

AQA

AS **Economics**

Ray Powell

CD-ROM for students

Questions and answers

Contents

Introduction to this CD	3
Questions and answers	4
<i>Unit 1 Markets and market failure</i>	
Question 1 The price of wheat	4
Question 2 Toy markets	9
Question 3 The housing market	14
Question 4 The tobacco market	19
<i>Unit 2 The national economy</i>	
Question 1 Economic growth	25
Question 2 Consumption and saving	30
Question 3 Unemployment and inflation	36
Question 4 The balance of payments	41

Introduction to this CD

This CD contains six AQA exam-style data-response questions, which reflect the format and possible topic areas covered by questions in the exam. The first three of the six questions assess your knowledge and understanding of topics in Unit 1 (Markets and market failure). The last three questions do the same for topics in Unit 2 (The national economy).

Each question is followed by an examiner's commentary, and then by a grade A answer to the question, together with examiner's comments on each section of the answer (indicated by **e**). Although all the answers achieve a grade A overall, they are not necessarily perfect. Some answers are deliberately over-long, others sometimes drift away from the question and include irrelevant material. This allows the commentary to point out how to maintain focus and make best use of your time under examination conditions.

Examiners are instructed to mark positively rather than negatively. This means you are awarded marks for answering the question, but don't lose marks if you drift into irrelevance or, for example, follow a 'good point' with a wrong definition. Nevertheless, it is always best to stick to the question. Irrelevance means that valuable exam time is wasted, and in part (d) answers to data-response questions, mistakes and drift probably mean that you won't reach the higher 'skills levels' set out in the mark schemes.

To find out more about examination skills, and in particular about how to evaluate, you can read the *AQA AS Economics Unit 1 and Unit 2 Student Unit Guides* (see the details below). As well as providing advice on examination skills and how best to revise, the *Student Unit Guides* include a further range of data-response questions, similar to those on this CD, but covering different topics. A 'model' student's answer and an examiner's commentary follow each data-response question. The *Student Unit Guides* also include two Objective Test Question exam papers, written in the style of an AQA exam, each with 25 questions and an accompanying question commentary.

Ray Powell

For further questions and answers, with examiner's comments, and specific content guidance on each unit, see our *Student Unit Guides for AQA AS Economics* (available from autumn 2008). For more information and to order copies online, visit www.philipallan.co.uk, or contact Bookpoint on 01235 827720.

978-0-340-94749-4 *AQA AS Economics Student Unit Guide: Unit 1*
978-0-340-94748-7 *AQA AS Economics Student Unit Guide: Unit 2*

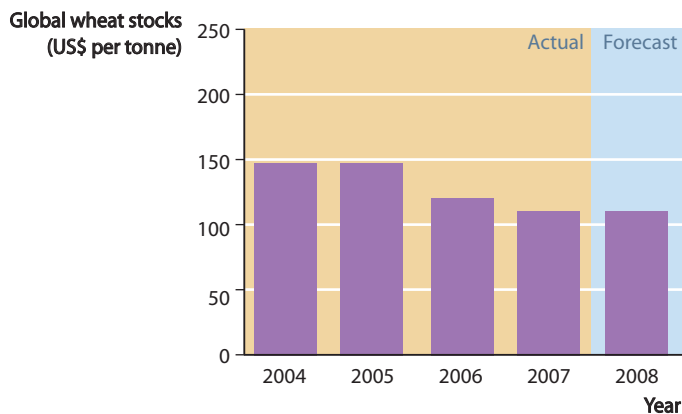
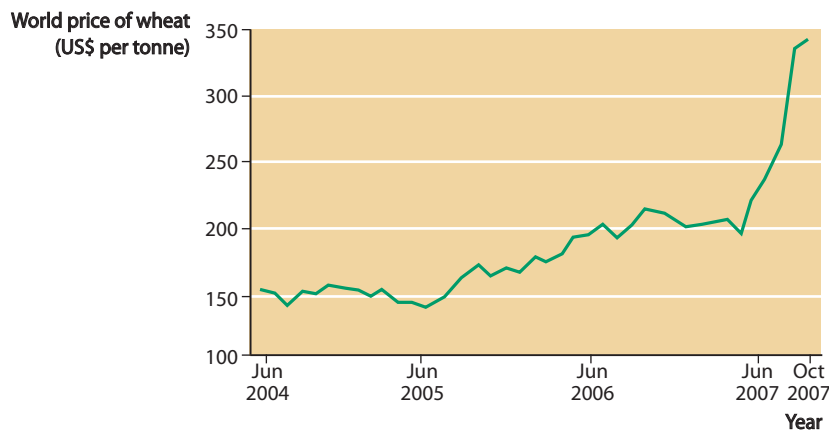
Questions and answers

Unit 1 Markets and market failure

Question 1 The price of wheat

Study Extracts A, B and C, and then answer *all* parts of the question which follows.

Extract A The world price of wheat and global wheat stocks



Extract B The rising price of wheat

For decades, wheat was a commodity no one needed to think much about, except the farmers who grew it. The grain was usually plentiful and prices were low. Recently, those assumptions have been turned upside down. With worldwide demand soaring and droughts crippling supply, the world's wheat stockpiles have fallen to their lowest level in 30 years.

Few farmers have enough wheat available to take advantage of the price increases. Most sold the last of the wheat they grew in 2007 in the autumn of that year. At the time, for a farmer, the high price of wheat seemed to be too good to be true. However, speculative demand and foreign buying of US wheat is driving the market. The buyers include China, South Korea, Taiwan, Mexico,

Nigeria and Venezuela. Economic growth abroad has given people the means to improve their diets, and they are developing a taste for products made from wheat. 10

Among the consequences of the rising wheat price are stretched wallets at home and abroad as food processors such as bakeries pass on higher costs. 'When the price of your raw material quadruples, you can't afford not to raise your prices, otherwise you're out of business,' said the president of the Dakota Growers Pasta Company in the USA.

The Food and Agriculture Organisation of the United Nations reported that high international grain prices were causing food shortages, hoarding and even riots in some places. The US Department of Agriculture sees the wheat shortage as temporary. It argues that the incentive function of prices will soon encourage more fields to be planted with wheat. 15

Extract C Biofuels 'to push farm prices up'

Biofuels, made from grains, sugar and oilseeds, are gaining popularity as countries look to reduce their dependence on fossil fuels and cut carbon emissions.

To diversify fuel supplies and cut greenhouse gas emissions, the European Commission has ordered EU member states to ensure that by 2020, 10% of the petroleum our cars burn must be replaced with biofuels. The campaigning journalist, George Monbiot, argues that this will lead to an even bigger problem than world oil production peaking. He believes that if biofuels can't be produced in virgin habitats such as tropical rainforests, they must be confined to existing agricultural land. This means that every time we fill up our cars, we snatch food from people's mouths. This, in turn, raises the price of food, which encourages farmers to destroy pristine habitats, primary forests, ancient grasslands and wetlands in order to grow it. 5 10

There is no way out of this: on a finite planet with tight food supplies, to grow biofuel you either compete with the hungry or clear new land. Apart from used chip fat, there is no such thing as a sustainable biofuel.

The rapidly growing biofuel market will keep farm prices permanently high. A recent report published by the Organisation for Economic Development (OECD) states that biofuels will have a major impact on farming. It predicts that prices will rise by between 20% and 50% by 2016. 15

- a Define the term 'incentive function of prices' (Extract B, lines 17–18).** (5 marks)
- b Using Extract A, compare the changes in the world price of wheat with the changes in global wheat stocks between 2004 and 2007.** (8 marks)
- c With the help of a supply and demand diagram and the information in the data, explain two causes of recent changes in the world price of wheat.** (12 marks)
- d Using the information in the data and your economic knowledge, evaluate the view that the best way to solve the world's energy crisis is to increase the amount of land devoted to the growing of biofuel crops.** (25 marks)

(Total: 50 marks)

Commentary

There are two data-response questions in the Unit 1 exam: often, one focuses on a well-defined market and the other relates more to market failure.

This question on the price of wheat is primarily about the market for an agricultural good. However, part (d) — the most important part of the question which is worth 25 marks and tests the skill of evaluation — moves into a second market, the market for energy.

It might be possible to argue that some sort of market failure is occurring in the wheat market and/or the world's energy market, but be careful. Examination candidates are prone to assert that market failure is taking place, even when it isn't. Drawing on the key concept in part (a) — the incentive function of prices — you must remember that in a market economy (or the market sector of a mixed economy) changing relative prices for different goods creates incentives for producers to change the allocation of scarce resources between competing uses, and likewise for consumers to buy more goods which become cheaper, and fewer goods which become relatively more expensive. Rising prices (in this case of wheat) are not in themselves a market failure; they are a response to changing supply and demand conditions. Similarly, farmers planting more wheat but then selling the crop for biofuel is not in itself a market failure, though arguably it could lead to undesirable consequences. These include greater poverty caused by 'agri-inflation' or rising food prices, soil erosion resulting from wheat monoculture, and faster global warming.

Answer

a The incentive function of prices is the second of the three functions prices perform in markets, the other two being the signalling and the rationing/allocative functions. Changing relative prices of goods creates incentives for economic agents (e.g. farmers and shoppers) to alter the quantities they wish to sell or buy of a good. In this question, the rising price of wheat incentivises farmers to grow more wheat (because it will be more profitable), while creating a matching incentive for shoppers to economise with regard to the amount of wheat they are prepared to buy. Changing incentives in the market place thus induce a different allocation of scarce resources between competing uses.

e To earn all 5 marks available for part (a) of a data-response question on the Unit 1 and Unit 2 exam papers, all you have to do is provide 'an acceptable' definition. This answer provides an acceptable definition so earns 5 marks.

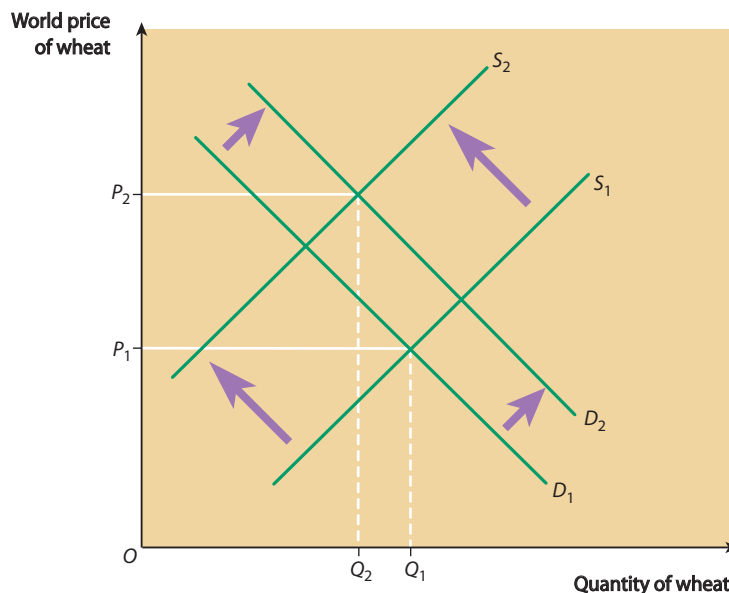
b The world price of wheat increased over the period, from just over \$150 a tonne in the weeks just before June 2004 to nearly \$350 a tonne at the end of the period in October 2007.

By contrast, global wheat stocks moved in the opposite direction, falling from 150 million tonnes in 2004 to about 102 million tonnes in 2007. The data therefore display an inverse relationship between the two variables.

However, at the beginning of the data period in 2004 and 2005, there was little change in either the price of wheat or in world stocks of wheat. The price stayed at around \$150 a tonne, and wheat stocks were the same in 2005 as they had been in 2004, namely 150 million tonnes.

e The mark scheme for a part (b) question instructs examiners to 'award up to 4 marks for each valid point made (up to 2 marks for identification and up to 2 marks for supporting reference(s) to the data)'. The mark scheme then provides four or five examples, in this case, of valid points of comparison. This answer makes two clear points of comparison and backs both points with accurate reference to the statistics, so easily earns 8 marks.

- c Extract B mentions two causes of the rapid rise in the price of wheat illustrated in Extract A: worldwide demand soaring and droughts crippling supply. The first of these leads to the rightward shift of the worldwide demand curve for wheat in the diagram below. The second is represented by the leftward shift of the worldwide supply curve. Just one of these would cause the price of wheat to rise, *ceteris paribus*. The two in combination reinforce each other and the price of wheat rises from P_1 to P_2 .



However, to answer the question properly, it is necessary to explain each factor further. Extract B mentions speculative demand for wheat. As with other commodities such as copper, speculators buy wheat, not because they need it or can do anything useful with it, but because they expect the price to rise further, thereby enabling them to make a capital gain. Indeed, speculation is often self-fulfilling in this respect. When speculators enter the market in large numbers they bid the price up and produce the outcome they desire. The supply factor is self-explanatory. Drought in the world's 'grain bowls' such as the American prairies, perhaps caused by climate change, itself resulting from carbon emissions and global warming, leads to smaller wheat harvests. This causes the supply curve of wheat to shift leftward.

- e Part (c) of a Unit 1 data-response question on a market often includes the instruction: 'with the help of a supply and demand diagram, explain...'. With this type of question, it is vital to include an accurate and relevant diagram. The following constraint is likely to appear at the bottom of the mark scheme: maximum of 6 marks (out of the 12 possible marks) for a diagram with no written explanation, or 8 marks for a written explanation without a relevant diagram.

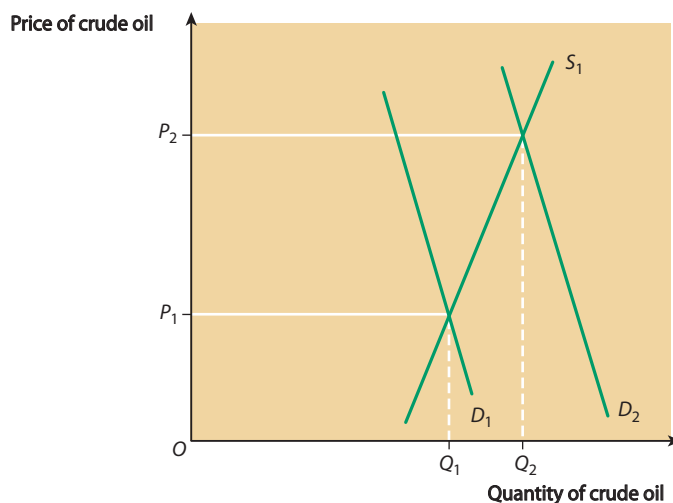
Suppose that in this case the answer had been restricted to the first paragraph and diagram: 6 marks would be awarded for the diagram and possibly 3 marks for the written explanation. Full marks would not be gained because the first paragraph in the answer identifies the causes of the rightward shift of the demand curve and the leftward shift of the supply curve, but does not explain either shift.

However, the second paragraph of the answer provides the required explanation, so the answer earns full marks.

- d Extract C quotes the journalist George Monbiot making a brief reference to world oil production peaking. Until quite recently, rising oil prices had been caused primarily by

major oil producers, namely the member countries of the Organisation of Petroleum Exporting Countries (OPEC), artificially restricting supply. Without such market intervention, supply would probably have kept up with the growth of world demand, without the oil price rising significantly.

But things have now changed. The world's energy crisis referred to in the extract and in the question results from an increasing inability of the supply of crude oil to keep up with demand. Arguably, the world's best oil fields have already been discovered and exploited. In future years, more marginal and less productive oil fields are likely to be brought into production. These will be high-cost fields from which oil is more difficult to extract and with fewer total reserves. Oil supplies will not be able to keep up with demand, particularly as the economic growth of emerging countries like China shifts the world's demand curve for oil permanently rightward. In the diagram below, I have assumed that the supply curve for oil is in a fixed position, but that the demand curve for oil has shifted rightward for the reason just explained. If the analysis and explanation are correct, the price of oil is likely to remain permanently high.



So far I have analysed how the energy crisis has come about and inferred that it cannot be solved by increasing production of crude oil, at least in the long run. This is where biofuels come in. All vegetable life contains chemicals that can be turned into ethanol, a form of alcohol that can be used as a substitute for petrol.

When biofuels were first developed, particularly in Brazil where ethanol was produced from sugar cane, they were thought by some to represent a 'win-win' situation. Biofuel could take the place of crude oil and solve the world's energy crisis, and poor farmers, especially those in developing countries, would receive higher incomes as a result of the increased demand for biofuels.

However, as George Monbiot argues, devoting more and more land to the production of biofuel has a number of significant drawbacks, which might in the long run have more disadvantages than advantages.

On the one hand, increased production of crops for conversion into biofuel means that land is taken away from food production. This provides one of the explanations for the rising price of food described in Extract B. And with the world's population currently rising rapidly, the resulting increase in food prices may prove disastrous for the great mass of the world's population living near or on the breadline, who were struggling to survive even before the rise in food prices.

On the other hand, activities such as cutting down tropical rainforest in countries such as Indonesia and planting the cleared land with palm oil trees in order to produce biofuel, can, as the question implies, mean that growing crops for biofuel is not the best way to solve the world's energy crisis. Not only will it create new and potentially devastating environmental problems, in terms of soil erosion and destroying carbon 'sinks', it may also actually accelerate the release of carbon into the atmosphere as evidence shows that biofuels are not carbon neutral.

My argument, therefore, is that although switching in whole or in part to biofuels will alleviate the energy crisis, this will be at the expense of creating new environmental problems which can be categorised as market failures. What the question ignores is the possibility that the best way to reduce the energy crisis is to reduce the demand for both fossil fuels and biofuels through a combination of changing to a less energy-intensive life style and switching to alternative energy sources such as wind and wave power and solar energy. However, even this solution is easier said than done. We will probably have to live the rest of our lives through a failure to achieve any sustainable and environmentally viable solution to the growing energy crisis.

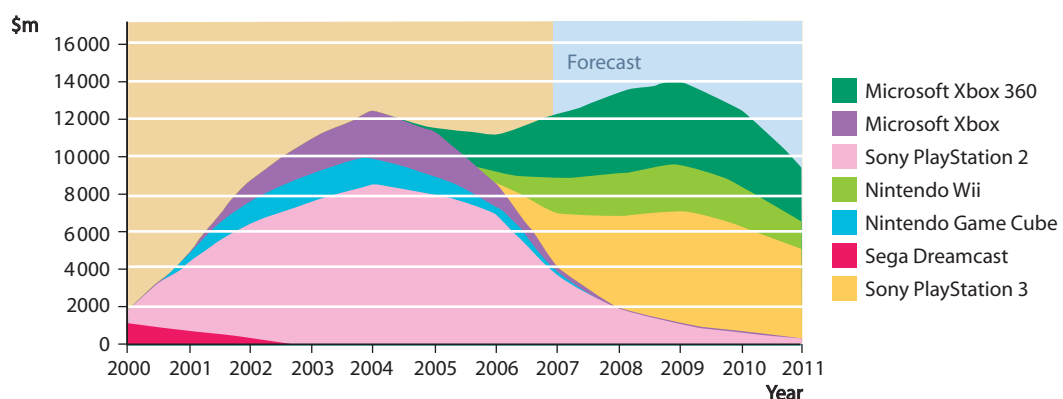
- e** This is a difficult question. Although this is not a perfect answer, containing as it does one or two unsubstantiated assertions, it does enough to reach Level 5 in the mark scheme (22–25 marks, out of a total of 25 possible marks). To reach Level 5, an answer must display most, but not all, of the characteristics outlined below, including good analysis and evaluation.

Two or more relevant issues are identified. Good understanding of basic economic concepts and models is demonstrated. This answer has successfully applied these concepts and models to answer the question. Clear understanding of alternative points of view is shown. Good use is made of evidence and/or theoretical analysis to evaluate the issues/arguments/ economic models identified and to support conclusions. A clear final judgement is made. Spelling is generally accurate and the standard conventions of punctuation and grammar are usually followed. The answer is well organised. Descriptions and explanations are clearly expressed. Appropriate use is made of relevant economic terminology.

Question 2 Toy markets

Study Extracts A and B, and then answer *all* parts of the question which follows.

Extract A US software sales for games consoles



Extract B Changes in the toy market

Significant changes have been taking place in the toy market. Until quite recently, toys could be regarded as consumer goods bought solely for children. Now, adults buy toys for themselves and children have been losing interest in traditional toys such as action figures, moving instead to electronic and video games. In 2003, for example, boys aged 9–12 who played video games spent about 40% less time playing with action figures than they did the previous year. This benefits the video games industry, but creates a big problem for the traditional toy industry. 5

The changes taking place in toy markets are partly the result of ‘age compression’ or KGOY (kids getting older younger). The worst affected age group is the ‘twens’ — children aged 8–12. Faced with much wider media and entertainment choices, twens have grown less interested in traditional toys and more interested in activities that tap into their world. Twens have recently been moving out of traditional toys at a faster pace than in the past. Toy manufacturers should start taking notice. The trend towards electronic games is affecting boys in particular. 10

What does it take to attract ‘tween’ consumers? One important factor is portability, because children spend a lot of time travelling in cars or buses en route to other activities. A toy also has to fit in with a child’s social circle. For boys, that generally means a toy should have an electronic, internet or video component or a sports dimension. (About 70% of money spent on toys is for products with a built-in computer chip.) For girls, fashion and social interaction are the key. Children are exposed to the internet at an earlier age and are more tech-savvy than previous generations. They therefore look for more sophisticated toys. 15

a Define the term ‘consumer goods’ (Extract B, line 2). (5 marks)

b Using Extract A, identify two significant changes in the sales of video game software over the period shown by the data. (8 marks)

c With the help of a supply and demand diagram and the information in Extract B, explain how the growth in the sales of video games may have affected the market for traditional toys such as action figures. (12 marks)

d ‘Many of the video games aimed at the “tween” market are bad for children. In any case, even when they are not bad, children spend far too much time playing video games and not enough time playing outdoor games.’

Evaluate this statement and discuss how economic policy could be used to alter the balance between children playing indoor and outdoor games. (25 marks)

(Total: 50 marks)

Commentary

Question 1 on the market for wheat is typical of a Unit 1 data-response question set primarily on a primary product market. Sometimes, however, data questions are set on a market for a manufactured good. The toy market is a good example. Examiners like to set data questions on the toy market, partly because of sudden changes of fashion among children and teenagers with regard to the toys and electronic goods they would like to have.

The toy market is also characterised by seasonal demand. The peak selling season is in the months before Christmas, when well over half of all toys are sold. In the preceding summer months, toy manufacturers and retailers try to anticipate the ‘blockbuster’ toys that will sell well in November and December. Retailers place orders with manufacturers located in China as they try to second-guess the market, hoping that the toys they are ordering will become ‘must-have’

items. Retailers who guess correctly want to be in a position to be able to increase supply (from the stocks they have purchased), to meet the sudden rightward shift in demand they are expecting.

However, retailers who guess wrongly end up with unsold stocks of unwanted toys. In this situation, or if children suddenly decide that a previously fashionable toy has lost its 'street cred', heavy discounting of prices is likely in the January sales to get rid of the excess supply.

Toy markets therefore provide many opportunities for setting data questions on shifts of demand and supply curves. Questions can also be set that require an understanding of how price elasticity (particularly of supply) differs between the short run and the long run. Price elasticity of supply can be elastic in the short run, if retailers have already taken delivery of stocks of toys they wish to sell. But if and when the stocks run out, or if retailers are surprised by a sudden increase in demand for a toy that was not expected to be fashionable, supply is likely to be price inelastic. It can take weeks for Chinese manufacturers to produce and market a toy and the Christmas market may then be missed. Supply-chain problems following the introduction of a new video game player such as Sony PlayStation 3 can lead to a similar problem.

Answer

a A consumer good is a good such as a toy that consumers (i.e. members of households) buy in order for the good to fulfil a consumer need. Consumer goods yield utility or economic welfare to the people who consume them. Some consumer goods, such as a radio, are known as consumer durable goods. They yield a continuous stream of consumer services over a long period of months or years. Other consumer goods, such as an apple or pear, are literally used up as they are consumed and then need replacing. These are non-durable consumer goods.

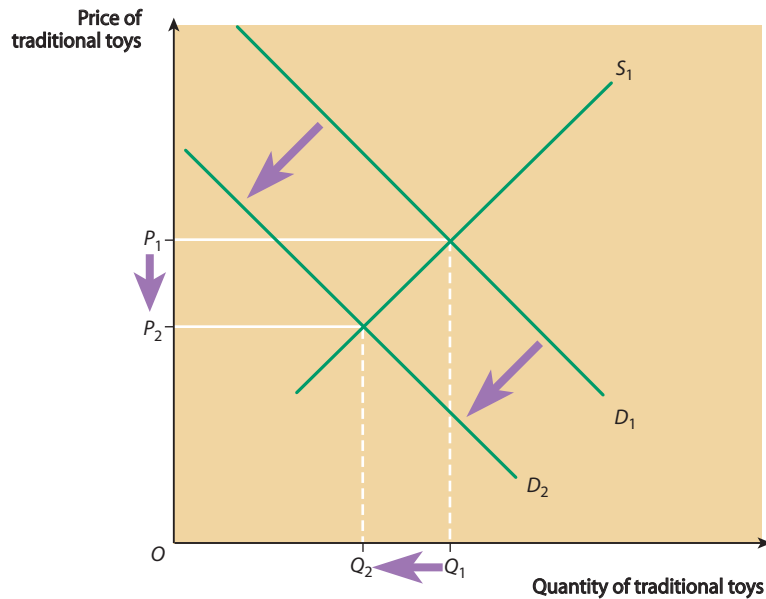
e Long answers are not required for part (a) questions. The first sentence of this answer earns all 5 marks as it provides a precise and accurate definition. The distinction between a consumer durable good and a non-durable consumer good is not necessary, though an example can pick up a mark if the definition provided is a bit vague.

b The graph shows sales of Xbox peaking twice, first in its old format, the original first generation Xbox, for which sales peaked at just over \$12,000 million around the beginning of 2004. This first peak probably marks the growth of sales in the Christmas market in 2003. The second peak reflects sales of the second generation Xbox 360, which were due to peak with sales of \$14,000 million in 2009. (This was a forecast figure.)

A second significant change shown by the data is the decline in sales of the Sega Dreamcast console. At the beginning of the period shown by the data, Sega (already in decline) achieved a modest sales total in the US market of about \$1,000 million, declining to zero (when the product was withdrawn) in 2002. Despite its advanced technology for the time, it could not compete with the PlayStation, Xbox and Nintendo systems that had achieved greater market penetration.

e This answer identifies two significant changes and backs up each point of comparison with evidence drawn from the statistics. This is exactly what a part (b) question requires and so the answer earns all 8 marks. It veers slightly into unnecessary elaboration, but it just about resists the temptation to offer explanation for the changes identified. Remember, comparison or identification of key points is all that is required for a part (b) answer.

- c Video games and traditional toys are substitutes for each other. The growth in sales of video games causes the demand curve for traditional games to shift leftward. This is shown by the shift from demand curve D_1 to demand curve D_2 in the diagram below. Following the shift of the demand curve (a decrease in demand), there is a leftward movement along the supply S_1 to a new equilibrium (P_2, Q_2) below the original equilibrium (P_1, Q_1). This is called a contraction of supply. The contraction of supply occurs because, once the demand curve shifts, excess supply appears in the market at the original equilibrium price of P_1 . The manufacturers and retailers of traditional toys reduce the price they are prepared to accept to P_1 , to get rid of stocks of unsold toys (the excess supply).



- e This is a typical part (c) question on a market in the economy. With questions of this sort, you must draw a supply and demand diagram to show the market in an initial state of equilibrium, with the axes, curves and price and quantity coordinates correctly drawn and labelled. This earns 2 marks. You must then identify from the text in the question which curve (demand or supply) has shifted, and in which direction (leftward or rightward). Correctly drawing the shifted curve and labelling it also earns 2 marks. Finally, you need to draw and label the coordinates in the new equilibrium, after the appropriate shift of the demand or supply curve to earn another 2 marks. Correct completion of these three tasks earns thus 6 marks; 2 further marks are usually also available for the diagram, for example for correctly labelling excess demand or excess supply on the diagram, before the price rises or falls to the new equilibrium. However, the maximum mark for a diagram is 6.

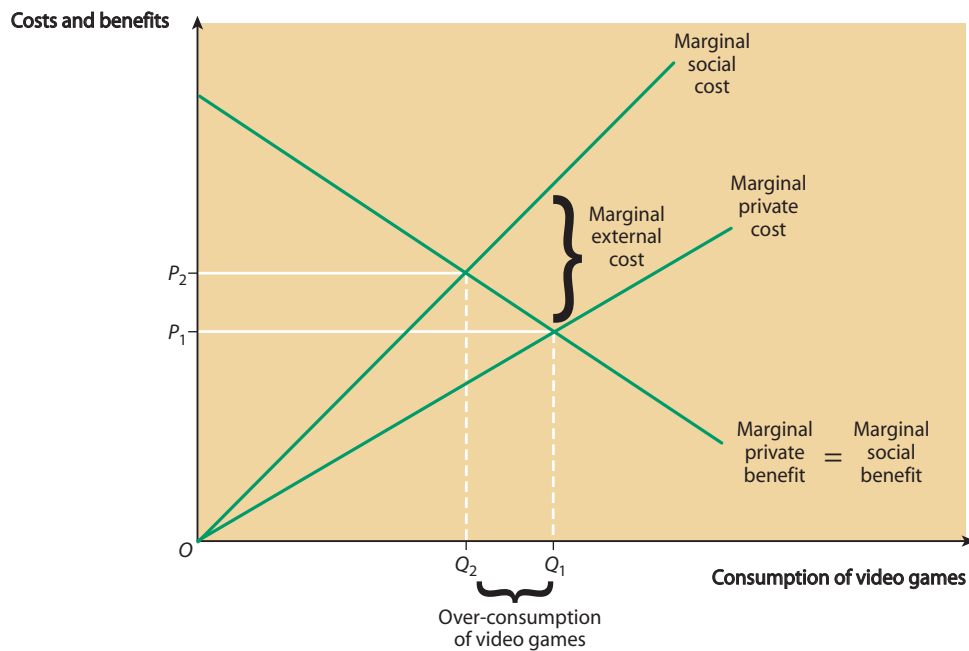
This answer completes all these tasks so the diagram earns 6 marks. The other 6 marks are earned by the quality of the written part of the answer.

- d The implication of the statement in the question is that video games and similar toys are demerit goods, whereas outdoor games such as those played in a public park are merit goods. A demerit good has two main characteristics. In the first place, when children play video games, (arguably) they generate negative externalities that harm other people. However, this is only likely to be a feature of watching video games in the case of violent games that lead to the game watcher exhibiting 'copy-cat' tendencies, for example, going out and harming other people through violent behaviour immediately after playing a video game. Though there might be some strength in this argument, it can be countered by first stating that most video games are not that violent, and

second, by stating that watching the game sublimates violent tendencies innate in many male teenagers. In essence, watching the game gratifies the urge to violent behaviour, leading to an outcome in which the game player acts normally when out in the street.

In the second place, consuming a demerit good leads to a situation in which the consumer suffers costs in the future. The main example I can think of in the case of video games is obesity in later life through too much inactivity and not enough exercise. Less convincingly, watching too many video games may quicken the deterioration of eyesight, though other activities such as working on a computer or even watching television could be equally damaging.

In a market economy, prices create incentives for people to alter their economic behaviour. If prices are too low, they signal the wrong information and create the wrong incentives. If video games are a demerit good, the market price of a video game is too low because it takes no account of the cost of the negative externality (violent behaviour) that consumption generates. In the diagram below, the socially optimal level of consumption is Q_2 , where the marginal social benefit of consumption equals the marginal social cost of consumption ($MSB = MSC$). However, the market price of the video game (P_1) does not reflect the social costs. In the short run at least, the privately optimal level of consumption is Q_1 , where the game watcher's marginal private benefit equals his or her marginal private cost ($MPB = MPC$). As the diagram shows, too much of the demerit good is consumed, namely $Q_1 - Q_2$.



This is where public policy comes in (or in my view, shouldn't come in). Video games could be taxed to raise their prices and to discourage consumption. However, this would be seen as a tax on children and might be politically unpopular. To have much of an effect, the tax would have to be set very high. An outright ban on video games (the extreme form of regulation) is also possible, but I think this is only realistic if applied to very violent games. It represents censorship and limits personal freedom. My view is that the family and not government intervention is the best form of control, though with the breakdown of social cohesion, even educated middle-class parents seem to be exercising less control over what their children do. However, I prefer a more libertarian approach (i.e. leaving it up to individuals and families to decide what to do) to authoritarian intervention by the state. I believe that individuals rather than governments know what is best for themselves. And as well as parents exercising more control over their

children, this should be one of a school's roles, particularly in organising outdoor games. Private schools already do this to a large extent in the UK, but the provision of outdoor games has largely broken down in many state schools.

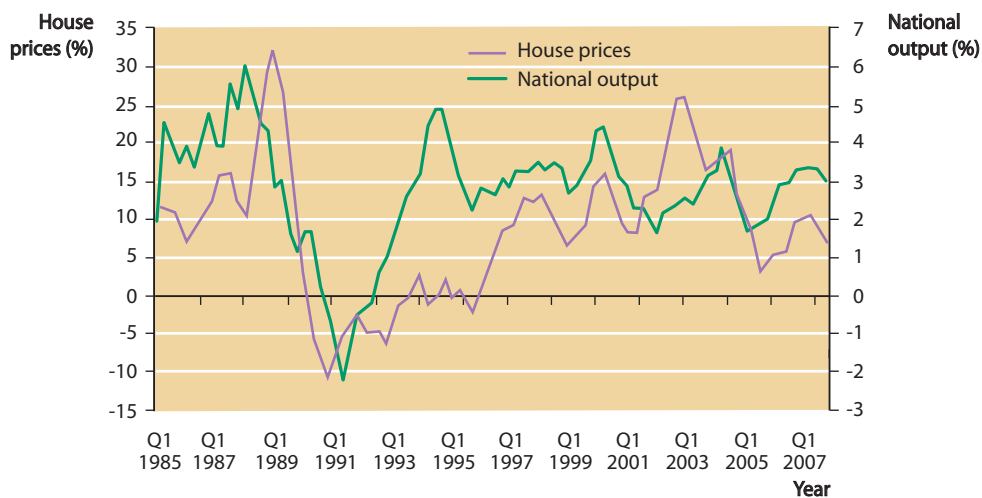
- e** Before attempting to answer this question you need to work out exactly what it is getting at, namely that it is a disguised question about demerit goods (and possibly merit goods). You also have to recognise, first that a video game is an indoor good and second that it is an alleged demerit good.

Having interpreted the question correctly, this answer reaches Level 5 (the highest band in the mark scheme) by providing good analysis of demerit goods and evaluating the arguments introduced and the issues involved. Two criticisms are: lack of analysis of an outdoor game as a merit good (the term is mentioned but not taken any further); and a tendency to include too much personal opinion. The opinions given are substantiated and justified, even though I personally disagree with some of them.

Question 3 The housing market

Study Extracts A, B and C, and then answer *all* parts of the question which follows.

Extract A Percentage annual changes in UK house prices and national output, 1985–2007



Extract B Seven reasons why a fall in house prices may not be bad

The UK housing boom has recently been running out of steam. However, there are a number of reasons why a fall in house prices may not be so bad. The reasons include:

- The national average wage is £25,000 but most buyers need to earn £35,580 to get on the housing ladder. Repaying the interest on a mortgage now takes up one-fifth of most people's pay, and that's before tax. Many buyers are taking huge risks by borrowing more than five times their salary. Some are even saddling themselves with 40-year loans.
- Falling prices would make more properties available to people on lower incomes, including young people trying to get on the housing ladder and key workers such as teachers and nurses.
- Those already on the housing ladder are overstretched. With rising house prices, most homeowners forget that they will have to pay proportionally more for their next property. They may be forced to stretch their finances again to trade up.

- The cost of moving has become prohibitively expensive. Stamp duty and estate agents' fees are lower if house prices don't rise. On top of this, there are now home information packs (Hips) costing around £400 when you put your property on the market. Solicitors can set you back upwards of £500 — then there is another £900 for surveys. Finally, there is the cost of moving your furniture. Removal firms normally charge around £500. 15
- Millions of people are still not saving enough for retirement and many do not have a pension, believing their property will provide them with adequate retirement funds. What do they intend to live in when they retire? They will have to sell their home and buy a smaller house. Often this means relocating away from friends and family, and at extra cost. 20
- Because millions of people have been let down by their pensions, they are turning to equity release plans. Equity release occurs when people take out bigger mortgages, secured by the rising value of their houses, in order to finance buying a good such as a car, or a luxury holiday, or to use as a pension. Soaring house prices have encouraged a misplaced feel-good factor among homeowners who feel wealthy enough to borrow more. But this is just paying for your house a second time. A 65-year-old taking a further £50,000 loan over 10 years to use as a pension would pay an additional £46,949 in interest. For a £70,000 loan, £65,000 would have to be paid back in interest. 25
- As homeowners need to take out bigger mortgages it means that even the smallest change in interest rates can hit them hard. In November 2007, 76 homes were being repossessed every day. That's a third higher than the same time in 2006. With 600,000 mortgages coming off cheap fixed rates in the near future, this problem is likely to get worse. 30

Extract C Three reasons why house prices are still likely to rise

- In 2008, interest rates, or the price of a mortgage, are still low by historical standards.
- More people are working than ever before. Almost 29 million UK residents are employed. With so many in regular jobs, it means that most should steer clear of debt problems.
- There is still a huge lack of houses to buy. The buy-to-let boom, that has seen landlords snap up almost 1 million homes in 5 years, has caused demand for suitable properties to soar. This, coupled with a drastic shortage of new homes being built, particularly in the southeast, means there are often several buyers chasing a property. 5

a Define the term 'mortgage' (Extract B, line 4). (5 marks)

b Using Extract A, compare the changes in UK national output and UK house prices between the first quarter of 1985 and the first quarter of 2007. (8 marks)

c With the help of a supply and demand diagram, and making use of the concept of elasticity, explain why house prices have generally risen in the UK in recent decades. (12 marks)

d Using the data and your economic knowledge, evaluate the view that falling house prices are better than rising house prices, both for young people and for old people. (25 marks)

(Total: 50 marks)

Commentary

At the microeconomic level, knowledge and understanding of housing markets are now tested in the Unit 1 exam. The specification states: 'Candidates should be able to apply their knowledge of the basic model of demand and supply to markets, including commodity markets such as oil and copper markets, agriculture, healthcare, housing, sport and leisure.' As Question 1 on the

price of wheat illustrates, agricultural markets often provide the scenario for a Unit 1 data-response question on a market. You should prepare, however, for questions on other types of market, including housing markets.

Answer

a A mortgage is a loan (usually a long-term loan, say over 25 years) taken out from a mortgage lender to help pay for a property. In the UK, the main mortgage lenders are building societies such as the Nationwide and banks such as Barclays. A mortgage is a secured loan. The mortgage lender holds the deeds of the property until the mortgage has been fully repaid. If the mortgagee (the borrower) falls behind on monthly repayments, the building society or bank can repossess the house. Few house buyers are 'cash buyers', namely people who buy the property outright with cash or a bank deposit, without a mortgage. Most house buyers have to take out a mortgage to enable them to buy.

e This answer provides much interesting information to help you prepare for future exams, but the first sentence on its own earns full marks. The rest of the answer cannot earn any extra marks even though it is relevant and correct. For part (a) questions, once you have defined the key concept, any extra information you provide, whether correct or incorrect, simply wastes your time. However, it is useful to remember that because positive marking is used when marking data-response questions, you will not be penalised for mistakes or including unnecessary information. Positive marking rewards correct information, whereas negative marking deducts marks for incorrect information.

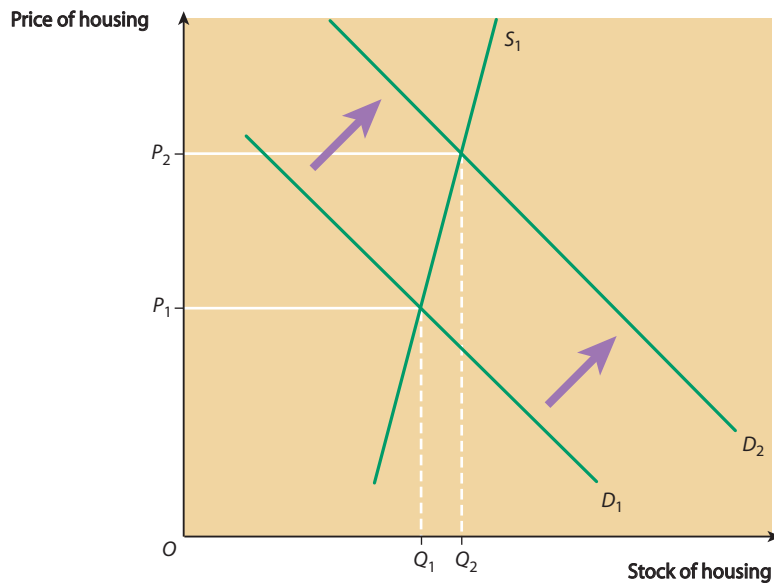
b In the first quarter of 1985, house prices were increasing by about 10% a year while national output was increasing by about 2.25%. In the first quarter of 2007 house prices were increasing by about 6% a year while national output was increasing by about 3%.

Both data series fluctuated significantly over the 22-year period, with the percentage increase in house prices peaking at about 31% in 1989, while the percentage increase in national output peaked at about 5.75% a year earlier in 1988.

e This is a deceptively difficult part (b) question. The difficulty arises from the fact that the left-hand vertical axis in the graph shows the annual percentage increase in house prices, whereas the right-hand axis depicts similar information for national output. In exam conditions, many candidates may not recognise this. Even if the different percentage change measures are recognised, it is difficult to read accurately the national output changes in the early years of the data series, and the house price changes in the later years of the data series.

However, this answer earns full marks because two accurate points of comparison are made, in each case backed up by more or less accurate statistics. Indeed the answer makes three points of comparison: for the first quarter of 1985; for the first quarter of 2007; and for comparing volatility and peak values in both data series.

c In the short run, rising house prices are explained primarily by the short-run demand curve shifting rightward or leftward along the near-vertical short-run supply curve. The diagram below shows the demand curve shifting rightward from D_1 to D_2 , causing house prices to rise from P_1 to P_2 , with only a small increase in supply.



In the short run, as the diagram shows, the supply of housing is highly price inelastic or unresponsive to price changes. The factors that explain this include: the general shortage of land; the effect of planning controls, which make it difficult to convert land from other uses; and the length of time taken to build a new house.

There has been a long-run trend for house prices to rise in the UK, ignoring short-run booms and busts. Both the demand for and the supply of housing have increased (or shifted rightward) in the long run, but demand has increased faster than supply. Supply has increased because the quantity of new houses added to the housing stock each year exceeds the number demolished or converted to other uses. The supply of housing for owner occupancy has generally increased even faster because landlords have withdrawn from the rental market and sold their properties. Sometimes, however, when housing market conditions are more favourable for private letting, the reverse happens. The main causes of the long-run rightward shift of demand have been: population growth; the growth in the number of households; real income growth (housing being a normal good with a positive income elasticity of demand); and people switching to owner occupancy, which they treat as a superior good (income elasticity of demand $> +1$) and away from the perceived inferior substitute — rented accommodation.

- e** This excellent answer earns full marks, though it is possibly too long. The question refers to 'recent decades' which prompts an explanation of the long run as well as the short run. Note that the horizontal axis of the diagram has the label 'Stock of housing'. This is to help convey the idea that, because it takes a long time to build houses, the supply of new houses that add to the existing stock of housing is price inelastic. By contrast the supply of second-hand housing within the overall stock is rather more elastic. Can you think why?
- d** To provide a proper answer to this question, it is important to distinguish between changes in *nominal* house prices and changes in *real* house prices. In most recent years in the UK, house prices have risen faster than prices in general (or the general rate of inflation). In this situation, real house prices rise as well as nominal prices. For example, if the general rate of inflation is 3%, but nominal house prices are rising by 10% a year, in real terms (relative to the prices of other goods) houses have become more expensive. If house prices are only rising by 2% a year (as in the early months of

2008), but prices in general are rising by 3%, then real house prices are falling. Finally, if nominal house prices themselves fall (as in some parts of the UK in early 2008), while prices in general rise, then, quite clearly, the fall in real house prices is greater than the fall in nominal house prices.

As the data indicate, whether rising house prices are good for people depends on whether they already own a property, and if so, whether they can afford interest payments and capital repayments on the mortgages they took out when they bought the property. The nature of this information links closely to people's ages.

Middle-aged people with jobs often live in houses they bought many years earlier. Not only have their incomes risen during their working lives, but the size of their mortgages have stayed the same (or have fallen if they have been making monthly repayments of capital), while the values of their houses have increased significantly. Such households enjoy **positive equity** (what they own is greater than what they owe), and this makes them wealthier year by year.

Older people such as pensioners have usually paid off their mortgages (which means they no longer pay interest to a building society), but their retirement incomes are usually less than the salaries they received before retirement. Owner-occupier pensioners have done well out of rising house prices, but the value of their wealth might decline if they 'trade-down' to smaller houses to release spending power (equity release or equity withdrawal). If they go into nursing homes their houses may have to be sold to pay for their care in the homes.

Falling real house prices are obviously bad for the age groups described above, as the personal real wealth of middle-aged and pensioner age groups also falls. (A possible exception is when grown-up children live with their owner-occupier parents, unable to afford properties of their own. In this situation, falling house prices could make houses affordable for the children, enabling the parents to get their offspring onto the housing ladder and out of the family house.)

In contrast to the position of older age groups, most young people are likely to benefit from falling real house prices. It makes owner-occupancy affordable and enables people in their twenties to get onto the housing ladder. However, there are caveats to this proposition. Suppose, falling house prices make owner-occupancy affordable for young people, but house prices continue to fall *after* they have bought their houses. In this situation and assuming that they have taken out a 90% mortgage they may suffer from **negative equity** (what they owe exceeds what they own). This makes it difficult if not impossible to sell their properties and move, if they want to move to jobs in another part of the country for example.

In conclusion, rising house prices are generally better for all age groups, providing they are already on the housing ladder. However, older people rather than young people are much more likely to be in this position. Falling real house prices are bad for people who already own houses, be they old or young, because it reduces their personal wealth. Young people not yet on the housing ladder benefit, at least in the short run, from falling house prices because it gives them access to the market. The danger, however, is that if house prices continue to fall, a young person who had only just managed to buy a house quickly gets trapped by negative equity.

- e For the most part this is a very good answer, showing good knowledge of UK housing markets, and an ability to analyse and evaluate. It evaluates each point as it is introduced into the argument and brings together the main points in the final paragraph.

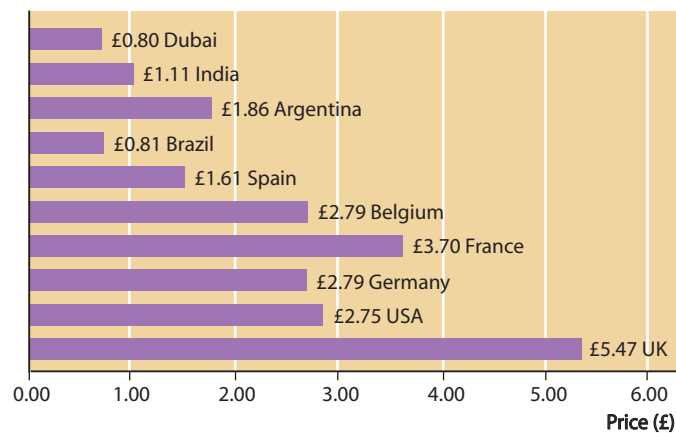
However, overall, the answer does not quite reach Level 4. It fails to obey the instruction in the question to use the data provided. There is a token reference to the data, but no more. When part (d) questions require use of the data, the mark scheme includes the words: 'Candidates should not be awarded more than 20 marks if there is no explicit reference to the data.'

The examiner must of course use his or her judgement when deciding whether the answer refers explicitly to the data. If the judgement is unfavourable to the candidate, as in this case, then however good the answer, the mark awarded is restricted to Level 4 in the mark scheme.

Question 4 The tobacco market

Study Extracts A, B and C, and then answer *all* parts of the question which follows.

Extract A Tobacco prices in developing and developed countries, 2008



Note: The graph shows the average retail price, including tax, of a packet of 20 cigarettes.

Extract B The ban on smoking in public places causes a fall in cigarette sales

A drop in cigarette sales prompted by England's smoking ban gathered speed at the end of 2007. Smokers in Britain bought 47 billion cigarettes in the 12 months to February 2008, an annual fall of about 4%. The quantity sold fell by over 6% in the period from July to the end of September after the ban on smoking began in England on 1 July.

These figures contrast to a decline in sales of only 0.1% a year, in the 6 months previous to the start of the ban. Nevertheless, smokers spent more money on cigarettes in 2007 than in 2006. However, because of the fact that the demand for tobacco is price inelastic, this was mainly due to higher tobacco taxation. 5

In February 2008, an analyst said that the true impact of the smoking ban will not become apparent for another few months because sales temporarily lifted over the Christmas period in 2007. He went on to say that it will take some time for the full effects of the smoking ban to be realised, what with the forthcoming pictorial health warnings and the imminent restriction on selling tobacco to those aged under 18. 10

Extract C Banning the under 18s from buying tobacco

Teenagers are to be banned from buying cigarettes until they are 18 under new government plans announced recently. Although smoking rates have been coming down, there is continuing concern about the trends among children and young people. About 9% of 11–15-year-olds smoke and most of them say they get their cigarettes from small shops such as newsagents and general stores. 5

The public health minister said that raising the bar from 16 to 18 would make it easier for shopkeepers to identify the youngest smokers whose health is most at risk. She said that: 'Smoking is dangerous at any age, but the younger people start, the more likely they are to become lifelong smokers and to die early. Someone who starts smoking aged 15 is three times more likely to die of cancer due to smoking than someone who starts in their late 20s.' 10

The change would bring the legal age for buying cigarettes in line with the legal age for buying alcohol. The government is also proposing tougher sanctions on shopkeepers who sell cigarettes to those who are underage. Public health organisations are likely to support the raising of the age bar, although most believe it is not enough to stop children smoking. They argue that the new limit is only going to be effective if it is properly enforced and part of a broad set of actions designed to discourage young people from starting to smoke. 15

a Define the term 'price inelastic' (Extract B, line 7). (5 marks)

b Using Extract A, compare the retail price charged for a packet of cigarettes in the UK with the prices charged in developing countries and in other developed countries in 2008. (8 marks)

c Extract B lines 6–8 states: '...smokers spent more money on cigarettes in 2007 than in 2006. However, because of the fact that the demand for tobacco is price inelastic, this was mainly due to higher tobacco taxation.'

With the use of a supply and demand diagram, explain how an increase in the tax on cigarettes can lead to the government collecting more revenue from tobacco taxation. (12 marks)

d Do you agree that the best way to prevent smoking by teenagers is to ban the purchase of tobacco by people under the age of 18? Justify your answer. (25 marks)

(Total: 50 marks)

Commentary

The second of the two data-response questions in the Unit 1 exam might focus on a how a market fails to function properly. Market failure occurs whenever a market functions inefficiently or inequitably. The main market failures you need to know are: monopoly; public goods; externalities; merit goods; demerit goods; and inequalities in the distribution of income and wealth.

Of these, merit goods such as education and healthcare, and demerit goods such as alcohol and tobacco, provide some of the most fruitful topics on which to set questions. There are always plenty of articles and stories in newspapers and magazines about problems facing the NHS and education (in the case of merit goods), and 'binge' drinking and the long-run adverse health effects of smoking (in the case of demerit goods). These provide useful raw material for examiners searching for an interesting theme for a data-response question. So whatever you do in your revision programme, make sure you thoroughly cover merit goods and demerit goods.

Two words of warning, however. First, don't expect the words 'merit good' or 'demerit good' to appear in the question itself. The examiner wants to find out whether you can recognise the properties of a merit good or a demerit good in the context of the 'good' in the question. Second, and following on from this, there is a growing tendency for exam candidates to classify virtually *all* goods as being either merit goods or demerit goods. According to this line of reasoning, if a good is mostly good for you it is a merit good, but if it could possibly have some harmful effects it is a demerit good. This is nonsense.

In the case of a merit good, the properties are: (i) consuming a merit good such as education yields positive externalities that benefit other people; (ii) consumption also yields long-term private benefits to the consumer him- or herself; (iii) because the consumer fails to take full account of the positive externalities and the long-term private benefits, when the good is only available at a market price, it ends up being underconsumed.

In the case of a demerit good such as tobacco, the topic of this question, its properties are: (i) consuming the demerit good yields negative externalities that harm other people; (ii) the consumer suffers long-term private costs such as deteriorating health; (iii) because the consumer fails to take full account of the negative externalities and the long-term private costs, in a free market prices are too low and the demerit good ends up being overconsumed.

Answer

a Price inelastic, in the context of the question which is referring to the response of demand to a change in the price of tobacco, means that demand is not very responsive to a change in the good's price. For example, if a 10% increase in the price of tobacco leads to a 2% fall in quantity demanded, price elasticity of demand is -0.2 , which is price inelastic.

e This answer shows a good understanding of elasticity. Examiners frequently test understanding of elasticity because the concept discriminates well between good and not so good candidates.

Weaker candidates are prone to making one or more of the following mistakes when answering a question which involves elasticity: (i) confusing the elasticity of a demand or supply curve with its slope or gradient — elasticity and slope are not the same concept; (ii) writing a formula for elasticity 'upside down'; (iii) missing out the word 'proportionate' or the % sign from an elasticity formula; (iv) confusing the four main elasticity formulas (price elasticity of demand, income elasticity of demand, cross-elasticity of demand, and price elasticity of supply).

A correct elasticity formula can be used to define a particular elasticity, though unless the question specifies that it must be used, an elasticity formula is not required. For this question, the correct elasticity formula is:

$$\text{price elasticity of demand} = \frac{\text{proportionate change in quantity demanded}}{\text{proportionate change in the good's own price}}$$

b The first four countries listed in the diagram (Dubai, India, Argentina and Brazil) are developing countries, though they vary in their incomes per head and in the stage of development they have reached. The rest of the countries are located in western Europe and North America; they are developed countries with higher incomes per head of population, though Dubai may be an exception.

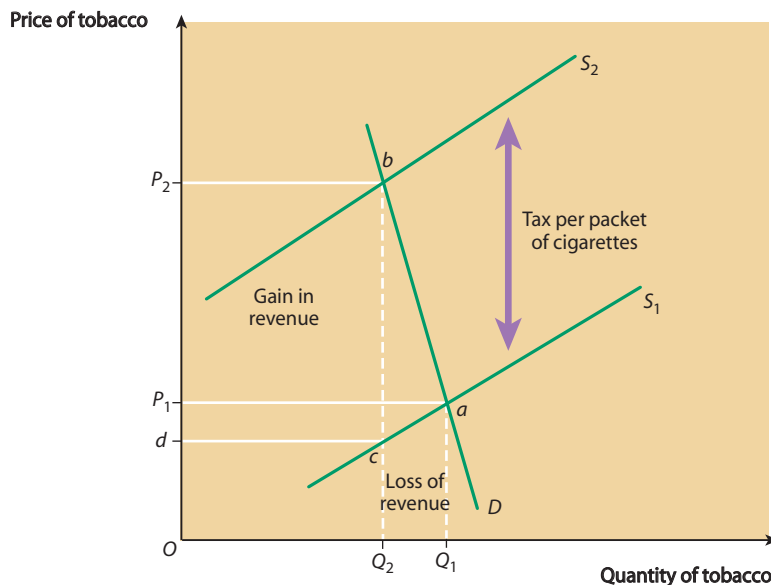
At \$5.47 a packet, the retail price of tobacco, which includes the effect of tobacco taxation, is greatest in the UK, a developed country. This compares with lower prices in other developed countries, for example \$3.70 in France, which has the next highest price. The UK price is over three times higher than the price in Spain, the developed country with the lowest price (\$1.61).

The range of prices in the five developing countries shown is lower than the difference between the 'top and bottom' developed countries (with, to repeat, the UK at the 'top'). The UK price is over five times greater than the price in the lowest scoring developing country, Dubai, where a packet of cigarettes costs 80 pence.

- e** Part (b) of a Unit 1 data-response question often asks for a comparison of two data series over several years. However, this question is different, requiring a comparison of cigarette prices in a particular year.

In comparison to part (b) of Question 3 on the housing market, this is an easy question. As always, two points of comparison, backed up with evidence from the statistics, are all that is required. However, the question does ask for comparison with the price of a packet of cigarettes in the UK, rather than for a comparison across all the ten countries shown in Extract A. Knowledgeable candidates are likely to know that the price differences are explained in part by the different rates at which tobacco tax is levied in each country, but this information is not needed in the answer.

- c** The diagram below illustrates how an increase in the tax on cigarettes can lead to the government collecting more revenue from tobacco taxation. Cigarettes are an addictive or habit-forming good. This means that demand is likely to be highly price inelastic, as shown by the demand curve in the diagram.



Before the tax is increased, total sales revenue (part of which is tax revenue that goes to the government) is shown by the area OQ_1aP_1 . The government now levies a tobacco tax on each packet of cigarettes. The tax per packet equals the vertical distance between the initial supply curve S_1 and the new supply curve S_2 , which includes the tax per packet.

The price, including the tax, rises from P_1 to P_2 per packet of cigarettes. Because demand is price inelastic, the total sales revenue, which divides into the part going to

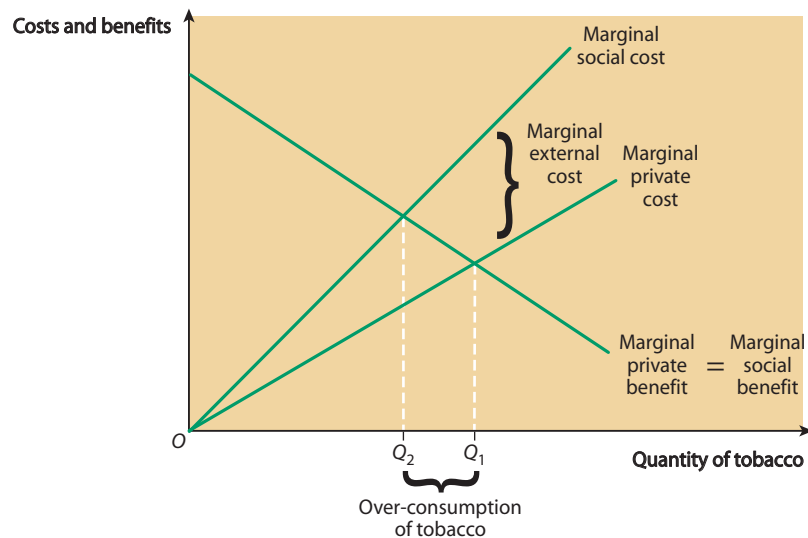
cigarette retailers and the part paid to the government in tax revenue, increases in size to equal the rectangle bounded by the points OQ_2bP_2 . Note that total sales revenue *falls* by the rectangle labelled 'Loss of revenue', but increases by the larger rectangle labelled 'Gain in revenue'. Since the latter is larger than the former, overall there has been a net gain in sales revenue. A large part of this is paid to the government as additional tax revenue.

- e** This is a difficult question. Questions which bring together elasticity and the effect of a tax levied on the suppliers of a good always induce mistakes in answers. With this question, the essential thing to show on the demand and supply diagram is total sales revenue rising because demand for the good is price inelastic. If demand had been elastic, the price rise would have induced a fall rather than an increase in total sales revenue.

Although the candidate illustrates and explains the change in total sales revenue brought about by the tax, the exact size of the increase in total tax revenue has not been mentioned. It is shown by the rectangle bounded by the points $dcbP_2$.

- d** Tobacco is a demerit good. As the name suggests, a demerit good is the opposite of a merit good such as education and healthcare. In the same way as the consumption of merit goods generates positive externalities which benefit the wider community, a smoker emits negative externalities which harm non-smokers, for example through passive smoking. Too many cigarettes are bought when tobacco is bought at market prices unaffected by taxation or subsidy. In the diagram below, too many cigarettes are bought at the privately-optimal level of consumption of Q_1 . The privately-optimal level of consumption is where $MPB = MPC$. This is greater than the socially-optimal level of consumption, Q_2 , located where $MSB = MSC$. Free-market provision of tobacco therefore leads to overconsumption, and hence overproduction.

The diagram below shows that *some* smoking is socially-optimal. Increasingly, however, in recent years, many people, particularly doctors and health experts, have argued that in many situations, the social costs of smoking are so severe that smoking should be banned. But, because tobacco is addictive and habit-forming, attempts to ban smoking can be counter-productive. Consumption is not abolished; the market is simply driven underground. Indeed, the social costs of consumption in an illegal and completely unregulated market may well exceed the social costs occurring when consumption is legal but closely regulated.



A net increase in the social cost of smoking might occur if smoking is banned for everybody. However, the question is not about this issue. Rather it is about the case for and against the raising of the legal age for buying tobacco from 16 to 18, a change which took place in October 2007.

The question asks whether the best way to prevent smoking by teenagers is to ban the purchase of tobacco by young people under the age of 18. As yet, in May 2008, there is insufficient evidence available to conclude that the ban on underage access to cigarettes has been effective. However, I suspect that the ban is having little effect. Young teenagers have generally managed to get their older friends to buy tobacco and alcohol on their behalf. Presumably this will continue, even with the threshold age of 18. And significantly, the ban applies solely to the *purchase* of tobacco, and not to its *consumption*.

Underage smokers are also affected by the general ban on smoking in public places. This ban came into effect in July 2007. The extracts suggest that this ban is working. However, the ban on smoking in public places will not prevent children in their early teens from smoking in the streets and on waste ground, particularly if the ban on the underage purchase of cigarettes is not effectively policed and enforced. At the moment, many small shops continue to sell tobacco to teenagers, without asking for identification and without being punished for breaking the law.

Tobacco is already taxed and taxation is an alternative to banning consumption. However, as my answer to part (c) explains, the price inelastic demand curve for tobacco means that, although the tobacco tax is a good revenue raiser for the government, it is relatively ineffective in encouraging smokers to reduce or break their habit. The data in Extract A also show that tobacco taxation is already very high in the UK. For a tobacco tax to be successful in reducing consumption by teenagers, it would have to be raised enormously. In this case, the first danger would be forcing smoking into an illegal criminalised market. The second danger would be teenagers switching to worse drugs such as crack cocaine that can already be bought on the street.

To end on a slightly more optimistic note, I return to the evidence in the data that the ban on smoking in public places seems to be working. I believe that this ban will reduce smoking significantly, particularly as it reinforces two other changes taking place in society: the success of advertising in alerting people to the health dangers of smoking and cultural change. In the latter case, more and more people, particularly middle-class adults, see smoking as an unacceptable social activity at dinner parties, for example. Smokers are now seen as rather sad people indulging their habit outside office and pub doors. However, this cultural change is much stronger among adults than among teenagers, who, as always, are prone to a bit of rebellion. If their parents and society in general discourage smoking, teenagers may be all the more likely to light up at their own parties and social activities, and on their way to and from school.

- e** This is an excellent answer that easily reaches Level 5 in the mark scheme (22–25 marks). It begins by recognising that tobacco is a demerit good and explaining the nature of a demerit good. It then considers and evaluates the policy options for reducing underage smoking, for example by relating the underage ban on purchasing tobacco to the general ban on smoking in public places that was introduced in the UK at more or less the same time in 2007. The answer makes references to the data and to the earlier answer to part (c) of the question. With regard to evidence, it notes that there has been insufficient time since the introduction of the ban to judge its success.

Unit 2 The national economy

Question 1 Economic growth

Study Extracts A and B, and then answer *all* parts of the question which follows.

Extract A Annual percentage changes for selected variables in the UK economy

	Real GDP	Consumption	Imports
1997	3.1	3.5	10.0
1998	3.4	3.8	9.1
1999	3.0	4.7	8.0
2000	3.8	4.4	9.0
2001	2.4	3.1	4.6
2002	2.1	3.6	5.1
2003	2.8	3.0	1.9
2004	3.3	3.5	6.7
2005	1.8	1.5	7.1
2006	2.9	2.0	10.0
2007	3.1	3.0	-3.3

Extract B The causes and effects of economic growth

William Keegan, the *Sunday Observer's* respected economics editor, recently wrote an article about economic growth. He began by stating that technological progress is the mainspring of economic growth. Politicians may claim the credit for the growth that occurs on their watch, but the fact is that the growth in productivity associated with new inventions and new methods (or better use of old methods) has allowed most advanced industrial economies to grow by 2 or 3% a year for as long as most people can remember. Such compound growth rates mean that the average standard of living can double over 25 to 30 years. 5

Keegan went on to argue that, these days, more emphasis is placed on quality of life (the elusive achievement of 'happiness') than on growth for growth's sake; and it is now widely accepted that uninhibited economic growth has a potentially disastrous effect on the environment. However, research into new technologies that are more friendly to the environment is becoming a factor that itself promotes growth. 10

For Keegan, the trouble with economic growth, as with many aspects of life, is that there are pros and cons to technological progress. The economy is a bit like a balance sheet: the assets accumulate, but so do the liabilities. Thus scientific progress produces more and more sophisticated weapons, which provide the capability to destroy on a large scale, but which are justified as providing the means of defending our threatened way of life. 15

During the past 20 years the most prominent example of technological progress has been in information technology, which has contributed enormously to improvements in productivity,

most notably in the USA. However, some of these 'improvements' end up as tiresome complications to the business of living. In Keegan's view, large swathes of business and government have taken advantage of technological innovations to make life difficult for the customer. Keegan quoted a business tycoon, apocryphal or real, who is alleged to have said: 'Don't you realise my secret? By driving them on to the internet, we make the customers do the work.'

Most economists would agree with William Keegan about the importance of technical progress as a mainspring of economic growth. However they would also add in the role of investment, both in terms of investing in physical capital goods and investing in human beings or human capital.

- a Define the term 'standard of living' (Extract B, line 7).** (5 marks)
- b Using Extract A, compare the changes in UK real GDP with the changes in imports into the UK during the years 1997–2007.** (8 marks)
- c Explain how investment causes economic growth.** (12 marks)
- d Discuss the extent to which governments can succeed in resolving the conflicts between achieving economic growth and also achieving other macroeconomic policy objectives.** (25 marks)

(Total: 50 marks)

Commentary

Unit 2 data-response questions normally focus on one of three possible topic areas, though sometimes they involve more than one. The different components of aggregate demand make up the first topic area: consumption (or its opposite, saving), investment, government spending and the current account of the balance of payments (X and M). The second topic area comprises macroeconomic policy instruments (fiscal policy, monetary policy and supply-side policy) and the third topic area concerns the main macroeconomic policy objectives. This question is fairly typical of ones set on the third topic area.

One of the main benefits of economic growth is that it usually increases the standard of living of the people living in the country. It can involve a number of costs, particularly environmental ones, but the costs and benefits of economic growth are an A2 topic and should not be examined in the AS Unit 2 exam.

Unit 2 questions on economic growth will test understanding of the meaning of economic growth, the measurement of economic growth, the causes of economic growth and the effects of economic growth. As in this question, knowledge and analysis of conflicts with other macroeconomic policy objectives can also be tested.

Answer

- a** The term 'standard of living' refers to three main factors that contribute to the level of economic welfare enjoyed by the population at a particular point in time. These are:
 - (i) welfare gained from the consumption of goods and services bought in markets;
 - (ii) welfare gained from goods and services provided free at the point of consumption, or at subsidised prices, by the state;
 - (iii) welfare gained from intangibles such as friendships and the benefits of positive externalities received.The term 'standard of living' can refer to the whole population, or to particular groups or individuals within the population.
- e** The term 'standard of living' is not in the Unit 2 specification. It has been included in this specimen exam paper, not because it is likely to occur in a future examination, but because all economics students should be familiar with what it means.

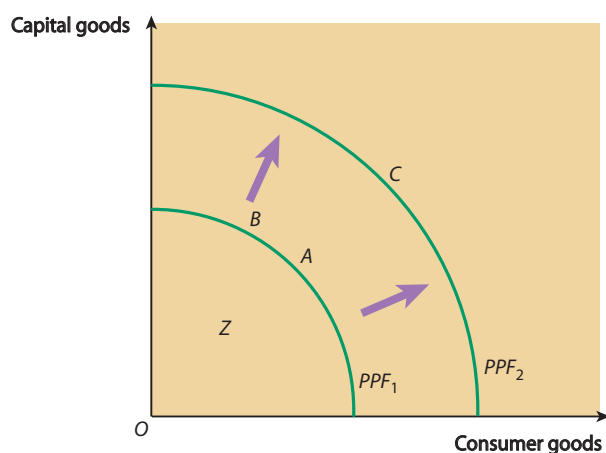
- b** The data show annual percentage changes in UK real GDP and imports into the UK, rather than the absolute values of each variable. In both data series, all the percentage changes are positive, with the exception of imports into the UK in 2007. This means that economic growth occurred throughout the data period, and that total imports increased in real terms throughout the same years, with the exception of 2007.

The fastest annual rate of growth of real GDP occurred in 2000 (at 3.8%), and in the same year imports grew at 9%. However, although this was a high figure, it was slightly lower than the rate of growth of imports in 1997 and 2006 (both 10%) and 1998 (9.1%). With the exception of 2003 and 2007, the rate of growth of imports was higher than the rate of growth of real GDP, implying a worsening balance of payments deficit on current account. For example, in 2006, the difference between the two percentage rate of growth figures was 7.1. Lastly, over the data period the figures for imports were more volatile than the figures for real GDP.

- e** This answer earns all the 8 marks available, for making at least two points of contrast, and backing each point with evidence from the table. It also avoids making a common mistake in data interpretation. Often candidates who are weak at interpreting statistical data wrongly state that a fall in the rate at which a variable is increasing means that the variable's level must be falling. For example, the rate of growth of real GDP fell from 3.3% in 2004 to 1.8% in 2005. Nevertheless, the level of real GDP was higher in 2005 than in 2004.

Two other points to note about the data in Extract A are: (i) although the rate of change of GDP refers to real GDP, it is not clear whether the changes in imports have been measured in real or nominal terms; (ii) for this question, the middle column of data (on consumption) is 'background noise'. The consumption data should not be used for answering the question, though it might be possible to draw useful evidence from this column when answering parts (c) and (d).

- c** It is useful to divide economic growth into short-run economic growth and long-run economic growth. Short-run and long-run economic growth are both illustrated in the diagram below. Short-run growth is shown by the movement from point *Z* inside the economy's production possibility frontier (PPF_1) to point *A* on the frontier. Long-run growth is depicted by the movement from point *A* (on PPF_1) to point *C* on PPF_2 . Short-run growth makes use of spare capacity and takes up the slack in the economy, whereas long-run growth increases total productive capacity.



Investment can contribute to short-run growth because investment is one of the components of aggregate demand in the aggregate demand equation:

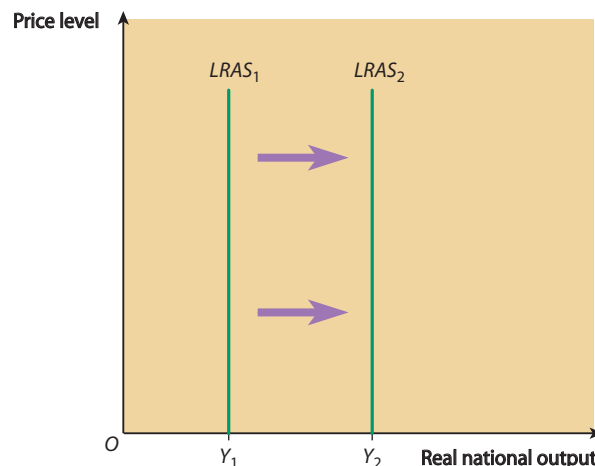
$$AD = C + I + G + (X - M)$$

If the economy produces at a point such as Z inside the production possibility frontier, the economy is suffering from deficient aggregate demand. An increase in investment (or in C , G or X) increases aggregate demand and causes short-run economic growth.

However, when economists talk about economic growth, they usually mean long-term economic growth. Long-term growth adds to the economy's production potential. As Extract B indicates, technical progress is possibly the main factor causing long-term economic growth. But as the extract also says, investment is the second cause of economic growth. Investment can be defined as the purchase of capital goods such as machines. Net investment over and above the replacement investment which replaces worn-out capital goods, adds to the national capital stock. It enables more output to be produced in the future, thus contributing to economic growth. By substituting capital goods for consumer goods, a movement from point A to point B on PPF_1 enables the production possibility frontier to shift outward to PPF_2 at a faster pace than would be the case had investment not increased.

- e** This is an excellent answer that shows a good understanding of the meaning of investment. The mark scheme would focus on long-run investment and the outward movement of the economy's production possibility frontier. However, it is equally valid to explain the role of investment in promoting short-term economic growth (or economic recovery). This answer covers both the short run and the long run. It also avoids the common mistake of confusing investment with saving.

Part (c) Unit 2 questions are less likely than part (c) Unit 1 questions to ask for the use of a diagram. However, diagrams can often improve an answer, as in this case, where a production possibility frontier diagram has been used. Mark schemes almost always allow marks to be awarded for the use of a relevant and accurately-drawn diagram. For this question, an $LRAS$ diagram, such as the one drawn below, could also be used, but because the question does not require a diagram, full marks can be earned without a diagram.



Economic growth shown by a rightward shift of the LRAS curve

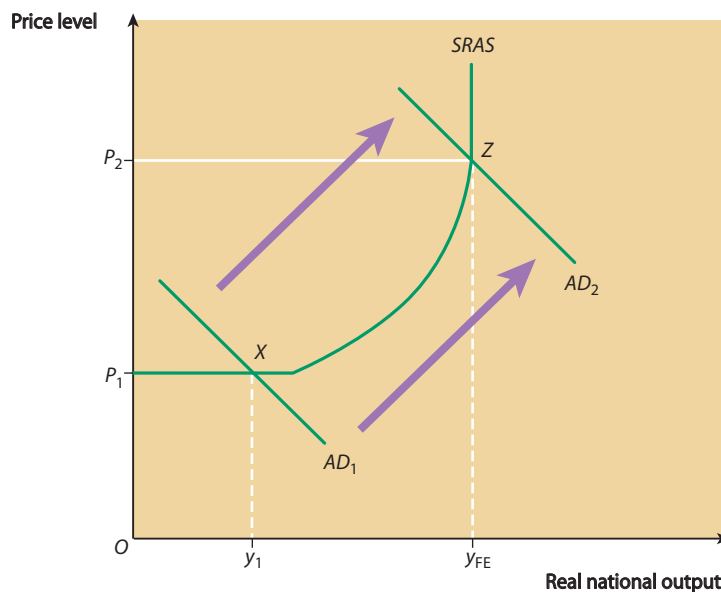
- d** A government's main macroeconomic policy objectives are usually said to be: full employment, economic growth, controlling inflation and achieving a satisfactory balance of payments. It is difficult, however, for a government to achieve all these objectives simultaneously because they tend to conflict with each other.

However, with regard to the first two objectives there should be no conflict, at least in the short run. When economic growth takes place, real output in the economy increases. With the exception of when the new output results from replacing labour-intensive methods of production with capital-intensive production methods, the

production of new output requires more labour to be employed. This means that economic growth helps to create and sustain full employment.

Strictly, this may only be completely true in the case of short-term economic growth, which takes up the 'slack' in an economy in which there is significant unemployment. In a fully-employed economy, already producing on its production possibility frontier, any further (now long-run) economic growth may run into the wall of capacity constraint. Because of labour shortages, without immigration, it may be impossible for the growth to continue. This means it is difficult to *sustain* economic growth in a fully-employed economy.

Also, when growth is pursued in a fully-employed economy, inflation is likely to raise its ugly head. To explain why, I shall use the *AD/AS* diagram below.



I shall assume that the economy is initially producing below the full employment level of national income, at a macroeconomic equilibrium at which $AD = AS$ at point X. In this situation a rightward shift to the *AD* curve along the horizontal section of the *SRAS* curve results in economic growth but no inflation. Suppose however, the *AD* curve shifts rightward from AD_1 to AD_2 , bringing about macroeconomic equilibrium at point Z. The economy now enjoys the full employment level of output (y_{FE}), but any further attempt to bring about economic growth (in the short run) by increasing aggregate demand creates excess demand in the economy and demand-pull inflation. (According to my diagram, demand-pull inflation occurs, along with some short-run economic growth, *before* y_{FE} is reached.)

Economic growth, brought about by increasing aggregate demand, is also likely to harm the balance of payments on current account. This is because more and more imports are sucked into the economy as aggregate demand increases.

The question asks for an evaluation of the *extent* to which governments can succeed in resolving the conflicts between achieving economic growth and achieving other macroeconomic policy objectives. In the short run, governments can 'trade-off' between competing policy objectives, for example by aiming for a successful combination of relatively high employment, relatively low inflation and reasonable and possibly sustained economic growth. But I believe that the policy objectives, including growth, that I have listed, can all be achieved through the use of successful supply-side policies rather than through the use of demand management. However, supply-side policies may introduce another conflict between economic growth and an equitable or fair

distribution of income. This is because supply-side policies tend to require wider income differences between rich and poor in order to create the personal incentives deemed necessary for the policies to work.

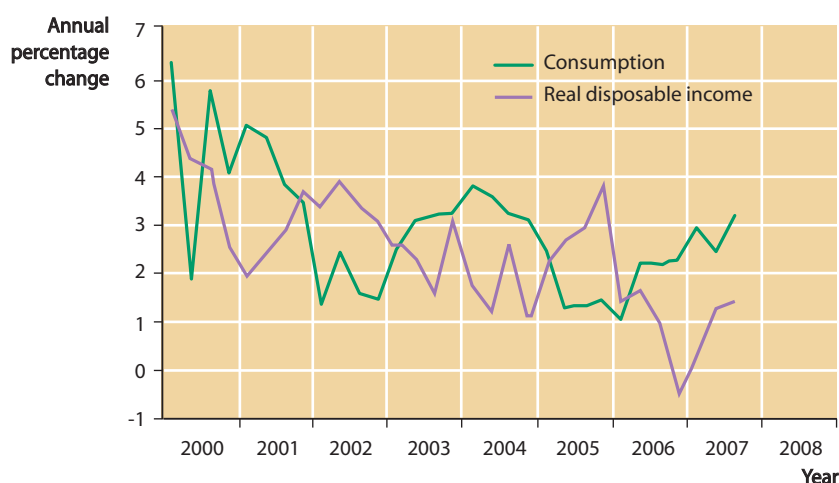
- e** Parts (c) and (d) of Unit 2 data-response questions are unlikely to include the instruction: 'With the help of an AD/AS diagram...'. Nevertheless, the AD/AS macroeconomic model of the economy provides the theoretical framework that examiners often expect candidates to use in their answers to these questions. Therefore it is a good idea to write in pencil the words 'With the help of an AD/AS diagram' before the relevant part(s) of the data-response question you choose to answer. (For some questions, a production possibility frontier diagram or a circular flow diagram could be more appropriate, or could be used in conjunction with an AD/AS diagram.)

This is an excellent answer that reaches Level 5 (22–25 marks). It starts by explaining the key concepts in the question, namely the different objectives of macroeconomic policy and the meaning of economic growth. This is followed by appropriate analysis and evaluation. As is the case with most very good answers, the strength of each argument is evaluated as it is brought into the answer, and the final paragraph discusses the extent to which governments can succeed in resolving the conflicts between achieving economic growth and achieving other macroeconomic policy objectives.

Question 2 Consumption and saving

Study Extracts A, B and C, and then answer *all* parts of the question which follows.

Extract A Annual percentage changes in real consumption and real disposable income, UK, 2000 to end of third quarter 2007



Extract B Economy feels the pinch as consumers tighten their purse-strings

Official government figures have revealed that strong economic growth at the end of 2007 was built on the shakiest of foundations. The growth in household spending all but ground to a standstill in the final quarter of the year and this reinforced fears that the consumer binge which has fuelled Britain's growth for more than a decade will now rapidly run out of steam.

Consumer spending in the fourth quarter (Q4) rose by a meagre 0.2%, less than a third of the pace in the previous 3 months and the weakest since the autumn of 2006. With the final quarter's business investment also tumbling by 0.5%, total domestic demand (spending across the economy by consumers, companies and the public sector) eked out a gain of only 0.3%, the weakest for 2 years. UK exports also fell by 0.5% in Q4, while growth in industrial output was revised down from 0.3% to 0.1%, close to stagnation.

Overall growth of real GDP was still robust at 0.6% in Q4, in line with initial estimates. But the fragile state of the economy was emphasised as this depended on a massive build-up of stocks of unsold goods on companies' shelves, the fastest for two decades, and on government spending that is expected to slow sharply from 2008. The accumulation of unsold goods makes the economy vulnerable to a setback.

City economists pointed to the scale of the slowdown in consumer demand as a further omen that a severe downturn probably lies ahead, perhaps the worst since the last recession in the early 1990s. 'Consumption looks like it has hit the wall,' Alan Clarke, of BNP Paribas said.

Extract C The importance of the household saving ratio

The household saving ratio, which measures the fraction of income that households save rather than spend on consumption, is a good barometer of the overall state of the economy. People in Britain save less money every month than those in almost every other country in the developed world. The USA has a lower saving ratio than the UK, where the amount people are saving has fallen in recent years close to all-time lows. In 2005, the UK saving ratio fell to just 5.6%, more than 2% lower than the long-term UK average of 7.9%, and less than half the ratio of countries such as Italy, Portugal and Belgium where workers put away more than 11% of their income.

One explanation for the fall in saving rates in the UK has been the rise in property prices and the buoyant economy. Historically, saving rates have been at their highest when the economy has been in recession and when house prices have been declining. Households save less in the good times and put more away for a rainy day when the economic outlook is less promising.

Another possible explanation for the decline in saving ratios is the growth of the consumer credit market. Before the difficulties caused by the collapse of the sub-prime mortgage market in the USA in 2007, access to credit had become far easier than it had been in earlier years, with almost anyone able to secure a credit card or loan, even if they did not have full-time employment. In 2008, the so-called 'credit crunch' has changed all that. As the economy teeters on the brink of recession, households may begin to save again.

- a Define the term 'real GDP' (Extract B, line 11).** (5 marks)
- b Using Extract A, compare the annual percentage changes in consumption and real GDP from 2000 to the end of the third quarter of 2007.** (8 marks)
- c With the help of an aggregate demand and aggregate supply (AD/AS) diagram and the information in Extract B, explain how the change in aggregate demand affected UK output in the fourth quarter of 2007.** (12 marks)
- d Using the information in the data and your economic knowledge, evaluate the view that the low household saving ratio has been a main cause of poor macroeconomic performance in the UK in recent years.** (25 marks)

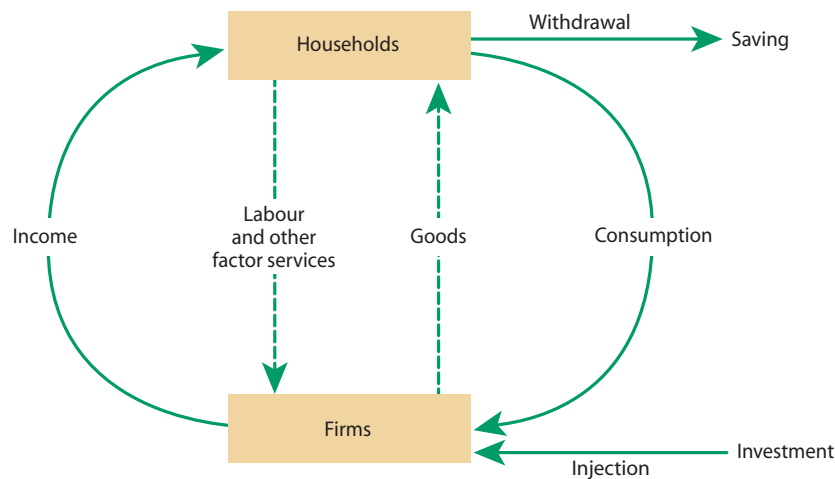
(Total: 50 marks)

Commentary

This is a question on consumption, the first of the components of aggregate demand in the AD equation:

$$AD = C + I + G + (X - M)$$

It is also a question about saving, the opposite of consumption, which does not itself figure in the aggregate demand equation. Like imports and taxes, saving is a *leakage* or *withdrawal* of spending from the circular flow of income. The relationship between consumption and saving is shown in the circular flow of income diagram below:



The diagram shows that spending on consumption by households circulates round the economy and is received as income by firms. However, household income that is saved and not spent on consumption is a withdrawal or leakage from the circular flow.

At least one part of a Unit 2 data-response question usually asks for an explanation or evaluation of causes or effects of an event in the data. In this question, part (c) focuses on the effects of a change in *all* the components of aggregate demand on the economy, while part (d) centres on how saving (and thereby also consumption) has affected the way the macro economy has performed in the past.

Answer

- a** The letters GDP stand for gross domestic product. ‘Domestic product’ is the *flow* of new output produced *within* the UK during a year. The adjective ‘gross’ means it is being measured before an allowance is made for the wear and tear of the national capital stock used to produce the output. Finally, the adjective ‘real’ means that the effect of rising prices or inflation (which distorts a comparison of nominal GDP figures over 2 or more years) has been removed. Real GDP is a measure of the ‘things’ (cars, tables, financial services etc.) produced within the economy in a year.
- e** This answer accurately defines real GDP and earns all 5 available marks. Exam candidates are often unclear about the two words ‘gross’ and ‘net’. In all uses, ‘gross’ is before something is deducted and ‘net’ is after the deduction — with gross and net GDP the deduction is the amount of capital used up in producing a flow of output. However, when we consider a person’s gross and net income, the main difference between these figures is the amount of income tax paid to the government. In a third example, net investment into the country (which is an item in the balance of payment account) is the difference between investment into the country in a particular year and investment flowing out of the country in the same time period.

- b** Both the line showing annual percentage changes in consumption and the similar line showing the annual percentage change in real disposable income fell in the first 8 years of the 2000s. However, this does not mean that total consumption and real disposable income fell. This is because the annual percentage changes of both variables were positive throughout the period, except for a few months late in 2006, when a negative annual percentage change in real disposable income was recorded.

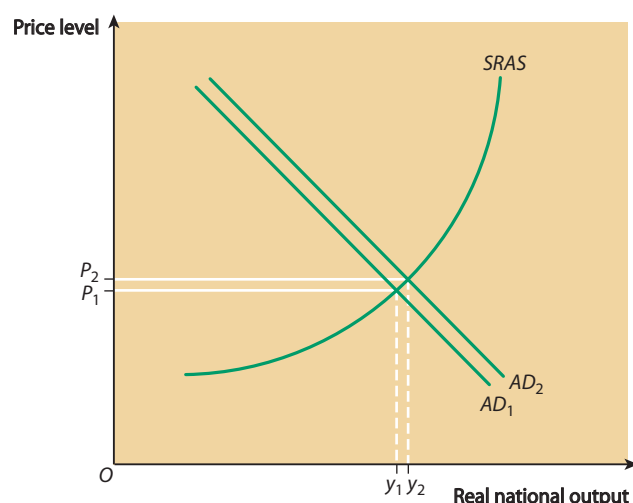
The annual percentage rate of growth of real disposable income was about 6.4% at the beginning of 2000, while the figure for consumption was slightly lower at about 5.4%. By 2007, although both percentage figures had fallen, overall the percentage rate of change of real disposable income had fallen by more than the figure for consumption, ending up at about 1.7%, whereas the figure for consumption stood at about 3.3%.

Both data series were volatile over the whole period, with the disposable income figures more volatile than the consumption figures, but overall the figures were positively correlated, i.e. both moving in the same direction. During certain years, the figures were negatively correlated.

- e** The first paragraph shows a clear understanding of the difference between levels and changes in levels of economic variables and what this difference means. However, this paragraph is not strictly necessary for answering the question.

Statistical 'back up' only appears in the second paragraph, but more than enough points of comparison are made in the second and third paragraphs for the answer to earn all 8 of the marks available.

- c** The changes in aggregate demand and UK output in the last quarter of 2007 are shown in the diagram below.



Extract B begins by stating that the *growth* of household consumption fell to close to zero in the fourth quarter of 2007, rising by only 0.2%. Investment by firms fell by 0.5%, though the extract does not indicate the actual levels of consumption and investment spending before and after these falls. Taken together, total domestic demand, which adds government spending to $C + I$, rose by 0.3%, which must mean that the growth of government spending offset the fall in the rate of growth of C and the fall in I . Total UK exports fell by 0.5%, but since UK industrial output was at least growing, but by just 0.1%, overall the figures imply that the AD curve shifted marginally to the right in the fourth quarter of 2007. Both aggregate demand and output were increasing, but by much smaller percentage rates of increase than in earlier quarters.

- e** This question is an exception to the rule that part (c) questions do not generally begin with the instruction 'With the help of an aggregate demand and aggregate supply (AD/AS) diagram explain...'. The question focuses on the *effect* of the change in aggregate demand on UK output rather than on the *causes* of the change. Sensibly, the answer resists the temptation to drift away from the question to reflect on the possible causes, such as collapses in consumer and business confidence.

The data in Extract B are quite difficult to make sense of, particularly under exam conditions. For this reason, the mark scheme would probably not penalise a candidate for drawing an AD/AS diagram showing an exaggerated rightward shift of the AD curve rather than just the slight shift inferred by the information in Extract B.

- d** The UK's macroeconomic performance can be judged by factors such as the rate of economic growth, the extent to which the growth rate has been sustainable, and by the levels of employment and unemployment and whether employment has been growing and unemployment falling consistently in recent years. Stable prices and a low rate of inflation are indicators of satisfactory macroeconomic performance, since, in the long run, they provide a necessary condition for sustaining economic growth and keeping unemployment low. The price and quality competitiveness of the country's exports is a further indicator of macroeconomic performance, since it reflects Britain's ability to compete in world markets and with imports in the domestic market.

As Extract B states, the household saving ratio measures the fraction of income that households save rather than spend on consumption. A low household saving ratio, of say 2%, means that on average UK households are spending 98% of their incomes on consumption and imports. A figure of 2% does not mean that *all* households are spending 98% and saving 2% of their incomes. Rather it means that some are saving considerably more than 2% of their incomes, but this is offset by the fact that other households are spending *more* than their incomes, financing the excess spending by borrowing. (Borrowing means that households are indulging in negative saving, or *dissaving*.)

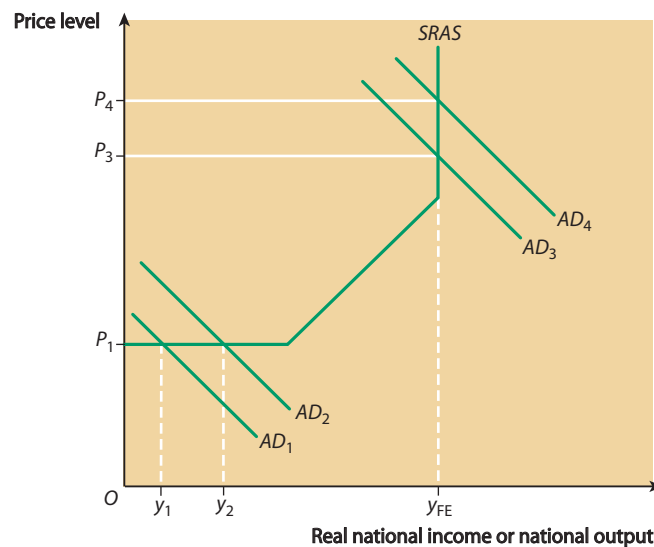
Two issues come to the fore from my introduction to this answer. The first arises from the question: 'Has UK macroeconomic performance actually been poor in recent years?' The second relates to the fact that the size of the household saving ratio has both *demand-side* and *supply-side* effects, and these can have opposite implications for macroeconomic performance.

With regard to the first issue, I would partially like to 'beg the question'. In my view, UK macroeconomic performance has not been poor in recent years. The economy has grown continuously year-by-year since the end of the last recession in 1992, employment has increased and unemployment has fallen. The Bank of England has been remarkably successful at keeping the rate of inflation stable within the 3% to 1% band around the 2% CPI inflation target.

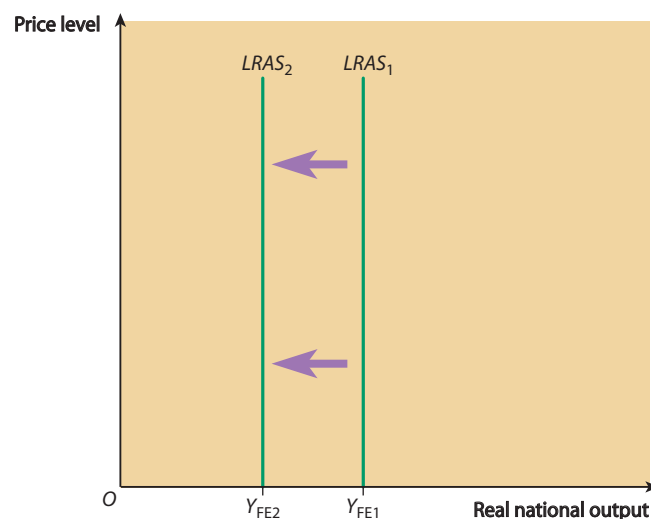
However, as Extract B indicates, the UK's macroeconomic performance was deteriorating in 2007, though not necessarily in earlier 'recent' years. This deterioration may have resulted from two aspects of macroeconomic performance that were not as rosy in earlier years as my previous paragraph indicates. First, the 'boom' years were fuelled by a consumer spending spree. Consumer spending, rather than investment or exports, financed by 'live-now-pay-later' borrowing kept the good years going. Second, a significant and growing fraction of household spending went into the purchase of imports rather than domestically-produced goods and services. This led to an ever-

widening balance of payments deficit, a fact that is hardly a good indicator of sound macroeconomic performance.

The growth of consumption and imports leads into the second of the two issues I mentioned earlier: the fact that a low household saving ratio has both demand-side and supply-side effects. The demand-side effect takes place through the increase in aggregate demand that results from increased spending on consumption. (The increase in aggregate demand is reduced however by the growth of spending on imports.) As the diagram below shows, a rightward shift of the AD curve from AD_3 to AD_4 results in excess demand pulling up the price level in a demand-pull inflation. In the early 1990s, however, when the UK economy was recovering from recession, it is more realistic to depict the falling saving ratio shifting the AD curve from AD_1 to AD_2 , stimulating real output and employment rather than the price level.



Now let's consider the supply-side effect of a fall in the saving ratio. In this context, savings are the 'seed corn' of next year's investment. If household savings are in short supply because households are spending rather than saving their incomes, the rate of interest may rise. This increases the cost of borrowing, which in turn reduces investment in new capital goods by firms. The resulting failure to undertake investment projects essential for modernising the UK economy makes UK goods and services uncompetitive in world markets. This contributes to the growth of imports, and causes the economy's $LRAS$ curve to shift inward (in the extreme case shown in the diagram below), or to shift rightward by only a very small amount.



To conclude, the immediate effect of the fall in the UK saving ratio was to shift the *AD* curve rightward. However, the main long-term effect may lie in the way the fall has harmed the supply-side of the UK economy, and by implication, the UK's long-term macroeconomic performance.

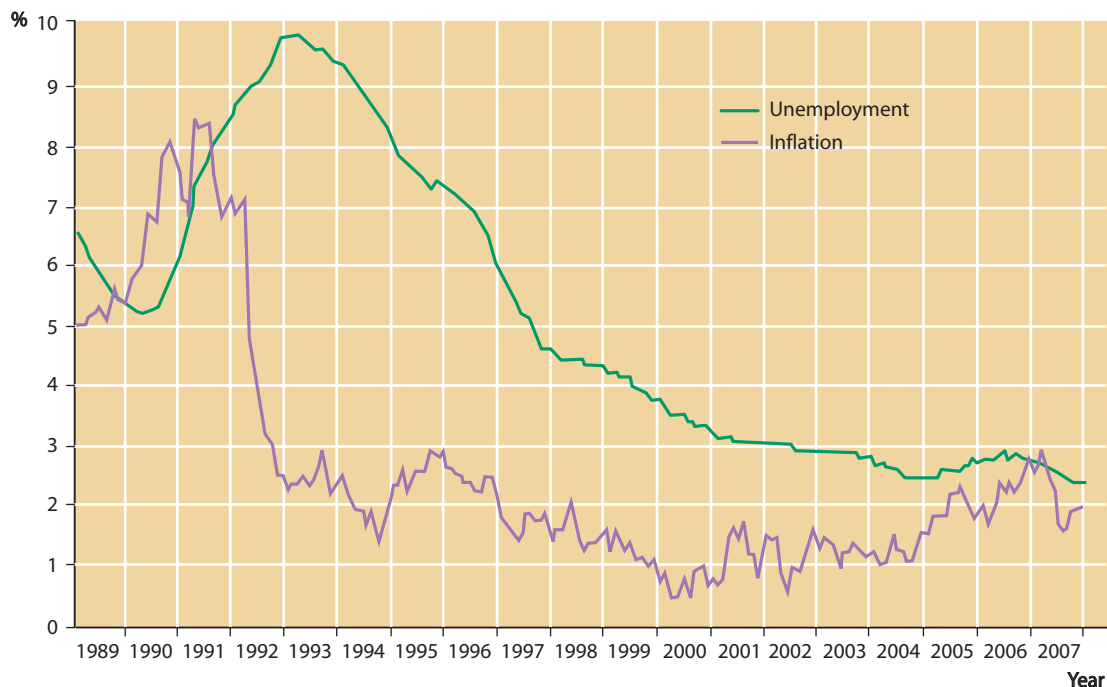
- e This good answer starts by defining and explaining the two key concepts in the title of the question: the household saving ratio and UK macroeconomic performance. An interesting feature of this answer, which helps it to reach Level 5 (22–25 marks), is the way it takes issue with the main assertion in the question.

The answer disputes the question's central premise, namely that UK macroeconomic performance has been poor in recent years, while accepting that some aspects of performance, such as low investment and the growth of imports, have been poor. The point could also have been made that the government's finances have deteriorated in recent years.

Question 3 Unemployment and inflation

Study Extracts A, B and C, and then answer *all* parts of the question which follows.

Extract A UK unemployment and inflation, measured by the claimant count as a percentage of the labour force and the consumer prices index (CPI), 1989–2007



Extract B Cost-push inflation rears its ugly head

A number of factors have been contributing to an upsurge in cost-push inflation in the UK. These include input-price inflation within the UK and events happening in China. British input-price inflation, or factory gate inflation, rose in January 2008 to its highest rate in more than 16 years.

Crude oil prices rose 70.3% on the year in January, the highest rate in nearly 8 years, while domestic food prices soared 36% on the year, a record high. This has undermined hopes that the Bank of England will cut interest rates in the near future. 5

The Bank of England's Monetary Policy Committee (MPC) faces a difficult juggling act in trying to keep inflation under control while ensuring that interest rates are kept sufficiently low to stimulate a stalled housing market and flagging economy.

Chinese inflation hit an 11-year high in January, after rising price pressures were exacerbated by fierce snow storms, official figures show. Soaring food prices were largely blamed for pushing consumer inflation up to 7.1% last month, from 6.5% in December. But analysts cautioned that the severe weather was not the only factor behind rising food costs, and that the excess demand which has emerged in China is pulling Chinese prices up. Demand-pull inflation in China results in cost-push inflation in the UK when British households buy more expensive Chinese manufactured goods such as televisions and toys. 10 15

Extract C 'Nice-ness' gives way to 'slowflation'

In the late 1990s and the early 2000s, there was little cost-push inflation in the UK economy. The absence of cost-push inflation resulted from factors such as the benign effect on the UK economy of globalisation, and the rewards reaped by the supply-side policies introduced by earlier UK governments in the 1980s and early 1990s.

During these years, low UK inflation was caused primarily by excess aggregate demand. But at the same time, through raising or lowering interest rates, the Bank of England became very successful at managing the level of aggregate demand, which prevented overheating in the UK economy. 5

But can monetary policy be as successful when rising producer prices and the increased cost of imports take over as the main cause of inflation? 10

In 2004, the governor of the Bank of England described the early 1990s as a non-inflationary consistently expansionary — or 'nice' — decade; a period in which growth was above trend, unemployment fell steadily, and inflation remained low and stable. The ups and downs of the economy were much smaller in the 'nice' decade than in any previous recent historical period. But the governor queried whether this stability would last. And it has not lasted. By 2008, 'nice-ness' was giving way to a slowdown in economic growth combined with higher inflation, or a phenomenon that has been called 'slowflation'. Some pessimists believe a possible return to 'stagflation' is on the cards. The UK last experienced 'stagflation' or stagnant growth and rising unemployment, combined with accelerating inflation, in the 1970s and early 1980s. 15

- a Define the term 'cost-push inflation' (Extract B, line 1).** (5 marks)
- b Using Extract A identify two features of the relationship in the UK between unemployment and inflation.** (8 marks)
- c Using the information in Extract B, explain how increased costs affect both the rate of inflation and unemployment.** (12 marks)
- d Do you agree that governments should rely solely on monetary policy to control inflation, or should they also use other policies such as fiscal policy and price controls? Justify your answer.** (25 marks)

(Total: 50 marks)

Commentary

Reducing unemployment and controlling inflation are two of the standard macroeconomic policy objectives that governments try to achieve. The levels of employment and unemployment and the rate at which inflation is occurring and possibly accelerating also provide some of the indicators of an economy's macroeconomic performance.

You should expect data-response questions to focus on these two key macroeconomic variables quite often. This question starts by asking for a definition of one of the two types of inflation you are expected to know, namely cost-push inflation. Part (c) then asks for an explanation, not only of cost-push inflation, but also of the effect of rising production costs on the level of unemployment.

Although the other main type of inflation, demand-pull inflation, is only briefly mentioned in the data, a good answer to part (d) should recognise that the policies appropriate for reducing the rate of inflation depend on the underlying cause of inflation, rising business costs or excess demand. Part (d) is concerned with the appropriate policy instruments for reducing and controlling the rate of inflation.

Answer

a Inflation is defined as a continuously rising average price level, or as a continuous fall in the value or purchasing power of money. Cost-push inflation is inflation caused by rising costs of production. These can be wage costs, raw material costs or energy costs. Rising wage costs lead to wage cost-push inflation; the rising costs of imported energy, raw materials and food contribute to import cost-push inflation.

e The first two sentences of this answer earn all 5 marks. The rest provide useful elaboration and could have picked up marks had the initial definition been imprecise.

b Over most of the years 1989 to 2007, the data in Extract A show a positive relationship between changes in UK unemployment, measured as a percentage of the UK labour supply and the rate of inflation, measured by the consumer prices index (CPI). However the relationship is lagged. From early 1990 to mid-1991, both variables are rising, with the growth of unemployment lagging behind the increase in the rate of inflation. The unemployment rate and the inflation rate both equal 5.5% late in 1989.

From mid-1991 until the beginning of 1993 the rate of inflation falls, but unemployment grows to peak (for the whole data series) at nearly 10%. From then until the end of 2000 both unemployment and the rate of inflation fall, though there are minor increases from time to time in the rate of inflation after 1992. From 2001 onward, there is generally a negative correlation in the data, with inflation rising as unemployment falls. However, in the latter years of the data series, both the rate of inflation and the rate of unemployment were much lower (no higher than about 3%) than they had been in the first half of the data series.

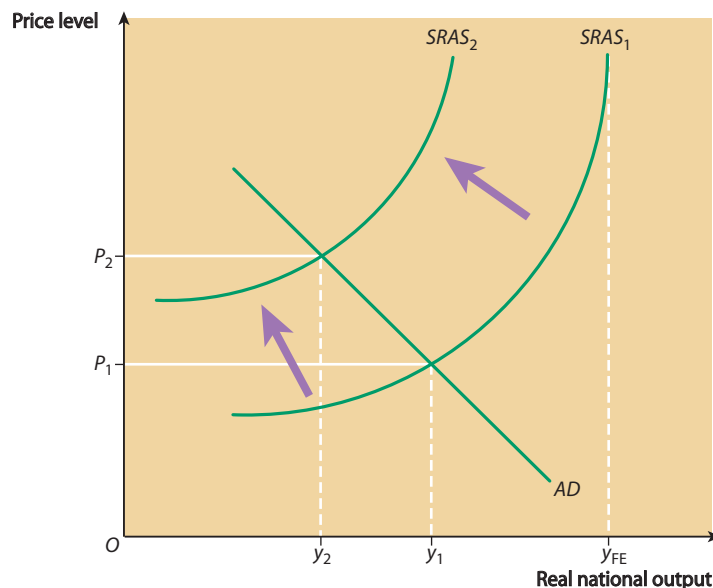
e Although this answer earns all 8 of the available marks for its accurate comparisons, backed up with relevant statistics, it is overlong and at times verges on a 'trawl' through the data.

A 'trawl' is an answer that does no more than convert numerical data into text, more or less copying out what the data portray from the beginning to the end of the data series. If the examiner marking your script judges that you are writing a 'trawl', the marks your

answer earns will be restricted. Mark schemes for part (b) questions requiring comparison of information presented in graphs or tables usually include the instruction: 'A maximum of 4 marks may be awarded if the candidate simply trawls through the data, with no attempt at comparison, or does not quote statistics from the graphs (or tables).'

- c I have already explained in my answer to part (a) that rising costs of production lead to cost-push inflation.

The diagram below illustrates cost-push inflation. It shows that cost-push inflation happens when the *SRAS* curve shifts leftward or upward. The position of each *SRAS* curve is determined by nominal or money costs of production. If these costs rise, firms reduce the quantity of output they are prepared to produce and sell because it becomes unprofitable to sell as much as before at any given price level. In my diagram, the macroeconomic equilibrium level of output falls from y_1 to y_2 . (Note that y_1 was already well below the full employment level of output at y_{FE} .) If all or most firms in the economy reduce the amount they want to produce, they lay off workers because fewer workers are needed to produce lower levels of output. Cost-push inflation therefore leads to higher unemployment. It can create or worsen a recession, and cause the 'stagflation' referred to in Extract C.



Cost theories of inflation locate the cause of inflation in structural and institutional conditions on the supply-side of the economy, particularly in the labour market and the wage bargaining process. Most cost-push theories are wage-push theories, though other variants include profits-push and import cost-push theories.

Cost-push theories generally argue that the growth of monopoly power in both the labour market and the goods market is responsible for inflation. In labour markets, trade unions may be able to bargain for money wage increases in excess of any rise in labour productivity. Firms with monopoly power in the markets in which they sell their products may be prepared to pay these wage increases, partly because of the costs of disrupting production, and partly because they believe they can pass on the increasing costs as price rises.

- e This answer earns all 12 available marks, but it is overlong. The first and second paragraphs include all that is necessary to answer the question. The final paragraphs drift away from the *effects* of rising costs on inflation and unemployment into a discussion of the *causes* of rising costs.

Take note of the word *and* in the question. This is highlighted to emphasise that you must answer both parts of the question. However good your answer on inflation (or unemployment), the maximum mark (out of 12) is likely to be restricted to around 7 or 8 if you have only answered half the question.

- d** Since the end of the period of ‘stagflation’ in the 1970s and 1980s, when accelerating cost-push inflation accompanied growing unemployment, the underlying assumption shared by UK governments and by the Bank of England has generally been, at least until 2006 or 2007, that modern inflation is caused by excess demand rather than by rising business costs.

There were a number of reasons for this. First, new employment legislation introduced in the 1980s and the early 1990s ‘tamed’ trade unions, whom governments blamed for the earlier cost-push inflation. Second, in the deindustrialisation process that decimated most of British manufacturing industry and activities such as coal-mining, jobs disappeared and unions found they had much less power. Third, the privatisation process transferred many activities from the public sector, where unions had been strong, into the private sector, where unions were much weaker.

Whatever the underlying reasons, cost-push inflationary pressures largely disappeared in the 1990s and early 2000s. Governments believed that any inflation lurking in the system was of a demand-pull nature and caused by excess aggregate demand. As a result, monetary policy came to be used as the main policy for managing demand and controlling demand-pull inflationary pressures.

In UK monetary policy, the members of the Monetary Policy Committee (MPC) at the Bank of England estimate what the inflation rate is likely to be 18 months to 2 years ahead (the medium term) if policy (i.e. interest rates) remains unchanged. If the forecast rate of inflation is too far away from the target rate set by the government, the Bank is prepared to change interest rates immediately to prevent the forecast inflation rate becoming a reality. The Bank is also prepared to raise or lower interest rates to pre-empt or head-off any likely adverse effects on the inflation rate of an ‘outside shock’ hitting the economy.

For much of the period since monetary policy has been implemented in this way (i.e. since 1997 when the Bank of England was made operationally independent from central government) the policy was remarkably successful. The main problem with operating monetary policy in this way to control demand-pull inflation became known as the ‘one-club golfer problem’. The ‘one-club golfer’ takes as a metaphor the idea that a golfer, however great his talents, cannot hope to win a major championship by playing all his shots with a single golf club. So the government and the Bank of England cannot hope to manage the economy successfully with just a single policy instrument, namely monetary policy in general, and interest rates in particular.

Believers in the ‘one-club golfer’ critique of recent UK macro policy argue governments should be prepared to use fiscal policy in a more active way to manage demand. Nowadays, however, fiscal policy is used primarily to create the supply-side conditions in which the economy can grow, while monetary policy is used to manage aggregate demand and to control inflation. In modern fiscal policy, income tax rates are lowered, not to increase aggregate demand (though this will perhaps be an unintended side effect), but to create incentives for people to work harder and to be more entrepreneurial. Using fiscal policy to manage demand in order to control inflation would involve raising income tax rates, which would have undesirable supply-side consequences.

In any case, fiscal policy used in this way would, like monetary policy, be aimed at controlling demand-pull inflation. But the recent upsurge in UK inflation has been caused primarily by cost-push factors. These are not so much (as yet) rising wage costs, as higher energy costs resulting from the rising prices of imported crude oil and natural gas. The problem is that UK governments are unable to exert much control over rising imported energy and raw material costs.

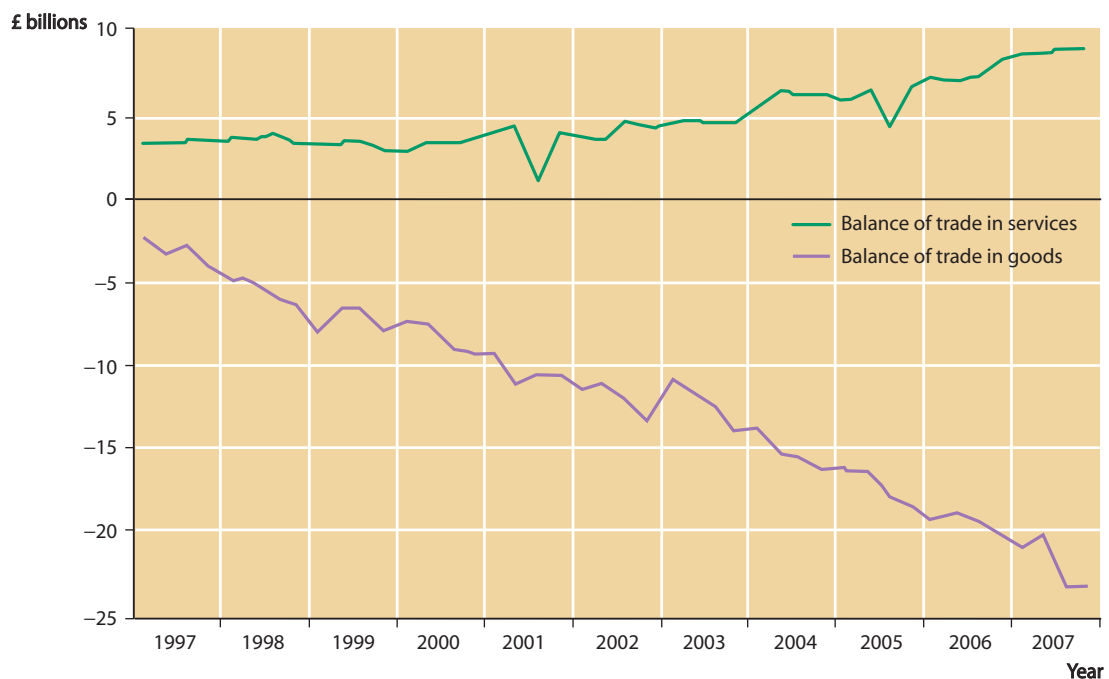
Should there therefore be a return to price controls and income controls of the type last used in the UK in the 1970s? The answer is probably 'no'. In the past, price and income controls targeted cost-push pressures caused by UK trade unions, or domestically-induced cost-push inflation. But as I have explained, recent cost-push inflation is caused by factors outside the UK, over which UK governments cannot exercise control, particularly those emanating from China. In any case, the price and income controls used in the 1960s and 1970s didn't work; they merely distorted the economy and stored up problems for the future when the controls were eventually removed. The controls *suppressed* cost-push inflation, but they didn't *get rid* of its underlying causes.

- e Like all the best answers to a part (d) question, this answer evaluates as it goes along. This means that no concluding paragraph is needed. The main argument is that UK governments and the Bank of England may be almost powerless in dealing with current UK inflation, which is largely of an externally-induced cost-push nature.

Question 4 The balance of payments

Study Extracts A, B and C, and then answer *all* parts of the question which follows.

Extract A The UK's balances of trade in goods and services, 1997–2007



Extract B The twin deficits worsen

On 21 December 2007, the *Guardian* newspaper stated that 'a gloomy Christmas looked in store after data yesterday showed Britain suffered a record budget deficit last month and the highest ever balance of payments deficit in the third quarter'.

The Office for National Statistics reported that the public finances suffered a shortfall of spending over receipts of £9.1 billion in the previous month. The budget deficit was the highest since monthly records began in 1993, and was also £2.0 billion higher than the deficit a year earlier in November 2006. 5

For the balance of payments on current account, there was a deficit of £20 billion in the third quarter of 2007, equivalent to 5.7% of national income. This was also a record, and was largely due to a worsening trade gap and a wider deficit in investment income between the UK and other countries. 10

In recent years, the budget deficit and the current account deficit have often been called the 'twin deficits'. The current account deficit is the country's external deficit with the rest of the world. The budget deficit is an internal deficit, but only with respect to the public sector and the government.

Extract C The balance of payments deficit and demand-management policies

The last 20 years have seen the emergence of monetary policy as the most important policy tool used to control the level of aggregate demand in the economy. There has been an almost universal reliance on interest rates at the expense of fiscal policy alternatives for managing the level of aggregate demand in the economy.

The objective of demand-management policies is to control the level of demand for goods and services in the economy as a whole, with particular reference to achieving as high a level of employment as possible and sufficient exports to keep foreign trade close to balance, and keeping inflation under control. 5

But reducing aggregate demand in order to control inflation or reduce imports 'punishes' the domestic economy. Government ministers and Bank of England officials have sometimes justified this, arguing that 'unemployment is a price well worth paying for controlling inflation and the balance of payments'. 10

However, the main effect of reducing aggregate demand in a 'stop-go' policy cycle is arguably a fall in investment spending by British industry, which in the long term reduces the competitiveness of UK exports. Partly for this reason, many economists now believe that control of both inflation and the current account of the balance of payments depends far more on the success of supply-side policies than on demand-side policy. 15

- a Define the term 'balance of payments on current account' (Extract B, line 8).** (5 marks)
- b Using Extract A, compare the changes in the UK's balance of trade in goods with the changes in the balance of trade in services over the period shown by the data.** (8 marks)
- c Using the information in Extract B, explain how a significant fall in the Bank of England's interest rate might affect the UK balance of payments on current account.** (12 marks)

- d Evaluate the view that a significant reduction in the size of Britain's balance of payments deficit on current account will depend much more on the success of supply-side policies than on demand-side policy.** (25 marks)

(Total: 50 marks)

Commentary

International economics appears in virtually every Unit 2 exam on the national economy. At AS, you don't need to know much about international trade. However, some trade-related knowledge may be tested in the exam, particularly in relation to specialisation and exchange, and the division of labour in an international context, when different countries specialise in producing different goods and services.

Although trade theory is not in the AS specification, the balance of payments on current account is an important AS topic. You need to understand the main items in the current account, the balance of trade in goods and the balance of trade in services. Note also that in exam questions, the balance of trade in goods may be disaggregated into items such as the balance of trade in manufactured goods and the balance of trade in oil. Likewise the balance of trade in services may be split into categories such as the balance of trade in financial services and the balance of trade in tourism.

Capital flows are an A2 topic and not an AS topic. Nevertheless, *some* knowledge of capital flows is useful in order to understand the linkage between interest rates (in monetary policy) and the exchange rate. An increase in interest rates (contractionary monetary policy) attracts capital flows into the pound, which increases the demand for pounds and hence the exchange rate. A cut in interest rates has the opposite effect.

The relationship between interest rates and exchange rates is highly relevant for understanding important elements of circular flow and *AD/AS* theory. An increase in the exchange rate (resulting for example from the increase in interest rates mentioned above) makes imports cheaper in the UK and British exports more expensive. Other factors being equal, the current account will worsen, perhaps moving into deficit or increasing an already existing deficit. A fall in the exchange rate should have the opposite effect. Therefore it is important to understand the current account of the balance of payments and the way it affects, and is affected by, interest rate and exchange rate changes.

Answer

- a** The balance of payments is the part of the National Accounts that measures all the currency *flows* into and out of the economy in a particular time period, e.g. a month, a quarter or a year. The current account measures income flows, whereas the other main part of the balance of payments measures capital flows. A capital flow out of the economy is likely to generate incomes inflows in future years. These appear in the current account. However the main items in the current account are exports and imports (*X* and *M*). Exports of goods earn income which flows into the UK (a credit item in the current account). Conversely, when UK residents buy imports they are spending part of their incomes on goods and services produced in other countries (a debit item in the current account).
- e** This is a very full answer to the question, showing a good understanding of the main items in the balance of payments on current account. However, it could be shorter; the first sentence on its own is enough to earn all 5 marks.

b Extract A shows the balance of trade in goods in deficit throughout the 11-year period, while the balance of trade in services is in surplus in all the years shown by the data. At the beginning of 1997, the services surplus of £4 billion exceeded the goods deficit of £3 billion, which meant that the overall current account enjoyed a small surplus of about £1 billion. However, this surplus was very much an exception to the rule, with the overall current account moving into deficit later in 1997.

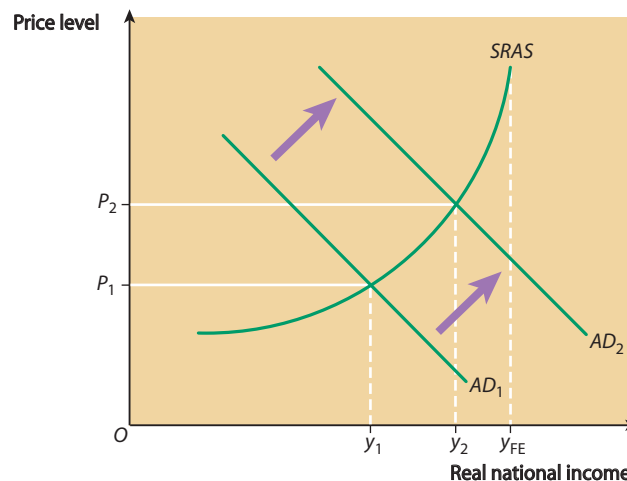
The services surplus remained stable to start with and then grew after 2000 over the remaining years (with the exception of two small dips in the data in 2001 and 2005). By the end of 2007, the service surplus stood at about £9 billion (compared to nearly £4 billion in 1997). However, the trade in goods tells a different story, with the deficit increasing by over 700% from £3 billion at the beginning of 1997 to about £24 billion in 2007. Overall the combined deficit rose to about £15 billion (£24 billion minus about £9 billion) by late 2007.

e Again this is a very full answer, containing more information than is needed to earn all 8 marks. As always, two points of comparison reinforced by accurate and relevant reference to the data (or statistical backup) is all that is needed for full marks on part (b).

c The rate of interest is the price of money. For savers it is the reward for saving. For borrowers the rate of interest is the cost of borrowing. The Bank of England's interest rate is the rate at which the Bank, which is the UK's central bank, lends money to other financial institutions, which are mainly private enterprise banks such as Lloyds TSB.

A significant fall in the Bank of England's interest rate, which is also called Bank Rate, will cause international speculators to move their funds out of sterling bank deposits (which earn sterling interest rates) and into euro, dollar or yen bank deposits (which earn the higher interest rates on offer on those currencies). This increases the supply of pounds on foreign exchange markets which causes the pound's exchange rate to fall. This then makes imports more expensive in the UK and British exports cheaper in overseas markets. The current account will improve, perhaps reducing a deficit or moving the current account out of deficit and into surplus.

However, the process I have just explained may be countered by other changes that work in the opposite direction. As the diagram below shows, a cut in interest rates (expansionary monetary policy) shifts the AD curve rightward from AD_1 to AD_2 . This increases the level of real national income from y_1 to y_2 (though it also increases the price level). At higher levels of income, people spend more on imports and the balance of payments on current account deteriorates. This latter effect may in turn be countered by the rising price level, which reduces the competitiveness of UK exports in world markets.



- e** This question covers the opposite process to the one explained in the commentary above, namely the effects on the economy resulting from a cut in interest rates.

The analysis in the second paragraph teeters on the edge of A2 knowledge and theory. However the explanation offered in the third and final paragraph is firmly in the AS specification. With the help of the definition provided in the first paragraph and the AD/AS diagram, the second paragraph on its own provides sufficient explanation to earn all 12 marks.

Finally, note that the word 'sterling' is used for the UK pound in an international context. Sterling interest rates are the rates that can be earned from holding funds in the UK pound rather than in another currency such as the US dollar.

- d** Fiscal policy and monetary policy are demand-side policies when they are used to manage the level of aggregate demand in the economy. By contrast, supply-side economic policies are the set of government policies that aim to change the underlying structure of the economy and improve the economic performance of markets and industries, and also of individual firms and workers within markets. For the most part, supply-side policies are also microeconomic rather than simply macroeconomic, since, by acting on the motivation and efficiency of individual economic agents within the economy, the policies aim to improve general economic performance and the economy's underlying production potential.

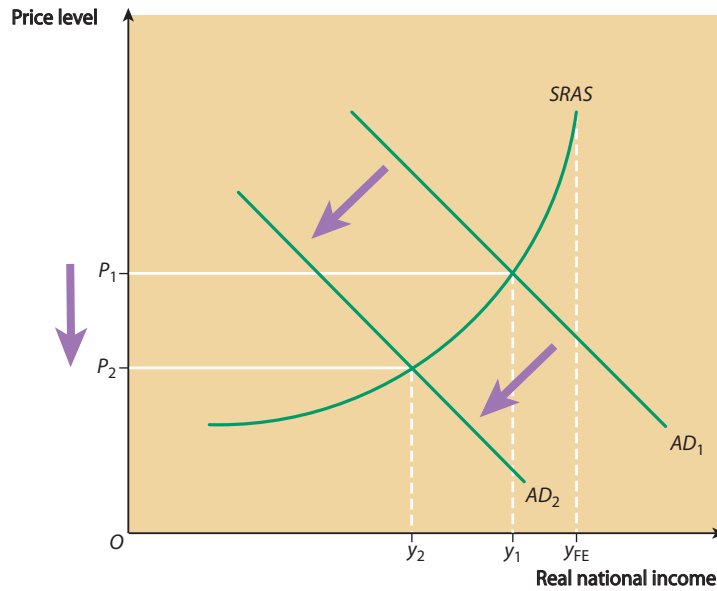
Before getting to grips with the question, I shall first define monetary policy and fiscal policy. Monetary policy is the part of the government's overall economic policy that aims to achieve one or more of the government's policy objectives, using monetary policy instruments such as the rate of interest and controls over bank lending. In recent years, the Bank of England's lending rate has been the main instrument and imposing controls over bank lending has fallen out of favour.

In a similar way, fiscal policy is the part of the government's overall economic policy that aims to achieve one or more of the government's policy objectives, using the fiscal policy instruments of government spending, taxation and the government's budgetary position (deficit or surplus).

Fiscal policy can be used in a supply-side rather than in a demand-side way, as indeed it has been used in the UK in recent years. However, for many years, particularly during the Keynesian era in the 1960s and 1970s, both monetary policy and fiscal policy were used to manage aggregate demand. At this time, the UK economy was characterised by what Gordon Brown has called 'boom and bust' in the economic cycle. Successive governments engineered economic booms (particularly before general elections) by increasing aggregate demand. In fiscal policy this was achieved by cutting taxes and/or increasing government spending. Either way, the government increased its budget deficit, which served as an injection into the circular flow of income. Expansionary policies also shifted the *AD* curve rightward. However, this pulled up the price level in a 'demand-pull' inflation and sucked imports into the country. As a result, the balance of payments on current account deteriorated, with the payments deficit widening. Eventually the boom was brought to a halt, either by an inflation crisis, or a balance of payments crisis, or a combination of both.

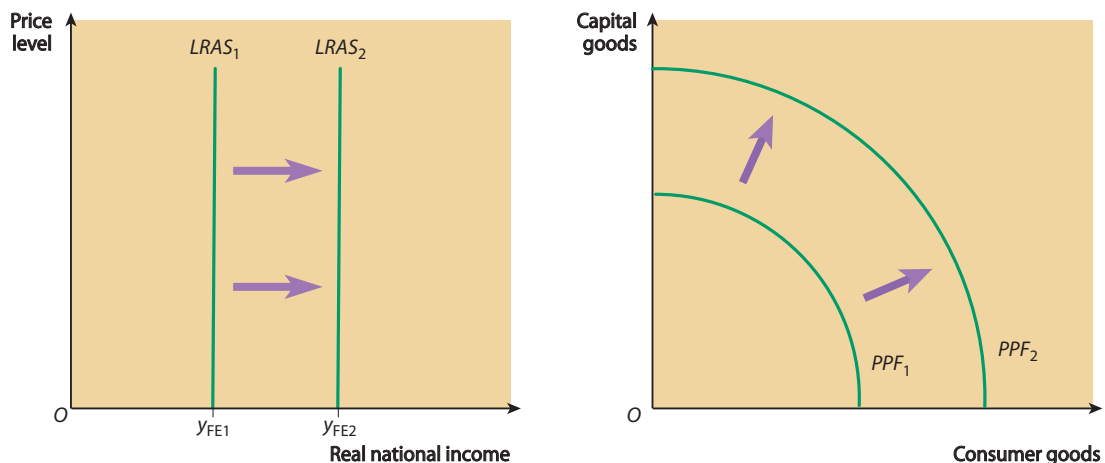
It was at this point that demand-side policies were thrown into reverse. The Bank of England, acting on behalf of the government, raised interest rates (contractionary monetary policy) and the Treasury (the government's finance ministry) raised taxes

and/or cut public spending, thereby reducing the size of the budget deficit. These policies, the effect of which is illustrated in the *AD/AS* diagram below, took demand out of the economy, including the demand for imports. Used in this way, demand-side policies were ‘expenditure-reducing’ policies which improved the balance of payments by reducing aggregate demand in the economy.



On the downside, however, contractionary demand-side policies ‘punished’ the domestic economy by slowing growth (and possibly pushing the economy into recession) and by increasing unemployment. This was the ‘bust’ part of the ‘boom and bust’ cycle. The end result was that demand-side policies could possibly reduce a payments deficit in the short run, but at a cost of long-term damage to the economy. In the boom and bust cycle, businessmen often argued that they could not make long-term investment decisions because they were uncertain whether the good times would last. An investment project undertaken in the boom would come on-stream just as the economy entered recession, with falling demand rendering the investment unprofitable.

Recent UK governments have lost faith in using demand-side policies to reduce a current account deficit. Monetary policy is still used to manage aggregate demand, but with control of inflation in mind, rather than to correct a balance of payments deficit. Certainly with regard to fiscal policy, recent governments have focused on the supply-side effects of tax changes, rather than on how they influence aggregate demand.



The main aim of supply-side fiscal policy is to promote macroeconomic stability and tax rates that encourage the owners of businesses to be entrepreneurial. By shifting the economy's *LRAS* curve rightward and by moving the economy's production possibility frontier outward (as shown in the diagrams above), supply-side policies equip the country with modern up-to-date industries, particularly the financial service industry, that are competitive in world markets. For supply-side economists, the way to reduce a current account deficit is to arm the economy with efficient competitive industries which produce goods and services that foreigners and UK residents both want. Personally, I have my doubts. Arguably supply-side policies have led to the decimation of manufacturing industry and to deindustrialisation. In my view, it is no good just relying on the export of services. As a socialist MP once said: 'Service industries need something to service, and that thing should be manufacturing industry'. In conclusion, it is a moot point as to whether Britain's growing payments deficit has been caused by demand-side policies reducing aggregate demand and creating fiscal uncertainty, or by supply-side policies destroying the UK manufacturing sector.

- e Although this answer becomes rather polemic at times and includes assertions that have not really been substantiated, there is enough quality to merit a Level 4 mark and possibly a Level 5 mark. The latter would be more certain had the answer made explicit reference to the data, particularly to Extract C. Although the question is not prefaced with the words 'With the use of the data...', it is always best to make at least some reference to the information in the extracts.