

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname StemUp Model Solution

Forename(s) _____

Candidate signature _____

AS ECONOMICS

Paper 1 The operation of markets and market failure

Monday 15 May 2017

Morning Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- the insert
- a calculator.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions in **Section A**.
- Answer **either** Context 1 **or** Context 2 in **Section B**.
- You will need to refer to the insert provided to answer **Section B**.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- There are 70 marks available on this paper.
- The marks for questions are shown in brackets.
- No deductions will be made for wrong answers.

For Examiner's Use	
Question	Mark
Section A	
Section B	
TOTAL	



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Section A

Answer **all** questions in this section.

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

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

CORRECT METHOD  WRONG METHODS    

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

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

0 1

Demerit goods represent a type of market failure because

- A** their consumption results in positive externalities. 
- B** their production results in negative production externalities. 
- C** they are over-consumed in a free market. 
- D** they are under-consumed when left to free market forces. 

[1 mark]

0 2

Which one of the following sets of characteristics can best be used to distinguish between different market structures?

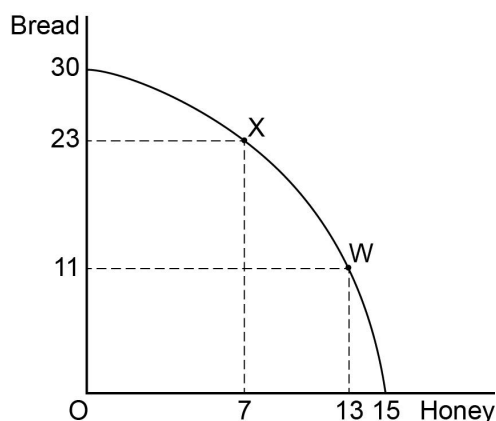
- A** The concentration ratio and the income elasticity of demand 
- B** The ease of entry to the industry and the degree of product differentiation 
- C** The number of buyers in the market and the productivity of firms 
- D** The scale of production in the industry and the presence or absence of externalities 

[1 mark]



0 3

The following diagram shows the production possibility frontier for an economy that produces bread and honey.



If the economy is initially at point W, then the opportunity cost of moving to point X is

- A** 6 units of honey.
- B** 8 units of honey.
- C** 12 units of bread.
- D** 23 units of bread.

☒
☐
☐
☐

[1 mark]

0 4

Which one of the following gives a positive value for the cross elasticity of demand?

- A** A fall in air fares increases the demand for holidays
- B** A fall in the cost of car insurance increases the demand for cars
- C** A rise in the price of petrol decreases the demand for cars
- D** A rise in rail fares increases the demand for coach travel

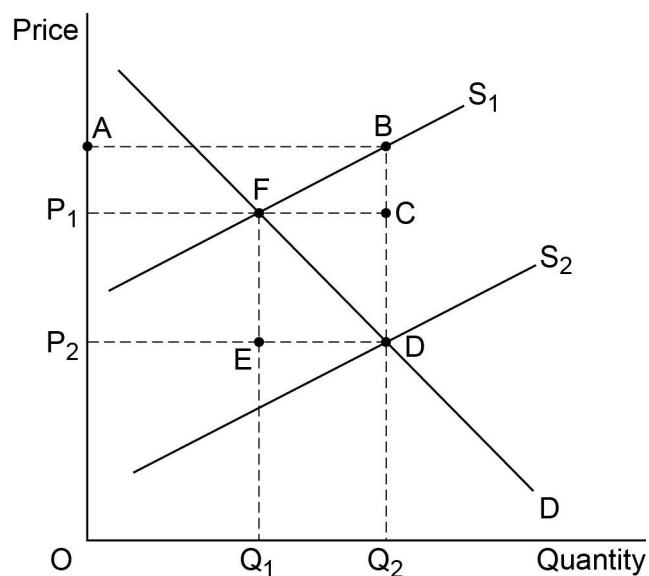
☐
☐
☐
☒

[1 mark]



0 5

The following diagram shows the impact of a government subsidy for recycling waste which shifts the supply curve from S_1 to S_2 .



Which one of the following areas measures the cost of the government subsidy?

A $A B C P_1$

☐

B $A B D P_2$

☒

C $F C D E$

☐

D $P_1 C D P_2$

☐

[1 mark]

0 6

An economist puts forward a hypothesis which is assessed against evidence. As a result of this, the hypothesis is accepted, rejected or modified.

This is an example of

A how normative but not positive economic statements are tested.

☐

B how value judgements influence economic decision making.

☐

C the methodology used to test economic theories.

☒

D why economics is a social not a natural science.

☐

[1 mark]



0 7

The table below shows the quantities of sandwiches that would be demanded and supplied at different prices.

Price of sandwich	Quantity demanded per day	Quantity supplied per day
£2.25	310	190
£2.50	280	280
£2.75	220	300
£3.00	180	320

Following a rise in production costs, supply falls by 80 sandwiches at all prices. The new equilibrium price would be

- A £2.25 ☐
- B £2.50 ☐
- C £2.75 ☒
- D £3.00 ☐

[1 mark]

0 8

In economics, the 'long run' refers to the time period when

- A all factors of production are fixed. ☐
- B all factors of production may change. ☒
- C revenue is fixed. ☐
- D some factors of production are fixed, others may vary. ☐

[1 mark]

Turn over for the next question



0 9

The growth of car manufacturing around Birmingham led to firms producing components for cars. As a result, car manufacturing firms experienced a fall in their average cost of production. This is an example of

A a financial economy of scale.

☐

B a marketing economy of scale.

☐

C a technical economy of scale.

☐

D an external economy of scale.

☒

[1 mark]

1 0

Claire's sweet stall in Chorley market sells sweets in 100g bags. She has the following costs of production:

Stall rental	£25 per day
Sales assistant's wages	£32 per day
Various varieties of sweets	£0.26 per 100g
Paper bags	£0.01 per bag

Assuming Claire sells 100 bags of sweets per day, what is the average cost of a bag of sweets?

A £0.57

☐

B £0.59

☐

C £0.83

☐

D £0.84

☒

[1 mark]



1 1

The equilibrium market price of a good increases. The establishment of the new equilibrium at a higher price would most likely result from

A a fall in the price of a substitute.

☐

B a rise in the price of a complementary good.

☐

C excess demand at the original price.

☒

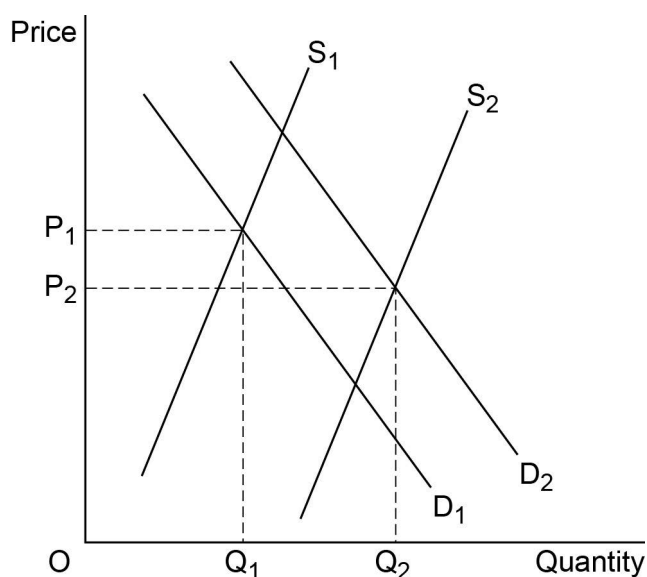
D new firms entering the market.

☐

[1 mark]

1 2

The diagram below shows the demand and supply curves for new houses.



The initial demand and supply are D_1 and S_1 . Other things being equal, which one of the following combination of events is most likely to cause demand and supply to shift to D_2 and S_2 ?

A A fall in mortgage interest rates and a relaxation of planning restrictions

☒

B A fall in the price of new homes and a fall in the productivity of construction workers

☐

C A fall in the price of rented accommodation and a fall in the price of raw materials

☐

D A rise in incomes and a rise in wages of construction workers

☐

[1 mark]



1 3

A government builds a new road to reduce traffic congestion on existing roads. This project would inevitably result in government failure if

- A** local residents raised environmental objections to the new road. ☐
- B** the cost of the new road was twice as large as the original estimate. ☐
- C** the reduction in traffic congestion was smaller than forecast. ☐
- D** total benefits from the new road were less than the cost of the new road. ☒

[1 mark]**1 4**

A supermarket has estimated values of the income elasticity of demand for some of its products as shown in the table below.

Product	Income elasticity of demand
Fruit	0.30
Cheese	0.20
Milk	0.10
Eggs	0.01

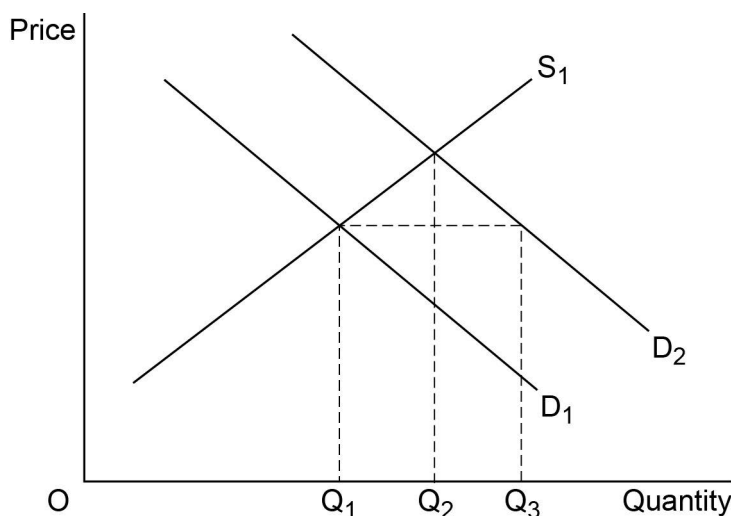
If incomes increase by 5%, for which of these grocery items will the quantity demanded increase by more than 1%?

- A** Eggs ☐
- B** Fruit ☒
- C** Fruit and cheese ☐
- D** Milk and eggs ☐

[1 mark]

1 5

In the diagram below, D_1 and S_1 are, in the absence of government intervention, the market demand and supply curves for a vaccine. The demand curve D_2 shows how much of the vaccine would have been demanded if the external benefits could have been captured by the market.



The diagram illustrates that there is a misallocation of resources because in a free market

- A** the price of the vaccine is too high. ☐
- B** there is excess demand equal to $(Q_3 - Q_1)$. ☐
- C** there is under-consumption of the vaccine equal to $(Q_3 - Q_1)$. ☐
- D** there is under-production of the vaccine equal to $(Q_2 - Q_1)$. ☒

[1 mark]**1 6**

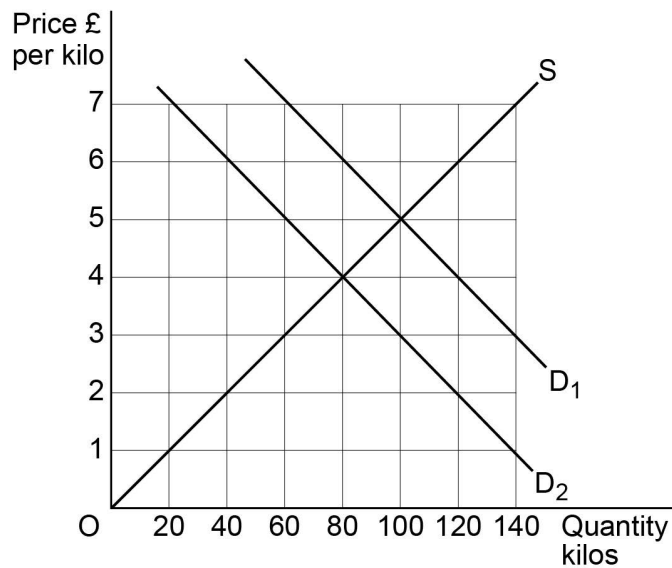
In an economy, the median total household wealth was £218 400 whilst the median total household income was £32 100. Which one of the following can be concluded from the above statement?

- A** A household with an income of £32 100 would be expected to have wealth of £218 400 ☐
- B** Exactly 50% of the population had wealth higher than £32 100 ☐
- C** The average household income was higher than the average household wealth ☐
- D** The average household wealth was nearly seven times the average household income ☒

[1 mark]

1 7

The diagram below shows the original market demand (D_1) and supply (S) curves for fresh strawberries. A decrease in the demand for fresh strawberries shifts the demand curve from D_1 to D_2 .



From the above diagram, it can be concluded that when the equilibrium price of fresh strawberries falls from £5 per kilo to £4 per kilo, the price elasticity of supply of strawberries is

A -0.8

☐

B +0.8

☐

C -1

☐

D +1

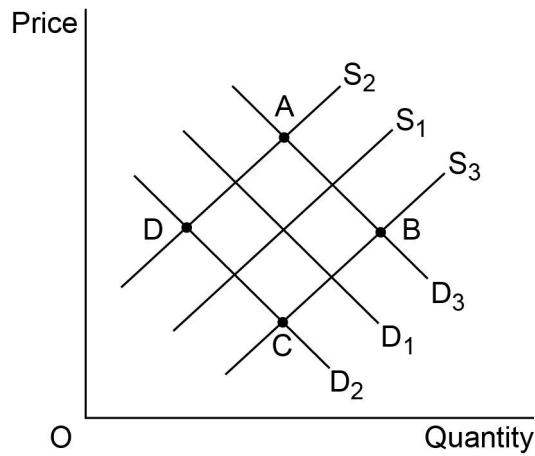
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[1 mark]



1 8

The supply and demand curves for a good in a free market are S_1 and D_1 . If the good generates negative externalities in production but positive externalities in consumption, which intersection, A, B, C or D, could represent the socially optimal equilibrium?



A Intersection A

☒

B Intersection B

☐

C Intersection C

☐

D Intersection D

☐

[1 mark]

1 9

If firms in an industry increase their spending on advertising, it is likely to

A help firms to differentiate their products.

☒

B make it easier for new firms to enter the industry.

☐

C make the demand for the firms' products more elastic.

☐

D reduce the monopoly power of the firms in the industry.

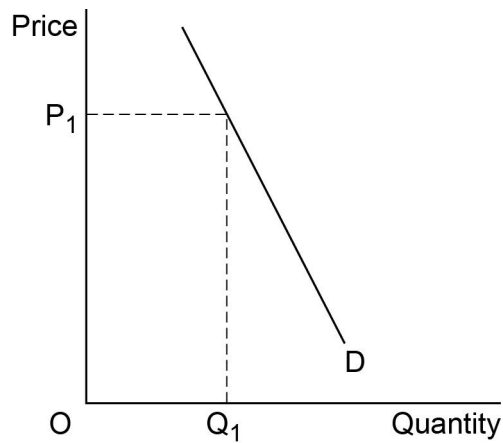
☐

[1 mark]



2 0

The diagram below shows the market demand curve (D) for a product. The market is currently operating as a monopoly with price P_1 and output Q_1 .



If barriers to entry to the market are removed, the most likely result will be that

- A** firms will experience diseconomies of scale.
- B** the benefits from economies of scale will increase.
- C** the market price falls and output increases.
- D** the market price rises and output falls.

☐
☐
☒
☐

[1 mark]

**QUESTION 20 IS THE
LAST QUESTION IN SECTION A**



Section B

Look at the insert and choose to answer **EITHER** Context 1 **OR** Context 2.

Answer **EITHER** Questions 21 to 26 in the spaces below

OR

Questions 27 to 32 on pages 23 to 32 of this answer booklet.

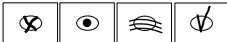
There is a total of 50 marks for either Context.

Shade the circle below to indicate which context you have answered.

Context **0 1** ☐

Context **0 2** ☐

WRONG METHODS



CORRECT METHOD

**EITHER****Context 1**

Total for this Context: 50 marks

SUPERMARKETS

Use the source booklet provided to study **Questions 21 to 26** and **Extracts A, B and C**, and then answer the questions in the spaces which follow.

2 1

Define 'internal economies of scale' **Extract B** (line 15).

[3 marks]

Internal economies of scale are the reductions in a firm's long-run average cost (cost per unit) that result from an increase in the scale or size of the firm itself, for example a large supermarket such as Tesco gaining bulk-buying discounts from its suppliers.

Extra space



2 2

Use **Extract B** to calculate the three firm concentration ratio for sales in the supermarket industry in December 2015.

[4 marks]

Three firm concentration ratio = combined market share of the three largest firms.

Tesco 28% + Sainsbury's 17% + Asda 16%
= 61%

So the three firm concentration ratio in December 2015 was 61% (0.61), showing a highly concentrated, oligopolistic market.

2 3

Use **Extract A** to identify **two** significant points of comparison between the changes in real income and real food prices for low-income households in the UK over the period shown.

[4 marks]

Comparison 1 *Over the whole period, the index of real income for low-income households fell from 100 in 2002–03 to 92 in 2013–14 (a fall of 8 index points), whereas the index of real food prices rose from 100 to 112 (a rise of 12 index points).*

Extra space

Comparison 2 *The index of real income fluctuated greatly: it fell from 91 in 2007–08 to its lowest point of 84 in 2008–09 and then rose back to 91 in 2009–10. In contrast, the index of real food prices rose or stayed the same in every year except one (100 to 99 in 2003–04 to 2004–05), rising from 101 to 106 in 2007–08 to 2008–09 and peaking*

Extra space *at 112 in 2013–14.*

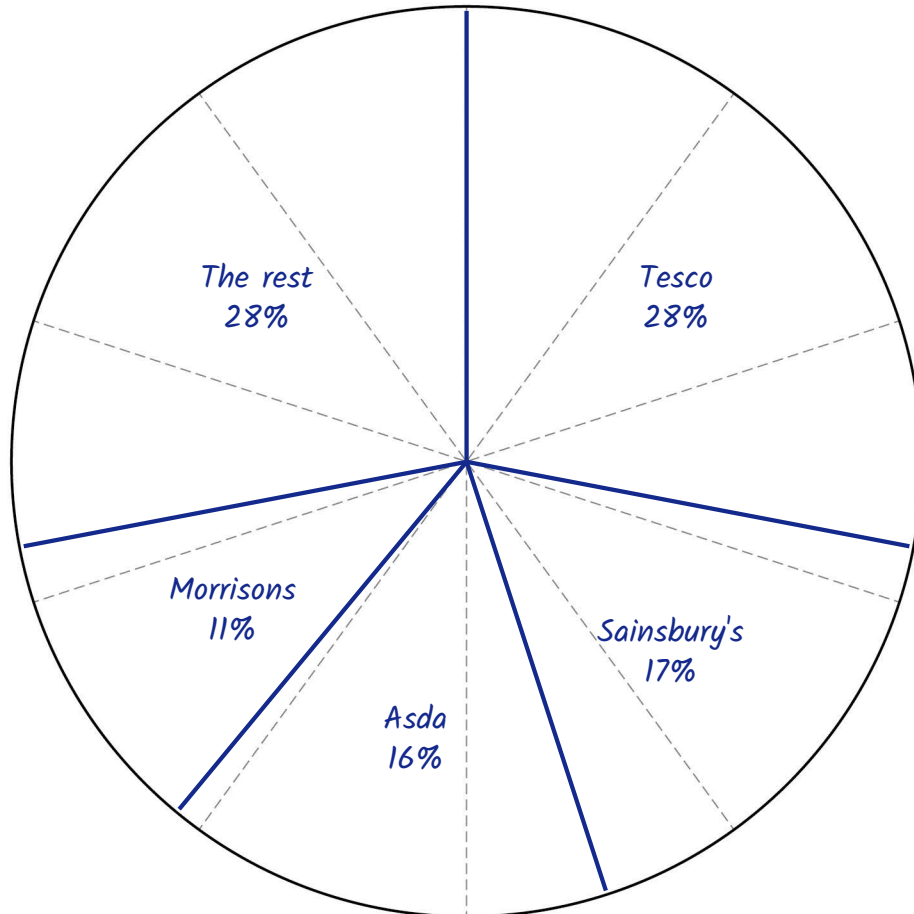


2 4

Use the data in **Extract B** to complete the pie chart to show the market shares in the supermarket industry of each of the following in December 2015: Asda, Morrisons, Sainsbury's, Tesco and 'the rest'.

[4 marks]

Market shares in the supermarket industry, December 2015



As a guide, each sector of the pie chart above represents 10% of the total market share. Use of a protractor is not required.

Turn over for the next question



2 5

Extract B (lines 2–3) refers to ‘the monopoly power of well-established firms’ in the supermarket industry.

Explain **two** factors that could influence the monopoly power of firms in the supermarket industry.

[10 marks]

Monopoly power is the ability of a firm to influence the market price and other terms on which its product is sold, rather than being a price taker. It depends mainly on the degree of competition the firm faces.

Factor 1: market share and the number of competitors. The larger a firm's share of the market and the fewer its rivals, the greater its monopoly power. Tesco has a 28% share and the three largest firms have a combined share of 61% (Extract B), so each faces relatively few close substitutes. With few substitutes, demand for a firm's groceries is relatively price inelastic, so it can raise prices, or offer worse terms to farmers and suppliers, without losing many customers, and so earn supernormal profit. However, the growth of budget supermarkets such as Aldi and Lidl increases the number of competitors and the availability of close substitutes. Demand for the 'big four' becomes more price elastic, so their monopoly power is reduced and they are forced to cut prices to protect their market share.

Factor 2: barriers to entry. Monopoly power can only persist if new firms find it difficult to enter the market and compete away supernormal profits. In the supermarket industry, barriers include internal economies of scale (bulk-buying, distribution networks and spreading advertising costs over huge outputs), which give established firms lower average costs than a small new entrant could achieve; very high start-up and sunk costs of building large stores and warehouses; access to the best sites and land banks, plus planning restrictions (a form of



Extra space *government intervention*); and brand loyalty created by heavy advertising and loyalty cards such as Tesco Clubcard, which differentiates the product and makes consumers less likely to switch. High barriers protect the established firms' profits in the long run. If barriers fall, for example because online shopping reduces the need for large stores, or because competition authorities block mergers and stop firms buying up land, then the threat of entry rises and monopoly power falls.

In conclusion, both factors are linked: high barriers to entry allow firms to keep a large market share, and it is the growth of rivals that are able to overcome these barriers, such as the discounters, that has done most to reduce the monopoly power of the well-established supermarkets.



2 6

Extract C (lines 16–17) states ‘have the changes in the supermarket industry been for the better, and if so, for whom?’

Use the extracts and your knowledge of economics to assess whether the changes in the supermarket industry are likely to be better or worse for consumers and firms.

[25 marks]

In recent years the UK supermarket industry has changed significantly. The 'big four' (Tesco, Sainsbury's, Asda and Morrisons) still dominated in December 2015 with a combined share of 72% (28% + 17% + 16% + 11%), but they have been losing market share to budget supermarkets such as Aldi and Lidl, which are part of 'the rest' (28%). At the same time, consumers have faced falling real incomes and rising food prices: for low-income households the index of real income fell from 100 to 92 between 2002–03 and 2013–14 while the index of real food prices rose to 112 (Extract A). Shopping habits have also changed, with more online shopping and more frequent trips to smaller convenience stores rather than a weekly shop at an out-of-town superstore.

Consumers: the main benefit of the changes is greater competition. The entry and expansion of the discounters increases the supply of groceries and the number of close substitutes. As shown in the diagram, the supply curve shifts from S_1 to S_2 , so the market price falls from P_1 to P_2 and the quantity bought rises from Q_1 to Q_2 , increasing consumer surplus. More substitutes also make the demand for each supermarket more price elastic, so the big four have been forced to cut prices, run price-matching schemes and improve quality and service to protect their market share. This competitive market process moves the market closer to allocative efficiency, where price equals marginal cost, and increases consumer choice. The benefit is greatest for low-income households:





Extract A shows their real food prices rose by 12% while their real incomes fell by 8%, so food takes a larger share of their budget.

Cheaper groceries raise their real incomes and reduce inequity, and may improve diet, since good food can be regarded as a merit good.

However, the gains for consumers may be limited. The discounters offer a narrower range of products and fewer services, so consumers who value choice may be worse off, and store closures by the big four, as they cut costs, reduce access for consumers without cars, often the elderly and poor. Supermarkets may also compete through misleading promotions rather than lower prices, and consumers have imperfect information about the true value of 'special offers'. Furthermore, if price wars force weaker firms out of the market, concentration could rise again in the long run, reducing competition and allowing prices to rise. Much depends on the price elasticity of demand: as food is a necessity, demand for groceries as a whole is price inelastic, so the main effect of lower prices is to redistribute spending between supermarkets rather than greatly increasing quantity.

Firms: the changes are clearly better for the discounters, which are



Extra space *gaining market share and benefiting from growing internal economies of scale as they expand, lowering their average costs. Online grocery firms and convenience stores also gain. For the big four, the changes are mostly worse in the short run. Lower prices and falling market share reduce total revenue and supernormal profit, and the move away from large superstores leaves them with costly excess capacity, so some stores and planned sites have been closed or sold and jobs cut. On the other hand, competition creates an incentive to cut costs and innovate (dynamic efficiency), which may make the big four more productive and profitable in the long run. Online shopping and loyalty card data also allow them to target customers more effectively. Others: suppliers such as farmers may be worse off, because supermarkets with monopsony power push down the prices they pay in order to cut their own costs. Workers may face job losses and pressure on wages in the big four, although jobs are created by the expanding discounters. If supermarkets release their land banks of unused sites, this land could be used for housing, which would benefit those wishing to buy homes.*

Evaluation: whether the changes are better or worse depends on who is affected and the time period. In the short run consumers, especially those on low incomes, gain from lower prices, and the discounters gain at the expense of the big four and their suppliers. In the long run the outcome depends on whether competition is sustained. If the market remains contestable, with the discounters continuing to grow, competition will keep prices down and drive efficiency. If the price war eliminates rivals or leads to mergers, market power could increase again; the Competition and Markets Authority may need to intervene, for



example by blocking mergers, although regulation risks government failure. The magnitude of the change should not be exaggerated: in 2015 the big four still had 72% of the market, so they retain considerable market power. The data also have limitations, as Extract A only covers low-income households and the market share figures relate to one month.

Conclusion: overall, the changes in the supermarket industry are likely to be better for consumers, particularly low-income households whose real incomes have fallen, because increased competition has lowered prices and increased choice of where to shop. For firms the effect is mixed: the discounters and online retailers are clear winners, whereas the big four are worse off in the short run through lower profits, although competition may make them more efficient in the long run. The overall gain is greatest if the market stays competitive, so the key issue for the future is whether the competition from the discounters is maintained.



[illegible]

Do **not** answer Context 2 if you have answered Context 1.

OR

Context 2

Total for this Context: 50 marks

GAMBLING

Use the source booklet provided to study **Questions 27 to 32** and **Extracts D, E and F**, and then answer the questions in the spaces which follow.

2 7

Define 'external costs' **Extract F** (line 18).

[3 marks]

External costs are the negative side-effects of an economic activity (production or consumption) that are suffered by third parties who are not directly involved in the activity and are not compensated. They are the difference between the social cost and the private cost, eg the costs of debt and family breakdown imposed on the families of problem gamblers.

Extra space

2 8

Use **Extract E** to calculate, to **one** decimal place, the percentage change in the number of workers in the gambling sector between 2011 and 2015.

[4 marks]

Percentage change = (new value - old value) ÷ old value × 100
= (104 869 - 115 564) ÷ 115 564 × 100
= -10 695 ÷ 115 564 × 100
= -9.2546...%
= -9.3% (to 1 d.p.), ie a decrease of 9.3% in the number of workers.



2	9
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Use **Extract D** to identify **two** significant points of comparison between the changes in income for bingo and the National Lottery in Great Britain over the period shown.

[4 marks]

Comparison 1 *Over the period, bingo income fell from £703m in 2008–09 to £662m in 2014–15, whereas National Lottery income rose from £2522m to £3232m.*

Extra space

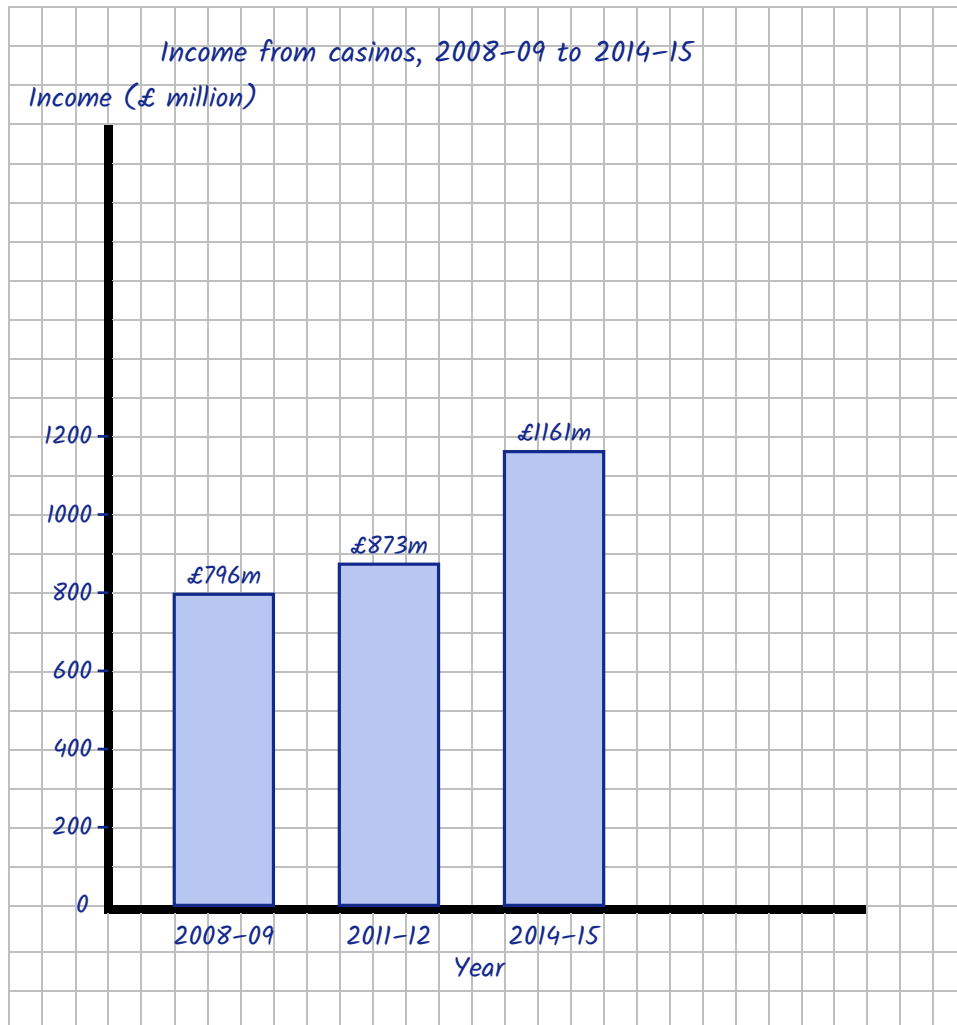
Comparison 2 *In 2008–09 bingo income was at its highest (£703m), whereas National Lottery income was at its lowest (£2522m). Bingo income fell to its lowest point of £626m in 2010–11, whereas National Lottery income peaked at £3280m in 2012–13.*

Extra space



3 0

Use the data in **Extract D** to draw a bar chart to show income from casinos for the years 2008–09, 2011–12 and 2014–15.

[4 marks]

Turn over for the next question



3 1

Extract E (lines 1–2) states ‘in 2007, before the recession, 68% of adults gambled, but by 2010, this had risen to 73%.’

Explain **two** factors that could have increased the percentage of adults who gamble.

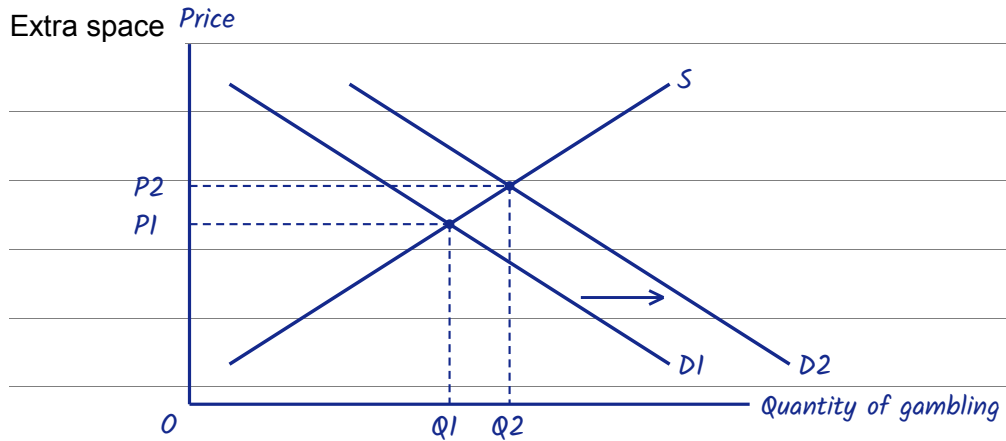
[10 marks]

The percentage of adults who gamble depends on the demand for gambling, which is influenced by factors other than its price. As shown in the diagram, an increase in demand shifts the demand curve from D1 to D2, so more gambling takes place (Q1 to Q2).

Factor 1: falling real incomes caused by the recession. Between 2007 and 2010 the UK was in recession, so unemployment rose and real incomes fell. Normally a fall in income reduces demand for a normal good, but some forms of gambling, such as lotteries and scratchcards, may behave like inferior goods for some groups, with a negative income elasticity of demand. People whose incomes have fallen may see gambling as a cheap way of trying to 'get rich quick' and to escape financial difficulties, because a small stake gives the chance of a very large prize. The expected return is negative, but people with imperfect information tend to overestimate their chances of winning, so they are irrational in the sense of not maximising their utility. Hence the recession could have increased participation from 68% to 73% of adults.

Factor 2: technological change and advertising. The growth of the internet and smartphones has made online gambling available 24 hours a day from home, which reduces the time and effort needed to gamble and so lowers its full cost. New products such as online casinos, poker and in-play sports betting increase the variety of gambling 'products', attracting new customers, including young adults and women who rarely





visited betting shops or casinos. In addition, the relaxation of advertising rules in 2007 allowed gambling firms to advertise on television, which changes tastes and preferences in favour of gambling and makes it seem a normal leisure activity. Free bets and sign-up offers reduce the perceived risk. These factors increase demand at every price, shifting the demand curve to the right.

Both factors increase demand, but the relative importance of each is uncertain. Technology and advertising are likely to have a more lasting effect, whereas the effect of the recession may be reversed as real incomes recover.



3 2

Extract F (lines 17–18) states ‘should there be more regulations or taxes to try to reduce the effects of gambling, in terms of both its private and external costs?’

Use the extracts and your knowledge of economics to assess whether the UK government should intervene more in the gambling industry.

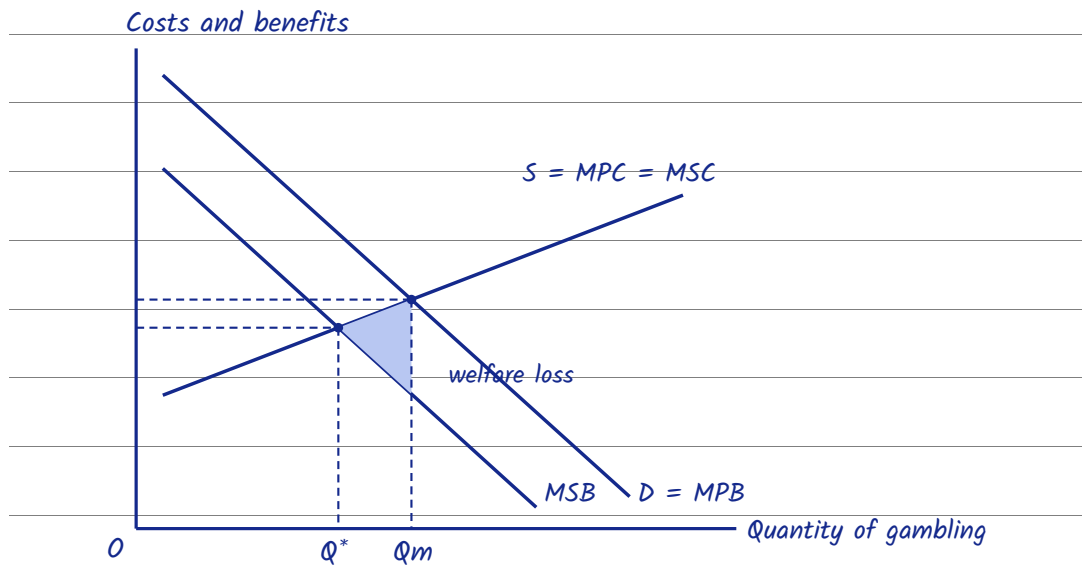
[25 marks]

Gambling is a legal leisure activity that gives utility to millions of people: in 2010, 73% of adults gambled (Extract E), and the industry generates large incomes, for example National Lottery income of £3232m and casino income of £1161m in 2014–15 (Extract D). The question is whether the market leads to a misallocation of resources that justifies more regulation or taxes.

The case for more intervention is that gambling is a demerit good, which is over-consumed in a free market. First, there is imperfect information. Gamblers overestimate their chances of winning and underestimate the private costs of gambling, such as debt and addiction; the odds of winning the National Lottery jackpot are about 1 in 45 million, yet people continue to buy tickets. Problem gamblers place too high a value on gambling, so their private benefit as perceived at the time of consumption is greater than the true benefit, and they consume more than is in their own best interest.

Second, gambling creates negative externalities in consumption. Third parties bear external costs, such as the family breakdown, poverty and crime associated with problem gambling, and the costs to the NHS and welfare system. As shown in the diagram, the marginal social benefit (MSB) is less than the marginal private benefit (MPB). The free market produces where $MPB = MSC$ at Q_m , but the socially optimal output is where $MSB = MSC$ at Q^* . Gambling is therefore over-consumed by $Q_m - Q^*$, and the shaded triangle shows the welfare





loss.

Third, there are equity concerns. Gambling tends to take a larger share of the incomes of the less well-off, so it is regressive, and the rise in gambling from 68% to 73% of adults happened during a recession when real incomes were falling. The growth of online gambling and the relaxation of advertising also make it more accessible to young people, and the minimum age of 18 is not always enforced.

The government could correct these market failures in several ways. An indirect tax equal to the external cost would raise the cost of gambling, internalise the externality and reduce consumption towards Q^* , while raising revenue that could fund treatment of problem gambling. Regulation, such as stricter limits on advertising, lower maximum stakes on gaming machines, stronger enforcement of age limits and compulsory self-exclusion schemes, would tackle problem gambling directly. Better information, such as displaying the true odds, would address imperfect information.

However, there are strong arguments against more intervention.

Gambling is already heavily regulated by the Gambling Commission and



Extra space *taxed, and most people who gamble do so responsibly, so more restrictions would reduce the freedom of choice and welfare of the majority to deal with a minority of problem gamblers. Demand for gambling, especially by addicted gamblers, is likely to be price inelastic, so a tax would reduce consumption only slightly and would mainly raise revenue while making problem gamblers and their families poorer, which is regressive. Higher taxes and stricter regulation could also drive gambling underground or to offshore websites that are unregulated and untaxed, making the problem worse; this would be government failure. There are also costs to the economy. The number of workers in the gambling sector already fell by 9.3% between 2011 and 2015 (from 115 564 to 104 869, Extract E), and further restrictions could cause more job losses and reduce tax revenue. The National Lottery funds good causes such as sport and the arts, so reducing gambling would reduce this funding. Measuring the external costs of gambling is very difficult, so the government may set a tax at the wrong level, and it faces pressure from different interest groups, from the gambling industry to campaigners. Finally, views on gambling involve moral judgements and value judgements: some people believe gambling is wrong, whereas others see it as a matter of personal freedom, so there is no purely positive answer to the question.*

Conclusion: on balance, I think the government should intervene more, but in a targeted way. The strongest case for intervention relates to imperfect information and the external costs of problem gambling, which have increased with online gambling and the rise in participation. Targeted regulation, such as limits on stakes and advertising, stronger age checks and clear information on odds, is likely to be more effective



than a general tax, because demand from problem gamblers is price inelastic and a tax would be regressive and could push gambling underground. Whether more intervention is justified depends on the size of the external costs compared with the benefits to the majority who gamble responsibly, and on whether the government has the information to avoid government failure. In the long run, measures that reduce addiction among the young and the less well-off are likely to give the biggest net benefit to society.



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