

A-LEVEL
STUDENT GUIDE

PEARSON EDEXCEL

Economics A

Theme 1

Introduction to markets
and market failure

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 **HODDER**
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Getting the most from this book

Exam tips

Advice on key points in the text to help you learn and recall content, avoid pitfalls, and polish your exam technique in order to boost your grade.

Knowledge check

Rapid-fire questions throughout the Content Guidance section to check your understanding.

Knowledge check answers

- 1 Turn to the back of the book for the Knowledge check answers.

Summaries

- Each core topic is rounded off by a bullet-list summary for quick-check reference of what you need to know.

Exam-style questions

Commentary on the questions

Tips on what you need to do to gain full marks.

Sample student answers

Practise the questions, then look at the student answers that follow.

Questions & Answers

Section C

Extended open-response questions

The final part of the exam paper, section C, involves selecting one extended open-response question from a choice of two offering up to 25 marks. Question 1 below considers government subsidies to public transport and Question 2 is on minimum pricing of alcohol. As mentioned earlier, there is a 'levels' based approach to marking these questions. There is a total of 16 knowledge, application and analysis marks and 9 evaluation marks available from the 25-mark question.

Question 1 Government subsidies to public transport

The UK has one of the most congested road systems of all developed countries in the world, costing motorists over £30 billion a year.

Evaluate the case for increasing government subsidies to public transport as a means of reducing road traffic congestion. [25 marks]

The opening statement provides information on how serious road traffic congestion has become and it is useful to include the numerical cost in your answer. The command word 'evaluate' invites you to consider the effectiveness of public transport subsidies in reducing road congestion. You should focus on how subsidies are meant to influence the market and be prepared to include diagrammatic analysis. Follow this up with reasons why it might be effective (such as lower fares and improved service) and then its limitations; these might include the problem of public transport being a weak substitute for private motor vehicle transport.

Note: Efforts to break down the marks into individual components for extended open-response essay questions is rather confined, especially as examiners will consider the overall quality of the answer and then match it to the appropriate level in the mark scheme. Examiners will expect relevant definitions, well-explained diagrams, economic analysis and application to the question. They will also expect two or more evaluative comments. All this should be undertaken in the structure of a main-essay, with an introduction, main body and conclusion.

Student answer

Public transport subsidies are government grants aimed at increasing the supply and lowering the price of rail and bus travel. Their purpose is to encourage motorists to leave their cars at home and use bus and rail transport instead, helping to reduce road traffic congestion. Private motor vehicles and public transport are substitutes with a positive cross elasticity of demand. This means that government subsidies, which lower the price of public transport, will cause a decrease in demand for private motor vehicles as motorists switch to using buses and trains. The closer the substitutes, the greater the impact of public transport subsidies in reducing road congestion.

The introduction is clear and simple, explaining the meaning and purpose of subsidies (2 knowledge marks). The relationship between public transport and private motoring is explained via the use of cross elasticity of demand (1 knowledge, 1 application and 1 analysis mark).

Commentary on sample student answers

Read the comments showing how many marks each answer would be awarded in the exam and exactly where marks are gained or lost.

4 Pearson Edexcel Economics A

About this book

The Pearson Edexcel A-level Economics A specification is structured into four themes and consists of three exam papers. The aim of this guide is to help you prepare for Paper 1 (code 9EC0/01). Paper 1 'Markets and business behaviour' tests models and concepts from Themes 1 and 3. Consequently, it is important to study both themes ('Introduction to markets and market failure' and 'Business behaviour and the labour market') in preparation for taking exam Paper 1.

This guide includes all the topics for Theme 1 and comprises around half the content required for Paper 1. The concepts and models covered in this guide also feed directly into the synoptic A-level Paper 3, 'Microeconomics and macroeconomics' (code 9EC0/03).

This guide should be used as a supplement to a taught course along with textbooks and other materials recommended by your teacher. There are two sections:

- The **Content Guidance** section summarises the specification content of Theme 1. Theme 1 is based on the price mechanism model, which underpins the whole specification. Theme 1's content comprises four main topics. A summary of key points is provided at the end of each topic in this guide.
- The **Questions & Answers** section provides guidance on how to answer the A-level exam Paper 1, particularly the topics covering markets and market failure. It includes multiple-choice and short-answer questions, data-response questions and extended open-response questions. It also includes student answers and comments on how to improve performance.

Exam format

Paper 1, 'Markets and business behaviour', has three sections.

Section A comprises five compulsory questions worth a total of 25 marks. Each of these five questions comprises a multiple-choice question (worth 1 mark) and either one short-answer question or two short-answer questions.

Section B comprises one compulsory data-response question broken down into five parts and worth a total of 50 marks. The mark allocations for these parts are as follows: 5, 8, 10, 12 and 15.

Section C is an extended open-response question (mini-essay) where students select one from a choice of two options. This is worth 25 marks.

The time allowed for the examination is 2 hours.

Note that Paper 1 requires students to answer questions from Theme 1, 'Introduction to markets and market failure', and Theme 3, 'Business behaviour and the labour market'. Students are required to learn the models and concepts from both themes in preparation for the exam. You are therefore advised to obtain the accompanying student guide in this series, 'Business behaviour and the labour market', which provides further guidance on the content and exam questions for Theme 3.

Content Guidance

■ The nature of economics

Economics as a social science

Economics is a social science, which means it is concerned with the study of human behaviour. It investigates how scarce resources are allocated to provide for unlimited human wants. Economists develop models which attempt to simplify and improve our understanding of how consumers and producers behave. These models include assumptions: for example, consumers aim to maximise satisfaction or utility when spending their income. Similarly, producers aim to maximise profits from the goods and services they make and sell. Economic models are judged upon their ability to explain and predict consumer and producer behaviour, even when the assumptions of such models are unrealistic.

Thinking like an economist requires use of the **ceteris paribus** assumption. It means 'all other things being equal' or 'all other things remaining the same'. This assumption is needed since economists cannot test models in scientifically controlled laboratory conditions. For example, a bakery may cut the price of chocolate cakes and find that more are demanded or purchased. This leads to the construction of a demand curve depicting an inverse relationship between the price and quantity purchased of chocolate cakes. However, we have to assume that other things remain the same: for example, the level of consumer income, advertising and the price of other types of cakes. Otherwise, a change in any one of these factors could be the cause of more chocolate cakes being demanded.

Positive and normative economic statements

Positive economics

Positive economics is concerned with facts and is value-free. It is a scientific approach to the discipline, where economists explain the outcome of a particular policy, but are not expected to take sides. Positive statements can be tested as true or false by referring to the facts.

An example of a **positive statement** is: 'The increase in the National Living Wage from £7.83 to £8.21 per hour in April 2019 has caused unemployment.' It is possible to check the facts by appealing to authoritative sources and see whether this has increased unemployment or not. The statement can be accepted as true or rejected as false.

Economics The allocation of scarce resources to provide for unlimited human wants.

Ceteris paribus 'All other things being equal'.

Positive economics statement Based on facts which can be tested as true or false and are value-free.

Normative economics

Normative economics is concerned with value judgements and is a non-scientific approach to the discipline. A normative statement is an expression that something is right or wrong, so it often includes the words ought, should, fair, unfair, better or worse.

An example of a **normative statement** is: 'It is unfair to cut welfare benefits to poor people.' The term 'unfair' is a value judgement which one can agree or disagree with. It is not possible to prove or disprove it, but rather, it depends upon the values held by individuals.

Role of value judgements in economic decision making and policy

Value judgements have a major influence on economic decision making for consumers and producers. Personal preferences, beliefs and subjective assessment underpin normative economics. For example, a highly cautious individual may prefer to save more of his or her income in a pension fund rather than increase current spending on consumer goods; similarly, a producer prone to taking high risks may prefer to spend cash reserves on developing new goods rather than have a safety net for unanticipated future events.

Value judgements also have a major role in government policy making. For example, a government may prefer to cut income tax rather than increase expenditure on healthcare provision. This could be due to an underlying preference for the operation of free market forces rather than more government intervention in an economy.

The economic problem

The economic problem is based on **scarcity**. Scarcity arises because there are insufficient resources to provide for everyone's wants. It occurs in all economies, since resources are finite compared to human material wants. Scarcity is obvious in countries that face famine or drought, where insufficient food or water is available to meet everyone's needs. However, scarcity also exists in wealthy countries, since not all human material wants can be satisfied.

Scarcity means we have to make choices over the use of our limited resources to provide for our material wants. Some crucial decisions have to be made over what, how and for whom to produce. These decisions are faced by consumers, producers and the government. Once a decision has been made about what to use a resource for, opportunity cost arises.

Opportunity costs to economic agents

Opportunity cost refers to the value of the next best alternative forgone. Consumers, producers and governments all face opportunity cost.

A consumer may have £25 available to spend on a meal at a restaurant or on the next best thing, which is a new T-shirt. The individual cannot buy both at the same time. If the consumer chooses to buy a meal then the opportunity cost is forgoing the new T-shirt.

Exam tip

Use the term 'value judgement' rather than 'opinion' when explaining a normative economic statement.

Normative economics statement Based on value judgements which cannot be tested as true or false.

Exam tip

Always use the information provided to explain why a statement is normative: for example, normative statements are often characterised by value-laden words such as fair, unfair, better, worse, should and ought.

Scarcity There are finite resources compared to infinite human wants, so choices have to be made about how to use those resources.

Opportunity cost The value of the next best alternative forgone.

Content Guidance

A firm may have £50,000 available to invest in a new machine or to invest in a training programme for employees. The managers have to make a choice over the best use of the funds.

A government may have an extra £100 million of tax revenue. It might use this to build a new hospital but, in doing so, forgoes the building of a large school, considered to be the next best alternative.

Opportunity cost often involves the use of **marginal analysis** — to gain one extra unit of a good means that resources have been transferred from the production of another good.

Renewable and non-renewable resources

Resources, or factors of production, are inputs used in the production of goods and services. They are finite and can be classified into four types: land, labour, capital and enterprise.

A **renewable resource** is one whose stock level can be replenished naturally over a period of time. Such resources include solar energy, wind power, tidal power, fish, timber and soil. However, renewable resources may decline over time if they are consumed at a faster rate than the environment can replenish them. They require careful management, to avoid such things as deforestation and soil erosion.

A **non-renewable resource** is one whose stock level decreases over time as it is consumed. These resources include fossil fuels such as coal, oil and gas. They also include commodities such as steel, copper and aluminium. It is possible to reduce the rate of decline of non-renewable resources through recycling, the development of substitutes and new technology. The price mechanism also has a role to play in reducing the rate of consumption via higher prices.

Production possibility frontiers

A production possibility frontier shows the maximum potential level of output for two goods or services that an economy can achieve when all its resources are fully and efficiently employed, given the level of technology available. It can be used to illustrate scarcity and opportunity cost.

Movement along a production possibility frontier

Figure 1 shows the production possibility frontier of an economy with capital and consumer goods. **Consumer goods** directly provide satisfaction or utility to consumers. They are wanted for their own sake rather than for what they produce. Examples include clothing, food, drink, a holiday and iPhones. **Capital goods** are used to produce more consumer goods and services. Generally, they provide satisfaction to consumers indirectly. Examples include machinery, office blocks, training of workers and factories.

Marginal analysis

The effects of producing or consuming one extra unit of a good or service — they may involve both benefits and costs.

Knowledge check 1

What is the opportunity cost of you staying on at school or college to study A-levels?

Renewable resource

A resource whose stock level can be replenished naturally over a period of time.

Non-renewable

resource A resource whose stock level decreases over time as it is consumed.

Consumer good

A good, such as a chocolate bar, that directly provides utility to consumers. It is wanted for the satisfaction it gives.

Capital good

A good that is used to produce consumer goods or services, such as a machine that helps make chocolate bars. It is wanted not for its own sake, but rather for the consumer goods and services it can produce.

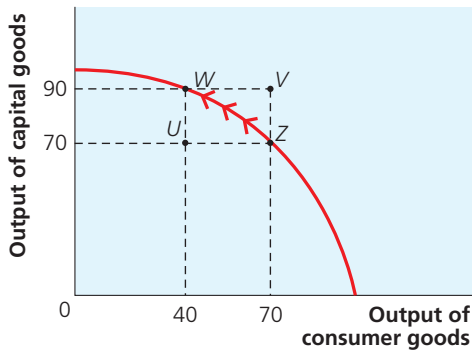


Figure 1 Production possibility frontier

Initially, the economy is at point Z. To increase the production of capital goods by 20 units and move to point W, there is an opportunity cost of 30 units of consumer goods.

The movement from Z to W increases the rate of economic growth, since capital goods are crucial for increasing production. Economic growth can be shown by an outward shift of the production possibility frontier. However, the loss of 30 units of consumer goods means that current living standards will fall in order to enable future living standards to rise at a faster rate.

If the economy is located at any point on its **production possibility frontier**, there is an efficient allocation of resources, since none are being wasted. However, if the economy is located within its production possibility frontier, there is an inefficient allocation of resources as not all are being used. At position U it is possible to increase production of both consumer and capital goods, by utilising unemployed resources. Since nothing is given up in return, there is no opportunity cost.

Position V shows an output combination that is currently unobtainable, given the availability of resources and level of technology. The production possibility frontier will need to shift outwards in order to reach this combination of output of capital and consumer goods.

The shape of production possibility frontiers: curves and straight lines

A typical production possibility frontier is bowed to the origin and shows that, as more of one good is produced, an increasing amount of the other good is forgone. The opportunity cost rises. This is because not all resources are as efficient as other resources in the production of both goods. Diminishing returns set in.

A good example is the use of agricultural land in East Anglia and southwest England. We can assume that farmland can be used either for growing wheat or for livestock production. East Anglia has highly fertile and light soils with suitable rainfall for growing wheat. Output per acre is very high. However, as we move towards the southwest, the soil becomes too heavy and rainfall too high for growing wheat. Instead, livestock farming is far more productive per acre. If farmland in the southwest were converted to wheat production, yields would be very low and would be achieved only at a cost of forgoing considerable livestock output.

Production possibility frontier The maximum potential output of a combination of goods an economy can achieve when all its resources are fully and efficiently employed, given the current level of technology.

Knowledge check 2

How might opportunity cost be shown on a production possibility frontier?

Exam tip

Be prepared to define key economic concepts in data-response and in open-response questions as knowledge marks are often awarded for this.

Shifts in the production possibility frontier

A country's production potential may increase over time, which is shown in Figure 2 by an outward shift in its production possibility frontier. This represents economic growth and there are a number of possible causes: for example, an increase in the quantity or quality of resources; the expansion of further and higher education and government training schemes; or an increase in investment and the development of new technology.

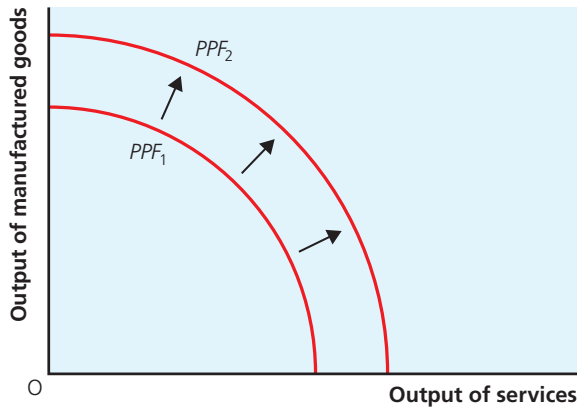


Figure 2 An increase in the production possibility frontier

Occasionally the production possibility frontier may shift inwards towards the origin, indicating a decrease in the potential output of an economy. This may be caused by war or a natural disaster where many resources are destroyed. In 2017 Hurricane Irma devastated parts of Texas and Florida in the United States, causing up to \$200 billion of damage and reducing productive capacity.

Specialisation and the division of labour

Specialisation occurs when an individual, a firm, a region or a country concentrates on the production of a limited range of goods and services. The advantages of specialisation are that it increases productivity and living standards across the world. The UK specialises in the production of medicinal drugs, aircraft manufacture, tourism, and financial and business services. These goods and services can then be traded for other goods and services produced by other countries. It leads to a higher level of global output and higher living standards.

Specialisation can have disadvantages, notably when demand for a good or service falls, leading to a significant increase in structural unemployment. Also, a country specialising in the production and export of minerals may face problems of resource depletion. Another problem relates to the price at which goods are sold: for example, many developing countries face an unfavourable rate of exchange, selling their commodities at a low price compared to the goods they purchase from overseas.

The **division of labour** is one form of specialisation, where individuals concentrate on the production of a particular good or service. Production is broken down into a series of tasks, conducted by different workers. For example, house construction involves a range of specialist labour, including architects, surveyors, bricklayers,

Exam tip

Be prepared to annotate or draw a diagram of a production possibility frontier when answering short-answer and data-response questions on this concept. Marks are usually available for this.

Knowledge check 3

What is the state of the economy if it is operating at a point within its production possibility frontier?

Knowledge check 4

Outline the factors which might lead to an outward shift of the production possibility frontier for a country.

Specialisation When an individual, firm, region or country concentrates on the production of a limited range of goods and services.

Division of labour The specialisation of workers on individual tasks in the production process to increase efficiency.

carpenters and electricians. Adam Smith, the first ever professor of economics, writing in the eighteenth century, explained division of labour by referring to production in a pin factory. He explained that by breaking down pin production into 18 specialist tasks, each carried out by a different worker, total output of pins increased by 2,000%, compared to a situation where each worker had to carry out all the tasks involved.

Advantages of the division of labour

- Increase in labour productivity (higher output per worker per hour), which leads to higher living standards. Each worker can become highly skilled in a task due to repetition: for example, a tyre fitter in a garage.
- Increase in the efficiency of resources, helping to reduce the cost per unit of output. This is partly because capital equipment can be used continuously on a production line: for example, robots on motor vehicle assembly lines. In addition, no time is wasted in moving workers from one task to another: for example, packers on a sandwich production line. Furthermore, less time is required to train workers for specific tasks: for example, training a chef to make pastry dishes rather than training him or her in all aspects of cooking food in a restaurant.
- Increase in the quality of output since each worker can specialise in a job that suits his or her skills, aptitude and experience. For example, a person who likes rock climbing might specialise in work as an outdoor pursuits leader and become highly proficient.

Disadvantages of the division of labour

- Repetition creates monotony and boredom. There could be a high turnover of staff, leading to increased recruitment and selection costs.
- Breaking down production into different tasks makes it easier to replace skilled workers with machines, leading to structural unemployment, such as motor vehicle paint sprayers being replaced by robots, or supermarket cashiers being replaced with self-service scanning machines.
- Specialisation creates interdependence in production. If one group of workers goes on strike, it could halt production across the whole industry. For example, when train drivers call a one-day stoppage, they disrupt the work of guards and ticket inspectors, as well as that of many commuters.

The functions of money

Money is anything that is generally acceptable in the payment of a good or service, or of a debt. Money comes in various forms, largely in cash and bank deposits. Advances in technology mean we are moving towards a cashless society where most payments occur through debiting and crediting bank accounts. The development of money enabled specialisation and trade to grow, leading to the sophisticated economies of today. It is crucial that people have confidence in the money used; otherwise it will lose its general acceptability for making transactions. Once this happens, it ceases to be money. An example of this problem is in Venezuela where the government printed off too much of its currency (the bolivar), leading to hyperinflation. In 2019 the inflation rate exceeded 2 million per cent, with the currency becoming worthless and so no longer acceptable in payment for goods and services.

Exam tip

Be careful not to confuse an increase in total production costs with a decrease in cost per unit of output. Specialisation will typically increase total production costs for a firm, since it is likely to increase total output, requiring more raw materials and machinery. However, it also leads to a reduction in the cost per unit of output, since workers become more productive.

Knowledge check 5

Why does the division of labour increase productivity or output per head?

Money Anything that is generally acceptable in the payment of a good or service, or of a debt.

Content Guidance

There are four functions of money:

- *Medium of exchange.* It enables the buying and selling of products, making exchange easier. Money eliminates the need for barter.
- *Measure of value.* It enables a value to be placed on products so they can be bought and sold with ease. Money creates a unit of measure that enables comparisons between the relative values of products.
- *Store of value.* It is a convenient way of storing wealth so that it can be spent at a later date. Money will tend to hold its value in the short term as long as inflation remains low.
- *Method of deferred payment.* It enables borrowing and lending. This means someone can borrow money in order to buy a product rather than waiting until enough funds have been saved. A price is usually set for borrowing and lending — this is known as the rate of interest.

Free market, mixed and command economies

An economy organises its resources in different ways to produce goods and services. This ranges along a continuum from a free market economy through to a mixed economy and then a command economy. Figure 3 shows the notion of a continuum.

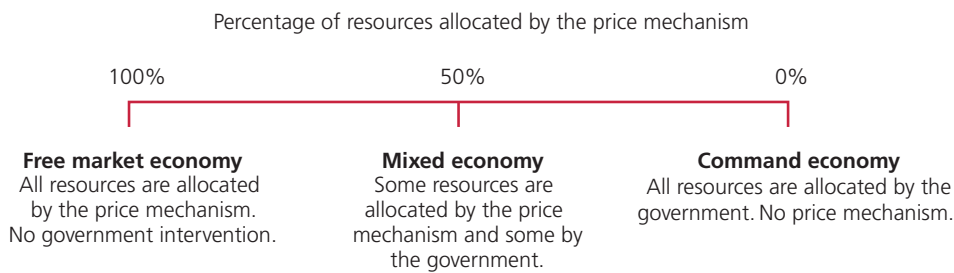


Figure 3 Types of economic system

In reality, the vast majority of economies comprise a mixture of both private enterprise (the private sector) and state intervention (the public sector), thus being mixed economies. In the UK around 60% of resources are allocated by the private sector and 40% by the public sector. The government is a major provider of education, healthcare, defence and law and order in society. In other European economies (e.g. France, Germany and Sweden), the size of the public sector is greater, while in North America (the USA and Canada) it is lower. In all cases these are considered to be mixed economies.

A free market economy

A **free market economy** is where decisions on what, how and for whom to produce are left to the operation of the price mechanism. It is associated with the writings of the economists Adam Smith and Friedrich Hayek. In a free market economy, resources are privately owned and economic decision making is decentralised among many individual consumers and producers. There is minimum government intervention.

Free market economy

Where all resources are privately owned and allocated via the price mechanism. There is minimal government intervention.

In his famous book *The Wealth of Nations*, published in 1776, Smith referred to the 'invisible hand' of self-interest as guiding supply and demand in markets. He believed that consumers and producers acting in their own self-interest would lead to the best outcome for all in society. This approach led to the development of the classical school of economic thought.

There are no pure free market economies in the world today since, in every economy, the government directly controls some resources and output. However, the proportion of government intervention tends to be significantly less in some developing countries, such as Malaysia and Thailand, compared to the developed world. Perhaps the best example of a developed country with a relatively small government sector is Hong Kong.

Advantages of a free market economy

- Economic efficiency and lower prices: competition means that firms try to keep production costs down in order to sell goods and services at competitive prices (productive efficiency). Competition also means that firms try to produce goods and services that consumers demand (allocative efficiency). This means the price mechanism will equate consumer demand with producer supply.
- Quality of products: competition means firms continuously try to improve the quality of their products to gain an advantage over rivals. There is considerable consumer sovereignty: that is, consumer power in the market.
- Greater choice: consumers can often choose to buy from a wide selection of goods and services; workers often have a wide choice of employment opportunities.
- Financial incentives: entrepreneurs have an incentive to invest and take risks in order to earn profit; labour has an incentive to work hard to gain more earnings.

Disadvantages of a free market economy

- Monopolies may form as a result of competition in some markets; rival firms get taken over or go out of business.
- The distribution of income and wealth is very unequal and the lack of welfare support may lead to people living in absolute poverty.
- External costs and benefits from production or consumption are sometimes ignored. For example, the price mechanism ignores the external costs of pollution and the external benefits of education.
- Information gaps persist: people may consume excessive amounts of demerit goods such as drugs, tobacco and alcohol, unaware of their dangers. There is a lack of regulations and taxation to protect consumers.
- An insufficient quantity of public goods and merit goods is provided in a market economy. Public goods include defence and street lighting, while merit goods include healthcare and education.
- Erratic swings in the business cycle may cause high inflation during an economic boom and high unemployment during an economic slump.

A command economy

This is an economy where the government makes the decisions on what, how and for whom to produce. It is associated with the writings of Karl Marx, a nineteenth-century economist and philosopher who believed that production should be directed

Content Guidance

on the basis of human need rather than profit. In a **command economy**, the government has control of resources and economic decision making is centralised. There is no role for the price mechanism. Command economies can work effectively during times of national crisis: for example, the UK was run like one during the Second World War with great success. However, personal freedom and living standards tend to be jeopardised in such economic systems. One example today is North Korea.

Advantages of a command economy

- Cooperation between firms can lead to high levels of output. In general, the maximisation of output replaces the maximisation of profits as the key aim of firms.
- There is a reduction in inequality compared to free market economies, since the government controls the wages of all workers.
- The government may limit the external costs from production and consumption: for example, it can limit pollution emissions from firms and place severe taxes on harmful products such as tobacco and alcohol.
- The government can fund the provision of public goods such as defence and law and order; it can also increase the provision of goods which yield high external benefits to society, such as education and healthcare.
- The government has more control of the economy and so there are smaller swings in the business cycle, leading to less unemployment and inflation.

Disadvantages of a command economy

- The price mechanism is unable to operate and so markets may suffer from shortages (excess demand) and surpluses (excess supply), leading to an inefficient allocation of resources.
- The lack of competition between firms leads to inefficiency, and so productivity is low.
- The lack of competition leads to poor-quality products, especially when the emphasis is on maximising output rather than profit.
- There is less choice of goods and services for consumers to select from; labour may also be directed into specific jobs with no choice depending on their location.
- A lack of financial incentives: managers have no profit incentive to take risks by developing new goods and services, as the focus is on maximising output; labour has little incentive to work hard, since wages are fixed by the government.
- Under-performance of command economies: economic growth and living standards tend to grow at a much slower rate than in market-based economies. This was a major cause of the collapse of the Soviet Union during the early 1990s.

A mixed economy

This is an economy where decisions on what, how and for whom to produce are made partly by the private sector and partly by the government. Most developed countries in the world today fall under this classification. Examples are the UK, USA, France, Germany, Canada, Australia and Sweden.

The rationale of a **mixed economy** is to gain the advantages of the market economy while avoiding its disadvantages through government intervention. It is associated with the writings of John Maynard Keynes in the early twentieth century. Often

Command economy

Where there is public ownership of resources and these are allocated by the government.

Exam tip

Note that the advantages of a command economy tend to represent disadvantages of a free market economy; similarly, the disadvantages of a command economy often represent advantages of a free market economy.

Mixed economy

Where some resources are owned and allocated by the private sector and some by the public sector.

government intervention occurs to correct market failure: for example, the under-provision of merit goods such as education and healthcare or the non-provision of public goods such as defence. Government intervention usually arises to help markets work more effectively.

Summary

- Economics is concerned with how resources are allocated to provide for human wants. As resources are finite, there is an opportunity cost in producing a good or service, since the resources could have been used to produce alternative goods or services.
- Positive economic statements are facts which can be tested as true or false, whereas normative economic statements are value judgements which cannot be tested as true or false.
- The production possibility frontier illustrates the concepts of finite resources and opportunity cost. It can also be used to show unemployment and economic growth.
- Specialisation and the division of labour have led to huge increases in productivity.
- Money is anything that is generally acceptable in the payment of goods and services, or of debts. It has four functions: a medium of exchange, a measure of value, a store of value and a method of deferred payment.
- Most economies are mixed economies, where resources are allocated partly by private enterprise and partly by the government.

Knowledge check 6

Which type of economic system best describes the UK?

Questions & Answers

Exam format

A-level Paper 1 — ‘Markets and business behaviour’ — comprises 35% of the weighting for the A-level examination. The paper comprises three sections: section A consists of five multiple-choice and short-answer questions; section B consists of one data-response question broken down into five sub-questions; section C consists of a choice of extended open-response questions — students select one from a choice of two.

The time allowed for the examination is 2 hours. There is a maximum of 100 marks: 25 marks are available in section A (the multiple-choice and short-answer questions), 50 marks in section B (the data-response question) and 25 marks in section C (the extended open-response question). This means around 25 minutes should be spent on section A, 60 minutes on section B and another 25 minutes on section C, leaving 10 minutes to check and amend your work.

Note: Paper 1 requires students to answer questions from Theme 1, ‘Introduction to markets and market failure’, and Theme 3, ‘Business behaviour and the labour market’. Students are required to learn the models and concepts from both themes in preparation for the exam. You are recommended to obtain the accompanying student guide in this series, ‘Business behaviour and the labour market’. This provides further guidance on the content and exam questions for Theme 3.

Section B

Data-response questions

Structure of the questions

The data-response questions comprise five compulsory sub-questions labelled (a) to (e), which total 50 marks. Question 1 is on the UK bottled water market and question 2 focuses on the UK housing market.

A 'levels'-based approach is used to mark the data-response and the extended open-response questions (section C). This enables a variety of different approaches in student answers to be valid rather than solely requiring specific points that are stated on the mark scheme. It means the examiner makes an initial assessment of the quality of an answer and places it at a level ranging from 1 to 4. The examiner's judgement is then refined to award a more precise mark within that level. It is recommended that you refer to the levels descriptors provided in the sample assessment materials for Economics produced by Edexcel at:

<https://tinyurl.com/y2o8h38b>

In addition, a levels-based mark scheme is often broken down into two further parts: the first focuses on 'knowledge, application and analysis' marks and the second relates to 'evaluation'. Evaluation questions include the command words *examine*, *evaluate*, *assess*, *discuss* and *to what extent*. Any of these instructions indicate that you should demonstrate some critical understanding of the issues being discussed.

Each sub-question here is followed by some general guidance on how the question should be approached. You are advised to attempt the questions before you read the sample student answers supplied. Student answers are followed by detailed comments which show you what is being rewarded and how the answer might have been improved.

Question 1 The UK bottled water market

Table 1 UK bottled water market and real income per head

| Year | Consumption (million litres) | Consumption per head (litres) | Sales revenue (£ million) | Real household disposable income per head (£) |
|------|------------------------------|-------------------------------|---------------------------|---|
| 2011 | 1,879 | 29.7 | 1,099 | 17,991 |
| 2012 | 1,896 | 29.8 | 1,139 | 18,257 |
| 2013 | 2,022 | 31.6 | 1,251 | 18,119 |
| 2014 | 2,207 | 34.2 | 1,368 | 18,254 |
| 2015 | 2,407 | 37.0 | 1,485 | 18,770 |
| 2016 | 2,637 | 40.3 | 1,602 | 18,917 |

Sources: British Soft Drinks Association, Annual Report, 2017; Office for National Statistics

Table 2 UK fizzy soft drinks*

| Year | Consumption fizzy drinks (million litres) | Consumption fizzy drinks per head (litres) |
|------|---|--|
| 2011 | 5,443 | 86.0 |
| 2012 | 5,360 | 84.1 |
| 2013 | 5,350 | 83.5 |
| 2014 | 5,240 | 81.1 |
| 2015 | 5,201 | 79.9 |
| 2016 | 5,192 | 79.2 |

* Fizzy soft drinks refer to colas, lemonade, tonics and other sparkling fruit-flavoured drinks.

Source: British Soft Drinks Association, Annual Report, 2017

Extract A Bottled water sales and consumer behaviour

Bottled water has become the world's best-selling soft drink. In the UK alone over 2.6 billion litres of it was drunk in 2016. Its growth in consumption is linked to convenience, quality and taste.

Yet tap water can be obtained almost for free. Bottled water is between 500 and 2,000 times more expensive than tap water. It may also be less safe to drink than tap water due to micro

plastic contamination and the chemicals which gradually build up in bottles. By contrast, tap water is regulated by the Drinking Water Inspectorate which takes regular samples, where 99.7% pass strict standards. Although tiny amounts of chlorine are added to tap water affecting its taste, this is required to destroy harmful bacteria.

Extract B Environmental costs of bottled water

Bottled water is harmful to the environment. It takes 3 litres of water to produce 1 litre of bottled water. The production of bottled water leaves a large carbon footprint, creating over 160 grams of carbon dioxide per litre — equivalent to driving a petrol-engine car for 1 kilometre. Recycling rates are also poor; in the UK some 35 million plastic bottles are consumed everyday — but 16 million of them are not recycled; much of this waste ends up in landfill sites or, worse still, in the oceans, destroying marine life. The average plastic water bottle takes 400 years to decompose.

However, over recent years UK bottle manufacturers have switched to using recyclable plastic materials and new designs which are 30%

lighter, using less plastic. Yet most plastic bottles can only be recycled twice before they become unusable anyway.

Although bottled water is already subject to a 20% value added tax, there have been calls for imposing an additional specific tax in order to reduce consumption and help protect the environment. Proponents have pointed out how the 5p tax on plastic carrier bags introduced in 2015 led to an 85% reduction in demand. Further options include regulations: for example, implementing a bottle deposit scheme and compelling manufacturers to use substitute materials such as glass and aluminium.

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- (a) With reference to Table 1, explain the effect on the total sales revenue of bottled water companies, following an increase in demand for bottled water between 2011 and 2016. Use a demand and supply diagram in your answer. [5 marks]

This is the only question in the data response with no evaluation marks. All the marks are for knowledge, application and analysis. Ensure a demand and supply diagram is provided or your marks will be capped, usually at a maximum of 3 out of 5 marks. Make explicit use of the bottled water data in Table 1 or, again, risk being capped. Use of the data will count towards the quantitative aspects of the assessment.

- (b) With reference to Tables 1 and 2, examine two likely reasons for the increase in consumption per head of bottled water. [8 marks]

Offer two possible causes of the increase in consumption per head of bottled water, making explicit use of the data in both Tables 1 and 2. Usually 2 knowledge marks are available for identifying two causes from the data. Try and offer some development of the data to gain 2 application marks: for example, by calculating the increase in consumption of bottled water and the decrease in consumption of substitutes such as fizzy drinks. By developing the reasoning for the increase in demand for bottled water, 2 analysis marks can be achieved. There are also 2 marks available for an evaluative comment here, so make sure one is offered.

- (c) With reference to Extract A and your own knowledge, discuss whether the increase in consumption of bottled water represents rational consumer behaviour. [10 marks]

This question invites you to consider both views, one being that consumers are behaving rationally, the other that they are not. Typically, the best answered view is awarded up to 6 knowledge, application and analysis marks; the alternative view is then awarded up to 4 evaluation marks. This flexibility in marking enables candidates to achieve the highest mark possible, given the quality of their answer.

- (d) With reference to Extract B and your own knowledge, evaluate the possible costs of an increase in production and consumption of bottled water. Use an external cost diagram in your answer. [12 marks]

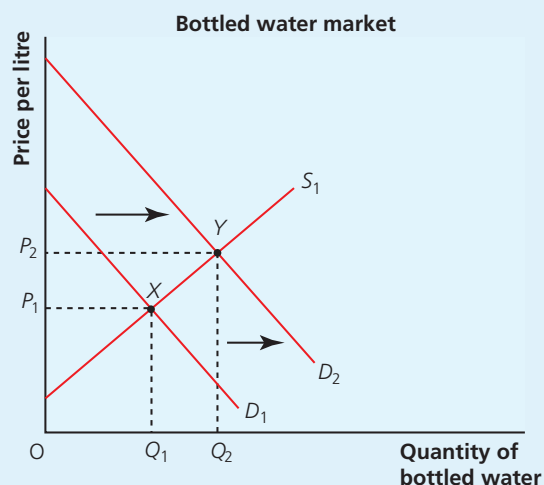
It is useful to consider both the private and external costs to producers and consumers. Also ensure a suitable external cost diagram is offered or your marks will be capped, usually to a Level 2 answer (maximum of 5 out of 8 knowledge, application and analysis marks). There are also 4 evaluation marks available and this usually requires one (very well-developed) or two comments. Evaluation may come in the form of considering the possible benefits from the growth in the bottled water market.

- (e) Discuss whether the introduction of a specific tax is likely to be more effective than regulations in reducing external costs from the bottled water market. [15 marks]

Make sure you consider the merits of both specific taxation and regulations on bottled water in order to avoid being capped (usually to a Level 2 answer — a maximum of 6 out of 9 knowledge, application and analysis marks). There are 6 evaluation marks available and this usually requires two comments.

Student answer

- (a) The diagram shows an increase in demand for bottled water from D_1 to D_2 , raising both price and quantity from P_1 to P_2 and Q_1 to Q_2 . Total revenue increases from OP_1XQ_1 to OP_2YQ_2 . **a**



- (b) Table 1 shows that consumption per head of bottled water has increased from 29.7 litres in 2011 to 40.3 litres in 2016. This is a growth of more than 35%. One likely reason for this is due to a decrease in demand for substitute goods such as fizzy drinks (consumption per head has fallen by 7.9%) shown in Table 2. The substitutes may have increased in price, leading to an increase in demand for bottled water, reflecting a positive cross elasticity of demand relationship between them. It could also be due to a change in tastes and fashion, where many consumers have become more health conscious and so have switched from sugary fizzy drinks to bottled water. **b**

A second likely reason for the increase in demand for bottled water is due to a rise in real household disposable income per head as shown in Table 1. Between 2011 and 2016 real income per head increased by £926 or 5.1%, making it more affordable to buy bottled water. This also suggests that bottled water is a normal good with a positive income elasticity of demand. **c**

- (c) Rational consumer behaviour assumes individuals allocate their income so that they maximise their total utility when spending on goods and services. **d** However, the rapid growth in consumption of bottled water suggests that consumers are not acting rationally since it is between 500 and 2,000 times more expensive than readily available tap water. There is an opportunity cost to buying bottled water as people could spend this money on other goods and services instead; they just

(a) **a** An accurate diagram is shown depicting an increase in demand (1 application mark), and the original and new areas of total revenue (1 knowledge and 1 analysis mark). However, no direct reference is made to Table 1 as required. Further application and analysis marks could be obtained by using the data: for example, the total sales revenue for bottled water companies increased by 46% from £1,099 million in 2011 to £1,602 million in 2016. **3/5 marks awarded.**

(b) **b** The student explicitly uses the data in Tables 1 and 2 to explain two likely causes of the increase in demand for bottled water (1 + 1 knowledge marks). The first cause relates to the fall in consumption of substitute goods such as fizzy drinks, and some relevant analysis is offered using cross elasticity of demand (1 application and 1 analysis mark). **c** The second cause is linked to the rise in real household disposable income, and further analysis is offered using income elasticity of demand (1 application and 1 analysis mark). Manipulation of the data includes calculating the percentage increase in sales of bottled water and the decrease in sales of fizzy drinks.

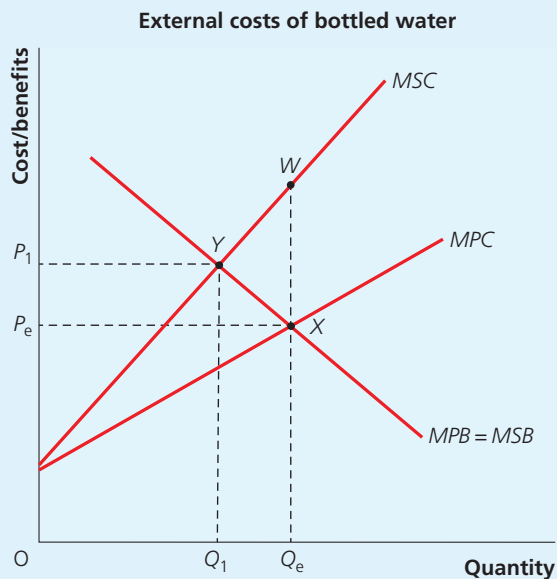
Although all the available knowledge, application and analysis marks have been achieved, the student slips up by not offering an evaluative comment and so can only gain a maximum of 6 out of 8 marks. One evaluation technique which could be used here is to raise the possibility of other factors causing the trend in bottled water consumption: for example, advertising campaigns or higher taxes on substitute goods. This makes it difficult to decide the relative importance of different factors. **6/8 marks awarded.**

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have to replace bottled water with tap water, the latter being widely available in homes. **e**

Government regulations also mean the quality of tap water is high — it contains traces of chlorine which kills most harmful bacteria. Extract A mentions that 99.7% of water samples pass the strict standards set. By contrast, bottled water appears to have less stringent regulations and may suffer from micro plastic contamination which could harm consumers. On this basis, it appears consumers of bottled water are not behaving rationally since it may be of poorer quality than tap water. **f**

- (d) External costs are negative third-party effects ignored by the market transaction. There are external costs in both the production and consumption of bottled water. These include a large carbon footprint which the extract mentions is over 160 grams of CO₂ per litre bottle. Chemical processes involved in making the plastic emit gases which add to global warming. Some 35 million plastic bottles are used every day in the UK but 16 million are not recycled. This has led to an enormous amount of plastic waste being deposited in landfill sites and in the oceans, damaging marine life. The increase in production and consumption of bottled water can only make things much worse. **g**



However, it should also be recognised that there are many benefits from the growth in the bottled water industry. Jobs have been created and incomes increased in the sector. It also generates more profits for bottled water companies and dividends for shareholders. There are positive multiplier effects throughout the supply chain, benefiting other industries,

(c) **d** The student outlines the meaning of rational consumer behaviour and then uses the information in Extract A to explain two reasons why the trend for consuming more bottled water is irrational. **e** The first concerns its high price and the second **f** questions its quality. Two points, well developed, are sufficient to award the maximum knowledge (2), application (2) and analysis (2) marks available.

As with the previous answer, the student fails to offer any evaluation and so can only achieve 6 out of 10 marks. A useful evaluation technique is to investigate the other side of the argument — that consumer behaviour is rational, for example, as long as the marginal benefit gained exceeds or equals the price paid for the last unit. More use could also be made of the phrase 'convenience, quality and taste' of bottled water in Extract A. Tap water is not always available to people in their busy lives, particularly outside of the home. Furthermore, many people enjoy the taste of different types of bottled water, which justifies paying a higher price than for tap water. It is still affordable for many consumers.

6/10 marks awarded.

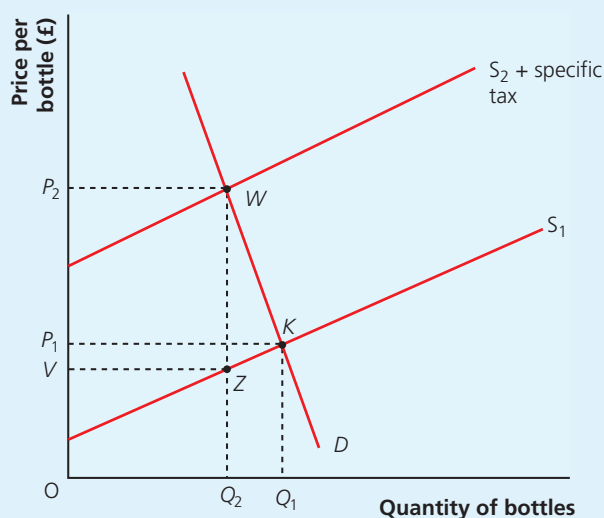
(d) **g** The answer relies heavily on Extract B for explaining the external costs associated with an increase in production and consumption of bottled water. It tends to copy the information in the extract, offering little development, and market failure is not explored (1 knowledge and 1 application mark); furthermore, no reference is made to private costs, such as raw materials, machinery and workers' wages. An external cost diagram is provided but without explanation or application to bottled water (1 knowledge mark). This part of the answer is a Level 2, being a narrow response with limited chains of reasoning. It could be improved by explaining the free market (OP_e and OQ_e) and social optimum positions (OP_1 and OQ_1) and also the triangle of welfare loss (XYW).

including plastic and water companies. Labour productivity at work can also increase from a well hydrated workforce. [h]

There are also benefits for people's health in consuming bottled water, which helps prevent dehydration and possible illnesses resulting from this. Consequently, once external benefits are included, the social optimum output would be higher and the net welfare loss lower. Private benefits include the utility people gain from consuming bottled water. [i]

- (e) Specific taxes and regulations both have their merits in reducing the external costs associated with the production and consumption of bottled water. Specific taxes act to increase production costs which are passed on to consumers via higher prices. In the case of the 5p tax on plastic bags it has been very successful, leading to a dramatic fall in demand. If a similar tax was applied to plastic water bottles, it could also reduce demand as shown in the diagram. Price is increased from P_1 to P_2 and quantity decreased from Q_1 to Q_2 . The total tax revenue collected is P_2WZV . This could be used to help clean up the waste from plastic bottles. [j]

Tax on bottled water



However, many consumers may be more willing to pay the higher price due to convenience and the belief that bottled water is important for health. Consequently, demand is likely to be price inelastic, so having a small impact on reducing overall consumption. Unless the tax is large and hypothecated to be used for cleaning up plastic waste, it is unlikely to internalise the external costs. Furthermore, there is already 20% VAT on bottled water and this has not prevented market growth. [k]

[h] and [i] The last two paragraphs focus on evaluation which comes in the form of discussing benefits from the growth of the bottled water industry. Two points are offered, one on producer benefits and the other on consumer benefits. On their own, producer benefits are very well developed and merit all 4 evaluation marks available. However, time has been wasted by concentrating too much on evaluation and not enough on economic analysis. **7/12 marks awarded.**

(e) [j] In the first paragraph the student focuses on the advantages of a specific tax on bottled water using relevant diagrammatic analysis, which highlights the effects on the market (2 knowledge, 2 application and 1 analysis marks). [k] A well-developed evaluative comment questioning the effectiveness of the tax for dealing with external costs is offered in the second paragraph, using price elasticity of demand (4 evaluation marks).

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Regulations could be more effective in solving plastic waste from bottled water. For example, legislation could be passed to ensure that all plastic bottles are recyclable or that manufacturers have to offer a money back deposit scheme on their return. □ However, regulations have their own drawbacks in terms of the costs of setting up a manageable deposit scheme — presumably the retailers will be responsible for collecting the bottles returned by customers. m

In terms of evaluation, the response reaches Level 3 (5 out of 6); it does not quite compare the relative merits of the two forms of government intervention. For example, taxes offer the consumer choice and operate via the price mechanism, but may be ineffective if demand is price inelastic and the revenue raised is not used to deal with plastic pollution; by contrast, regulations are compulsory, costly to implement and block the operation of the price mechanism, but could be more effective, depending on their enforcement. Another evaluation technique which might be offered here is to suggest that both measures may complement each other if used together.

Total score: 33/50 marks = grade B

□ In the third paragraph the student refers to regulations using examples provided in Extract B, but does not really develop the benefits of, for example, the threat of prosecution, fines and closure of firms (1 application mark). m However, the effectiveness of regulations is questioned in the last sentence (1 evaluation mark). Overall, the answer achieves Level 2 for knowledge, application and analysis (6 from 9), which could be better developed through more chains of reasoning.

11/15 marks awarded.

Question 2 The UK housing market

Table 1 Comparison of average house prices, annual earnings and population growth for London and northwest England, 2018

| Region | Average house price (£) | Average annual earnings, full-time employee (£) | Projected population growth, 2016–26 (%) |
|-----------|-------------------------|---|--|
| London | £486,304 | £37,087 | 8.8 |
| Northwest | £163,487 | £27,539 | 3.4 |

Source: Office for National Statistics

Extract A Rising house prices amid supply shortages

Average house prices in the UK increased from £171,000 in August 2012 to £233,000 in August 2018, caused by demand-side and supply-side factors. Low mortgage interest rates and the availability of house loans have played an important part. There are also severe shortages of skilled building workers, especially in London, following

the uncertainty over the UK's membership of the EU single market. Shortages of building materials such as bricks and cement have also increased, forcing firms to look to imports. Furthermore, planning regulations that protect the countryside around urban areas make it difficult for developers to meet the rising demand for housing.