation by finishing one place above the relegation zone?

We would expect promotion to the top league to shift the demand curve for season tickets to the right. If matches across the season become 'must see' events, demand becomes less price elastic.

In the following season the novelty of being in the top league will have waned somewhat. This along with a low win-percentage might shift the demand curve for season tickets leftwards. Furthermore, matches across the season as a whole are now less likely to be must see events and so demand for season tickets becomes more price elastic. However, particular matches, such as those against the 'big names', are likely to remain highly popular and so the price charged for non-season ticket holders for these matches will remain high.

3. What other factors not considered in the case will influence the demand for match-day and season tickets?

Some other factors include:

- *The weather.* Some people might be deterred from attending games if it is cold and wet, especially if they are taking young children.
- *Is the game being broadcast live?* A number of fans may prefer to watch the game in the comfort of their home.
- *Ease and distance of travel.* This may have a relatively big impact on the attendance of away fans. i.e. Portsmouth to Carlisle is a 700 mile round trip!!!
- *Weekend vs. mid-week fixtures*.

4. Using a simple numerical example, explain how the win elasticity of demand can be measured.

Assume a team in the English Premier League improved its playing performance and won 19 out of 38 games per season instead of 14. In response to these better results the average attendance at its games improved from 10 000 to 13 000. Its win elasticity of demand is:

$$\frac{\text{\% change in attendance}}{\text{\% change in the win percentage}}$$

$$= \frac{30}{35.9}$$

$$= 0.836$$

A 10 per cent improvement in the team's win percentage increases its attendance by 8.36 per cent

5. Think of some different ways that you could measure (i) the uncertainty of match outcome (ii) intra-seasonal uncertainty (iii) inter-seasonal uncertainty.

(i) The uncertainty of match outcome

a) The difference in league positions: For example the outcome of a match between a team near the top of the league table against a team near the bottom of the league table (i.e. first against twentieth) will be more predictable than one between two teams who are in similar positions (i.e. seventh against eighth).

b) Their recent form: For example the outcome of a match between a team that has won its last five games against a team that has lost its last five games will be more predictable than a game between two teams that have a similar recent playing record.

c) Fixed odds offered by book makers: Fixed odds are those that remain unaffected by the weight of bets placed by the public. These odds should reflect the objective view of the book-makers about the chances of either side winning the game and should take account of all the relevant information. For example if the bookmakers offer odds of 3:1 against a team winning a game, this means that they believe that there is approximately a 25% chance of the team winning that particular match.

(ii) Intra-seasonal uncertainty

a) The variation or spread in the winning percentages of all the team in the league: If the teams in the league are equally matched then they would all win approximately the same number of games so the variation in the win percentages would be small. If the variation in the winning percentage was large then this indicates that intra-seasonal uncertainty is relatively low i.e. the league is predictable. One weakness with the above approach is that it ignores the possibility of drawn matches. To overcome this problem the variation in the total number of points won by teams in a league could be used instead of winning percentages.

b) Concentration ratios: A four team concentration ratio could be used in the EPL. This would be calculated by dividing the total number of points won by the top 4 teams in the league by the total number of points won by all the teams in the league.

(iii) Inter-seasonal uncertainty

a) The variation in winning percentages or the number of points could be tracked over a period of time to assess whether the league is becoming more or less predictable.

b) It could simply be measured by looking at how many different teams have won the league over a number of years i.e. are there lots of different winners or do just a few of the same clubs always win?

Case study B.15

1. Continuing the analysis from above, what could the producer of Brand 1 do to persuade customers to switch away from Brand 2 and to Brand 1?

To encourage the consumer to switch from Brand 2 to Brand 1, the firm could lower its prices. But a small reduction in price will have no effect on this consumer. Only when the price has fallen far enough will the consumer start switching. A very large fall in price would be required to encourage the consumer to switch entirely.

An alternative would be for the firm to reposition its product. It could introduce more of characteristic B into its product, thereby swinging the Brand 1 ray clockwise towards the Brand 2 ray. Clearly, it would have to be careful about its price too. The closer its brnad became in quality to Brand 2, the more elastic would demand become, since Brand 1 would now be a closer substitute for Brand 2.

Another alternative would be for the firm to attempt to influence consumer tastes. By persuading consumers to attach more value to characteristic A, the indifference curves would become shallower. The consumer could then consume on a higher indifference curve than before and hence this may encourage the consumer to switch from Brand 2 to Brand 1.

2. Apply the above analysis to a consumer choosing between 3 cars on the basis of power (measured by engine size) and comfort. Car A has a lot of power, but lacks comfort, where as car B is very comfortable, but has a small engine. Car C is relatively comfortable, but is also quite powerful. Plot the characteristics of the two attributes in each of the brands and then draw on indifference curves to determine the optimum consumption point for a consumer.

Exactly the same analysis as above will apply here. Instead of drawing two rays, you now need to draw three. The axes of course will have the characteristics of power and comfort and the three rays will reflect the relative attributes of the three cars. You will need to draw on indifference curves and an efficiency frontier to identify the optimum consumption point, as we did in the figure in the case study.

3. What do you think are some of the likely limitations of characteristics analysis?

Characteristics analysis cannot provide firms with a complete analysis of demand, for the following reasons:

- It is sometimes difficult to identify and measure characteristics in a clear and unambiguous way.
- Most products have several characteristics, so analysis will become increasingly complex.
- Indifference curves have practical limitations. To draw an indifference map for just one consumer would be very difficult, given that consumers would often find it hard having to imagine a series of combinations of characteristics between which they were indifferent. Drawing indifference maps for consumers as a whole is therefore practically impossible. At best, indifference curves can only provide a rough guide to consumer choice.
- Consumer tastes change. In what way consumer tastes will change, and how these changes will influence the shape of the indifference curves, is very difficult to predict.

Case Study B.16

How would you advise the baker as to whether he should (a) employ four assistants on a Saturday; (b) extend his shop, thereby allowing more customers to be served on a Saturday morning?

(a) If maximising profit is the sole aim, then he should employ a fourth assistant, if the extra revenue from the extra customers that this assistant can serve is greater than the costs of employing the assistant.

(b) He should only do this if the extra revenue from the extra customers will more than cover the costs of the extension plus the extra staffing.

Case Study B.17

If speculators believed that the price of cocoa in six months was going to be below *the six-month future price quoted today, how would they act?*

They would make a future contract to sell cocoa in six months' time at the future price quoted today (even though they do not yet have any cocoa to sell!). They hope then to buy cocoa in six months' time at the lower (spot) price in order to supply it as agreed. In other words, they buy at the lower spot price and sell at the higher future price. Their profit, after commission, is the difference in price.

Case Study B.18

Given that there is a fixed supply of land in the world, what implications can you draw from Figure 1 about the effects of an increase in world population for food output per head?

Other things being equal, diminishing returns would cause food output per head to decline (a declining *MPP* and *APP* of labour). This, however, would be offset (partly, completely or more than completely) by improvements in agricultural technology and by increased amounts of capital devoted to agriculture: this would have the effect of shifting the *APP* curve upwards.

Case Study B.19

1. Draw the TPP and MPP curves for the three sites in the table.

The *TPP* curves will be of a similar shape to the two in the diagram in the case study, peaking at around 600 kg N/ha/year. The *MPP* curves will be roughly horizontal up to 300 kg N/ha/year, then slope downward, becoming negative at around 600 kg N/ha/year. Note that the *MPP* (up to 300 kg) is around 4 tonnes per hectare at Gleadthorpe and south-west Wales, but only just over 2 tonnes at Cambridge.

2. Rainfall and the amount of nitrogen naturally occurring in the soil will cause differences in the position of the TPP curve between sites. One will cause vertical differences in the curves and one will cause horizontal differences. Explain which one causes which effect (and why).

Increased rainfall will shift the curve upward. There will be increased yields from each kg of nitrogen, but with maximum yield still occurring normally at around 600 kg N/ha/year. Increased nitrogen in the soil will shift the curve to the left, since it is the equivalent of applying nitrogen fertiliser: i.e. the same yields will be obtained with *less* applied nitrogen. Thus the Bangor curve is similar to the Wenvoe curve only 150 kg to the left, given that there is around 150 kg/ha of nitrogen naturally occurring.

3. Apart from figures on yields, what else will a farmer need to know before deciding whether to use 600 kg/ha of nitrogen fertiliser?

The cost of purchasing and applying additional nitrogen fertiliser and the *value* of the additional grass yields obtained. Only if the additional value of the yields is greater than the additional costs incurred, will it be profitable to apply additional nitrogen. Note that environmentally conscious farmers might also consider the polluting effects of nitrogen run-off on water supplies.

Case Study B.20

Why is the current best price to charge for the unsold trees the one at which the price elasticity of demand equals –1? (Assume no disposal costs.)

Because, with a zero cost, the shop will want to maximise the revenue from the sale of the trees. Revenue is maximised at the price where elasticity equals –1.

Case study B.21

A cricketer scores the following number of runs in five successive innings:

Innings	*1*	*2*	*3*	*4*	*5*
Runs	*20*	*20*	*50*	*10*	*0*

These can be seen as the marginal number of runs from each innings. Calculate the total and average number of runs after each innings. Show how the average and marginal scores illustrate the three rules above?

See the following table:

Innings	Total runs	Average runs
1	20	20
2	40	20
3	90	30
4	100	25
5	100	20

When the marginal is above the average (e.g. the third innings), the average rises. When the marginal is below the average (e.g. the fourth innings) the average falls. When the marginal is the same as the average (e.g. the second innings) the average stays the same.

Case study B.22

1. Assume that a firm has five identical machines, each operating independently. Assume that with all five machines operating normally, 100 units of output are produced each day. Below what level of output will AVC and MC rise?

20 units. Below this level, the one remaining machine left in operation will begin to operate at a level below its optimum. (Note that with five machines producing 100 units of output, minimum *AVC* could be achieved at 100, 80, 60, 40 and 20 units of output, but between these levels some machines may be working at less than their optimum and some at more than their optimum. Thus if the optimum level for a machine is critical, then the *AVC* curve may look 'wavy' rather than the smooth line in the diagram.)

2. Manufacturing firms like the one we have been describing will have other fixed costs (such as rent and managerial overheads). Does the existence of these affect the argument that the AVC curve will be flat bottomed?

In most cases, no. For example, in the case of rent or rates on land or on premises, not *all* the land or premises have to be used, just because the rent covers it all. For example, a firm cutting its production in half may prefer to use only half the factory. It all depends on the divisibility of the fixed factors. If they are divisible, and thus only part of them need be used, then the *AVC* curve is more likely to be flat bottomed. Similarly, managers could simply work less hard if output were to be cut. Thus the proportion of managerial time or effort could remain the same *per unit* of output.

Case Study B.23

1. Draw a graph showing the AFC, AVC, AC and MC curves corresponding to the figures in the above table.

This will involving plotting columns 7, 8, 9 and 10 on the vertical axis against column 3 on the horizontal axis. (Note that the figures for quantity are not evenly spaced.) The curves you get will be similar in shape to those in Figure 4.1 in the textbook.

2. Calculate a new set of figures for each of the columns (4)–(10) if (a) the price of capital rose from £60 to £100; (b) the wage rate rose from £100 to £150. Why in the case of (a) is the marginal cost not altered?

(a) (assuming that the price of capital has risen to £100 but that the wage rate remains at £100)

Inputs		Output	Total costs			Average costs			Marginal costs
Capital (units)	Labour (number)	*TPP* (units)	Fixed *(TFC)* (£)	Variable *(TVC)* (£)	Total *(TC)* (£)	Fixed *(AFC)* (£)	Variable *(AVC)* (£)	Total *(AC)* (£)	*(MC)* (£)
			(1) × £100	(2) × £100	(4) + (5)	(4) ÷ (3)	(5) ÷ (3)	(6) ÷ (3)	Δ(6) ÷Δ(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
5	1	100	500	100	600	5.00	1.00	6.00	
									0.67
5	2	250	500	200	700	2.00	0.80	2.80	
									0.67
5	3	400	500	300	800	1.25	0.75	2.00	
									1.00
5	4	500	500	400	900	1.00	0.80	1.80	
									1.67
5	5	560	500	500	1000	0.89	0.89	1.78	

(b) (assuming that the price of capital has risen to £100 and the wage rate to £150)

Inputs		Output	Total costs			Average costs			Marginal costs
Capital (units)	Labour (number)	*TPP* (units)	Fixed *(TFC)* (£)	Variable *(TVC)* (£)	Total *(TC)* (£)	Fixed *(AFC)* (£)	Variable *(AVC)* (£)	Total *(AC)* (£)	*(MC)* (£)
			(1) × £100	(2) × £150	(4) + (5)	(4) ÷ (3)	(5) ÷ (3)	(6) ÷ (3)	Δ(6) ÷Δ(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
5	1	100	500	150	650	5.00	1.50	6.50	
									1.00
5	2	250	500	300	800	2.00	1.20	3.20	
									1.00
5	3	400	500	450	950	1.25	1.13	2.38	
									1.50
5	4	500	500	600	1100	1.00	1.20	2.20	
									2.50
5	5	560	500	750	1250	0.89	1.34	2.23	

The marginal cost is not affected in (a) because a rise in fixed cost by definition will not affect marginal costs: even though fixed costs have risen by £200, there is no *additional* cost for each extra unit produced compared with the original situation.

Case Study B.24

Were there likely to have been any diseconomies of scale in the pin factory?

Workers becoming bored with simple repetitive tasks and as a result becoming less efficient; increased absenteeism; a whole production line closing down if one worker was absent (unless enough stocks of pins were carried at each stage of the production process – which itself would be costly).

Case Study B.25

What dangers are there in keeping stocks to a minimum and relying on complex supply chains?

A particular supplier may have difficulty in meeting an order and this can then have knock-on effects along the chain. The purchasing firm, unable to obtain supplies and with stocks kept at a minimum, may then be unable to meet its own customers' orders, which can then result in customers switching to alternative firms. Of course, purchasing firms may sometimes be able to switch to alternative suppliers, but this may not always be possible, or may too long.