OCR GCSE (9–1)

ECONOMICS

Second Edition

JAN MILES-KINGSTON
CLIVE RICHES
CHRIS BANCROFT

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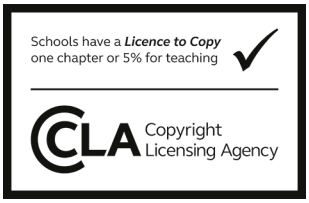
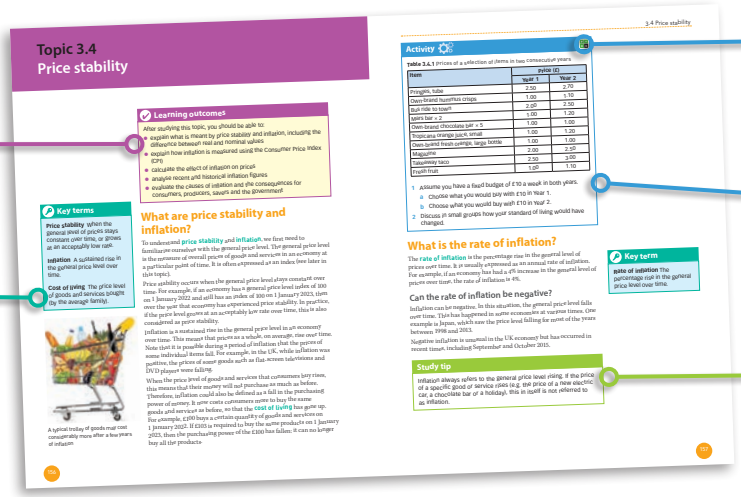


Get the most from this book

This textbook will allow you to build your knowledge of GCSE economics and understand its impact beyond the classroom.

Special features



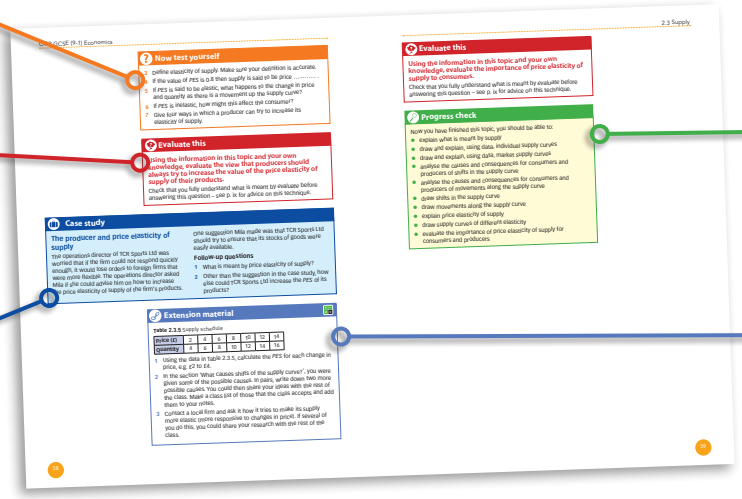
Learning outcomes
A summary of the learning objectives for each topic.

Key terms
Concise definitions of key terms where they first appear.

Quantitative skills
This symbol shows that quantitative skills are covered.

Activity
Task-based activities to help you consolidate learning.

Study tip
Key areas of understanding highlighted.



Now test yourself
Short, knowledge-based questions to check your understanding.

Evaluate this
Brief tips which identify how you can move from understanding the concepts, to applying and evaluating.

Case study
Topical examples, with questions, to make economic concepts real.

Progress check
An end-of-topic summary of what you should know.

Extension material
Additional content, building knowledge and skills for students aiming at the top grades.

Contents

Part 4
International trade and the global economy

Introduction

Welcome to GCSE economics

This book has been especially written to accompany the OCR GCSE economics course. Starting this GCSE course can be an exciting new challenge for you as a student.

Economics is the study of how choices are made in the use of scarce resources to provide goods and services. At the beginning of an economics course, you are not expected to know about the economy in detail, as this is a new subject and it is different in many important respects from others you may have previously studied. However, it won't all be new to you. Economics is largely about people and their economic choices. It is all around us and relates to every aspect of our lives – we are all part of the economy. Therefore, although it may be a new subject of study, you have experience of economics in your day-to-day life.

The economy is the state of a country or region in terms of the production and consumption of goods and services. So we often refer, for example, to the UK economy and to the global economy. You are already a member of one of the main groups in the economy – you are a consumer. You buy goods and services every day, so that makes you an important part of the economy! When you decide what to spend your money on, you are making an economic decision. When you are in your economics class, you are a consumer, as you are consuming the service of education. In the future, you will probably be a worker and earn an income from selling your services. You may even be your own boss (an entrepreneur perhaps), making decisions that will affect your business and profits.

During this economics course, you will appreciate that consumers, producers and governments make economic decisions that affect every one of us as an individual. As economics is a real-life subject, it will help if you become interested in the economic issues of your own country, and in the world as a whole. Economic issues and situations make daily news. Therefore, it would be a good idea to read or listen to the news once a day, as you will be able to identify issues that you are studying on this course.

To reiterate, you are not expected to possess any economics-specific knowledge at the beginning of this course – you will pick it up as your course progresses. There is a new vocabulary to learn, and tools, such as diagrams, that you will learn to use at the relevant time. You will also develop useful skills beyond economics – you will learn to form questions and arguments, communicate and problem solve. By learning how to use economic data from a range of sources, such as tables, charts and graphs, you will acquire the skills to make informed judgements and to communicate in a clear and concise way. In addition, by learning how to analyse and evaluate economic problems and possible solutions, you will acquire a way of thinking as an economist and develop a logical approach to thinking and reasoning. You could say that at the end of this course you will be an economist!

How to use this book

There are four main sections to this book, which correspond with the four content areas of the GCSE economics specification.

- **Part 1: Introduction to economics** is covered over two topics.
- **Part 2: The role of markets and money** is covered over eight topics.
- **Part 3: Economic objectives and the role of government** is covered over eight topics.
- **Part 4: International trade and the global economy** is covered over four topics

Economics is sometimes referred to in two parts: microeconomics and macroeconomics.

- **Microeconomics** is concerned with economic behaviour in the individual markets that make up the economy, and is mainly the subject matter of Parts 1 and 2.
- **Macroeconomics** attempts to explain how the whole economy works, and is mainly the subject matter of Parts 3 and 4.

In practice, there are many interrelated issues in economics, so you will find cross-references between different parts of the book.

In each topic, you will find the information required to build up your knowledge and understanding of economics. In addition, knowledge and understanding of economic concepts and issues will be applied in a variety of contexts. There will also be analysis using economic concepts and evaluation of economic evidence. There is more about these skills below. Extension material also provides extra content beyond GCSE level, which will help you be an even better economist.

The questions following the case studies and the activities are designed to have open-ended responses, so we have not provided any answer guidance here. The Now test yourself questions and the practice questions do have answer guidance, available online at: www.hoddereducation.co.uk/subjects/economics/products/14-16/ocrgcse-economics.

What will the GCSE economics exam be like?

At the end of the course, you will sit two examination papers. Each paper will be 90 minutes in length and will be worth 80 marks, and each will be worth 50% of the final GCSE grade.

Paper 1 Introduction to economics will mostly, but not exclusively, contain content from Parts 1 and 2 of this book, namely:

- Introduction to economics
- The role of markets and money

Paper 2 National and international economics will mostly, but not exclusively, contain content from Parts 3 and 4 of this book, namely:

- Economic objectives and the role of government
- International trade and the global economy

Each paper will have two sections.

- **Section A** will have 20 multiple-choice questions.
- **Section B** will have three data-response questions. Each data-response question will be worth 20 marks, broken down into parts.

You can see how these questions are structured, as we have included practice questions in this book. There will be no choice between questions – you will be asked to answer all questions on each paper.

Synoptic assessment is found in each of the 6-mark parts of questions in Section B of both papers. Synoptic assessment means that you may be asked to draw on your knowledge and understanding from the full range of content in the specification (and not just from the half of the content that the exam focuses on). This is important, as it means that you cannot rely on simply revising half the course when preparing for one particular paper.

To do well in the exam, you must have a good knowledge and understanding of economics and be able to analyse and evaluate when asked to do so. The assessment objectives (AOs) refer to these necessary skills and are as follows.

- **AO1:** demonstrate knowledge and understanding of economic concepts and issues.
- **AO2:** apply knowledge and understanding of economic concepts and issues to a variety of contexts.
- **AO3:** analyse (AO3a) and evaluate (AO3b) economic evidence and issues to demonstrate understanding of economic behaviour, make judgements and draw conclusions.

It is useful to know the importance of each assessment objective (AO).

- AO1 is 35% of each paper.
- AO2 is 35% of each paper.
- AO3 is 30% of each paper.

Given the allocations in the assessments for each of these AOs, it is imperative that you recognise command words used in questions and answer accordingly. The most important command words used in the exam are explained below, including the AO to which they relate.

- **State:** refers to the ability to demonstrate or apply knowledge and understanding. In some cases, this may simply require a one-word answer (AO1 and AO2).
- **Explain:** refers to the ability to:
  - demonstrate knowledge and understanding by stating a definition, explaining a concept or giving an example (AO1)
  - apply knowledge and understanding to a context (AO2)
- **Draw:** refers to the ability to construct and label a diagram appropriately (AO1 and AO2).
- **Calculate:** refers to the ability to apply quantitative skills (AO1 and AO2).

- **Analyse:** refers to the ability to present logical chains of reasoning based on knowledge and application (AO1, AO2 and AO3a).
- **Evaluate:** refers to the ability to weigh up both sides of the argument, or to compare alternatives, and to come to a supported judgement (AO2, AO3a and AO3b).

Advice on evaluation technique

Evaluation is a key skill for economists. It helps them weigh up decisions and put forward informed judgements and advice. In GCSE economics, the skills of analysis and evaluation are tested in the 'Evaluate' questions that are worth 6 marks.

Different questions may require slightly different approaches to evaluation. For example, a question may ask whether benefits outweigh costs. One approach is to start with analysis of the benefits and costs that are most significant and likely to occur. The next step is to evaluate, which will weigh up the benefits and/or costs discussed and lead to an overall judgement that answers the exact question wording set. For this style of question, it is important to go beyond an answer that is purely analysis of both the benefits and costs.

Another example is a question that asks whether a government should intervene in a market. In this case, it may be useful to analyse the key argument(s) for intervention and the likely consequences. Evaluation can then pull apart any part of the chains of reasoning for analysis, so that the consequence reasoned may not happen or may not happen as fully. A judgement can then be made, supported by the side of the argument that can be explained to be stronger.

Here is a summary of the assessment objectives and skills needed for an 'Evaluate' question.

AO2 Application	Use the context of the given scenario throughout your answer. For instance, keep linking your answer to the specific market mentioned in a question. Your answer should also link to the exact question wording used.
AO3a Analysis	Develop chain(s) of reasoning that link together key steps in the theory to explain one side of your answer. Focus your reasoning on the point(s) that you think are clearest and most important.
AO3b Evaluation	Weigh up your analysis, e.g. reason how likely or significant your arguments are, consider both sides, or compare alternatives. Make an overall judgement that makes a final decision and answers the exact question set. This should be fully supported. It should link back to your analysis/evaluation and be clear why one argument takes priority.

We hope you enjoy your study of economics on this course and that this book will help you to achieve a good grade.

Chris Bancroft, Clive Riches and Jan Miles-Kingston

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Part 1

Introduction to economics

Topic 1.1
Main economic groups and factors of production

Key terms

Consumer A person or organisation that directly uses a good or service.

Producer A person, company or country that makes, grows or supplies goods and/or services.

Government A political authority that decides how a country is run and manages its operation.

Good A tangible product, i.e. a product that can be seen or touched.

Service An intangible product, i.e. a product that cannot be seen or touched.

Learning outcomes

After studying this topic, you should be able to:

- explain the role of the main economic groups: consumers, producers and the government, including their interdependence
- explain the factors of production: land, labour, capital and enterprise, including how they might be combined

What is the role of the main economic groups?

There are three main economic groups: **consumers**, **producers** and **government**. They all have different objectives and influence the economy by buying, selling or intervening in the buying and selling of different goods and services. These economic groups are sometimes referred to as 'economic agents' or 'actors'.

Goods and **services** will be referred to throughout this book, as the economic groups make decisions about these types of products. A 'good' is a product that can be seen and touched (i.e. is tangible), such as a mobile phone. A service is a product that cannot be seen or touched (i.e. is intangible), such as financial advice.

Consumers

In economics, a consumer is the individual who buys goods or services. A consumer is an end-user of a good. For instance, when an individual decides to buy and eat a chocolate bar from a shop, they are acting as a consumer. In this specification, the customer and the consumer are assumed to be one and the same.

Consumers make choices about their spending, deciding whether it is worthwhile to buy a good. The main motivation in consumers' decision making is their own self-interest. To make this decision, consumers weigh up the benefits or the satisfaction gained from using a good against the price they would have to pay to obtain it.

Consumers purchase both goods and services on the high street

Consumers often act on an individual basis, so they may have less power in a market. If this is the case, they may need protection from the actions of more powerful producers who dominate a market. These producers may control the price, quantity or quality of a good. As a result, the government may intervene with regulations to protect consumers. For example, there have been regulations that try to make producers act more fairly when trying to sell goods to consumers. This includes giving fuller information about goods or special offers on goods. This should help consumers to fully consider a good's value and make more informed decisions about whether to buy.

Case study

What's in my sandwich?

There are often cases of mislabelling of food in the news. For instance, companies have been criticised for not listing all ingredients in pre-packed, freshly made food that is sold direct to customers. This includes foods such as sandwiches that may contain allergens such as sesame seeds. The government has now intervened to require companies to include fuller information to protect those consumers who might have chosen the sandwiches because they appeared to be allergen-free. Without this intervention, the consumers would not have had full information about the product and might have decided to buy sandwiches that could have harmed them.

Follow-up questions

1 Write down an item of food you have bought recently, such as a smoothie or a chocolate bar (note, you are the consumer of these goods).

2 List the reasons why you bought this item of food. Do any of the reasons rely on information from the producer (e.g. number of calories, ingredients and vitamin levels)?

3 Discuss, as a class, problems that might arise if you obtain incorrect information from a producer about an item of food. Write down some of these problems.

4 Consider how the government might act to help with these problems. Again, discuss this as a class and make a note of some of the examples.

For more examples of the problems consumers face regarding food labelling, visit **www.food.gov.uk/news-updates/news**.

Producers

Producers supply goods and services. For example, a farmer is a producer who grows crops and then supplies them to consumers or other producers. Producers make choices about what and how they produce. They have influence over the quantity, price and quality of a good they produce. Economists assume their main motivation is self-interest, i.e. maximising their financial reward (profit).

Government

A government is a group of people that has the power to run a country. They make and enforce rules within that country. Some of these rules particularly affect consumers, such as the age when you are legally allowed to buy some goods (e.g. fireworks). Some of these rules affect producers, such as health and safety laws. For example, if a floor in an office is wet after cleaning, a warning sign should be placed in the area, or the area should be closed off to reduce the risk of injury.

Activity

In small groups, make a list of similar words for:

1 Consumers

2 Producers

Compare your lists as a class.

Activity

1 In groups, list government rules that apply to you (e.g. things you are not old enough to buy or that force you to do something).

2 Compare your lists and consider what further action the government might take if people do not follow the rules.

The government spends money in an economy. For instance, it pays for hospitals provided by the National Health Service, for roads to be built and for the police service. It also gives money to individuals. For instance, child benefit is paid to families and universal credit is paid to those on a low income or without a job. The state pension is paid weekly to older individuals who are beyond a certain age and are likely to have retired from work. As an economic agent, the government acts both as a producer and as a buyer.

Governments also affect the economy with many of their policies. For instance, they have the power to tax people and firms, which raises revenue that they can then use to cover their spending. For instance, corporation tax is a tax on a producer's profits. The decision to increase or decrease these taxes can affect the choices that consumers and producers make. Any of these government actions may influence price, quantity or quality of a good or service.

Now test yourself

1 Identify which of the following are true and which are false:

- **a** Consumers are influenced by their potential satisfaction when deciding to buy a good.
- **b** A house is an example of a good.
- **c** Producers are mainly motivated by producing goods that are best for society.
- **d** A bank is an example of a producer.
- **e** Government information on the problems of smoking affects only consumers.

How are the main economic groups interdependent?

In economics, the decisions that each individual consumer, producer or government takes all contribute to the final choices made about how to use an economy's resources (see Figure 1.1.1). Each economic group responds to the actions of the others, i.e. they are interdependent.

For instance, the government may give a sum of money to farmers for milk **production** in the hope that it will result in citizens' increased milk consumption. This extra income makes it more worthwhile for farmers to produce milk, so they respond by increasing production. With the extra money, farmers may be able to accept a lower price for milk. In response to a lower price, consumers are likely to buy more milk. Therefore, the government achieves its aim of an increase in milk consumption through the interaction between the three economic groups.

Key term

Production The total output of goods and services produced by a firm or industry in a time period.

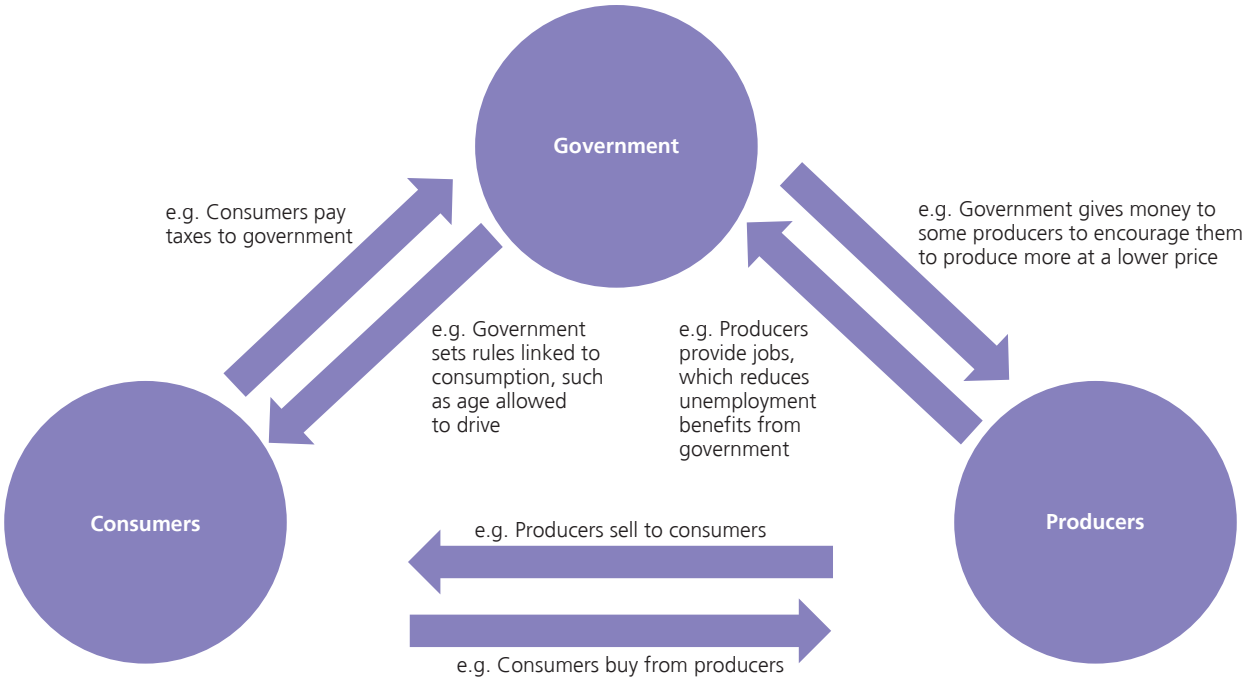

Figure 1.1.1 Actions of interdependent economic groups impact the others

Activity

There are problems linked to sugar content in drinks

The problems associated with sugar content in drinks and what the government might do to reduce this have appeared frequently in recent news. Research sugary drinks online – try using some of the articles on **www.bbc.co.uk**.

Consider the following questions:

1. What possible actions might the government take to reduce sugar content in drinks?
2. What impacts do you think this will have on consumers? What might they do as a result?
3. What impacts do you think this will have on producers? What might they do as a result?

What are the factors of production?

Factors of production are the resources in an economy that can be used in the production process. They may also be referred to as resources or inputs. They are the means by which producers supply goods and services to meet the requirements of consumers. The four factors of production are explained below.

Key term

Factors of production The resources in an economy that can be used to make goods and services, e.g. land, labour, capital and enterprise.

Key terms

Land The factor of production that is concerned with the natural resources of an economy, such as farmland and mineral deposits.

Labour The factor of production that is concerned with the workforce of an economy in terms of both the physical and mental effort involved in production.

Land

In economics, **land** refers to the natural resources in an economy. These are all raw materials that are naturally occurring, such as oil, coal, trees, the sea and the ground itself.

Labour

Labour refers to the human resources that are available. This resource depends on the size of the population, the impact of migration (people coming in and out of the country) and the working age within a country. It is also affected by the quality of the labour, so the extent of education and training as well as the health of the population both have an impact (see Figures 1.1.2 and 1.1.3). An increase in the quantity or the quality of the labour force may affect the strength of a country's economy.

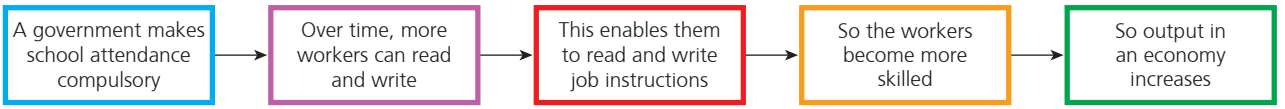

Figure 1.1.2 Chain of reasoning: the impact of education on the quality of labour

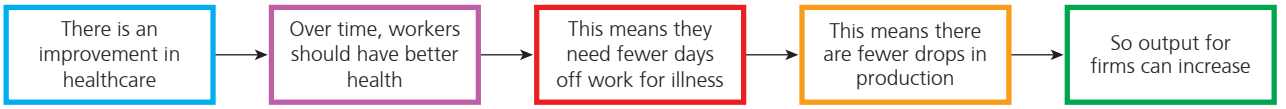

Figure 1.1.3 Chain of reasoning: the impact of healthcare on the quality of labour

Key term

Capital The factor of production that relates to the human-made aids to production.

Capital

Capital refers to human-made aids to production. It includes artificial resources that are inputs used to produce more goods and services. Examples include machinery, tools, factory buildings, transport such as freight lorries, and items of technology used during the production process. Capital that is human-made and used to support and enable the operation of the production process is called infrastructure. Good examples of infrastructure are broadband, roads and the electricity network.

Study tip

Always try to apply factors of production if a specific good is mentioned in the wording of a question. For instance, if a question asks about factors of production in the fast-food industry, 'a cook in a fast-food restaurant' may be a better answer than simply 'workers'.

Activity

1 How does this lorry support and enable the production process?

2 What infrastructure is needed to enable the use of this lorry?

A transport example of capital

Enterprise

Enterprise is when the other factors of production are organised to make goods and services.

An entrepreneur is the person who puts enterprise into practice, i.e. the person who is willing to take forward the business idea and organise all the other factors of production to create the final goods and services. The entrepreneur also either bears the financial risk of the project or is held responsible for it by those who have funded the project. Well-known examples of entrepreneurs are Bill Gates (Microsoft) and Deborah Meaden (businesswoman and *Dragons' Den* star). However, the concept equally includes any local business owners.

Key term

Enterprise The factor of production that takes a risk in organising the other three factors of production. The individual who takes this risk is known as an entrepreneur.

Activity

1 Research *Dragon's Den* entrepreneurs. To find out more, try using the search function and 'Dragon's Den' on www.bbc.co.uk.

2 Look for examples of the risks involved and motivation for the entrepreneurs.

Entrepreneur Deborah Meaden

Case study

Factors of production: chocolate biscuits

Sales of chocolate biscuits in the UK have grown. UK producers have found that their core ranges have been particularly popular recently. Market researchers have estimated that only 8% of chocolate brands make up 90% of biscuit sales in supermarkets.

This focus on favourite types of chocolate biscuits means that many producers have stopped making less popular biscuits and reorganised to make more of the favourite brands. This means their factors of production (production-line machinery, raw ingredients and factory workers) have changed.

These changes impact other producers, such as farmers and transport companies, who now have to respond to the changes in the requirements of the chocolate biscuit producers.

As the chocolate biscuit producers look for future sales growth, they are looking for ideas that will appeal to young consumers. Producers are looking for new innovative ranges that will become favourites. The development of sustainable packaging and healthier snacks may hold the key to this future success.

Follow-up questions

1 List examples of the factors of production throughout the production of a chocolate biscuit. Think about the entire 'life' of a chocolate biscuit: the resources used from the moment someone has the idea for the chocolate biscuit to when the consumer buys it.

2 Now, categorise your examples by matching them to one of the four factors of production.

3 Which examples do you think would be the most common answer that young consumers would give? This can help you think of answers that are clear and straightforward.

Study tip

There are many terms to learn in economics. Try techniques to help memorise these terms. For instance, rearrange the starting letters of each of the four factors of production (capital, enterprise, land, labour) to make the word CELL.

Study tip

It is worth preparing a list with simple examples of each factor of production that could be used in the production process of most goods. This makes it easier to think of examples in the examination.

Now test yourself

2 Which type of factor of production are the following?

- a Soil
- b Fruit picker
- c Petrol
- d Restaurant owner
- e Roads

How might the factors of production be combined?

The way that the factors of production are combined to produce goods and services is a key part of how resources are allocated in an economy (see Figure 1.1.4). The world has only a limited amount of resources, and the growing world population creates increasing difficulties for the future. Therefore, decisions made about the combination of factors of production can help reduce this problem.

For instance, car producers decide how much of their production should be completed by machines on the production line (capital) and how much workers should produce by 'hand' (labour). This results in certain quantities of these two factors of production being used. It may also have an impact on the amount of natural resources (land) utilised. For instance, production-line machines may be more efficient and waste fewer resources than individual workers.

Advances in technology play a part in how factors of production are combined. For instance, Amazon Go supermarkets have a different mix of factors of production to traditional ones. Consumers scan their mobile phones as they enter the store, put items into their own bags and can then walk straight out. An electronic receipt is automatically sent to the consumer. This means Amazon has vastly reduced its need for labour as fewer workers are needed. It has also changed the capital used from tills and baskets to weight-sensors on shelves and cameras.

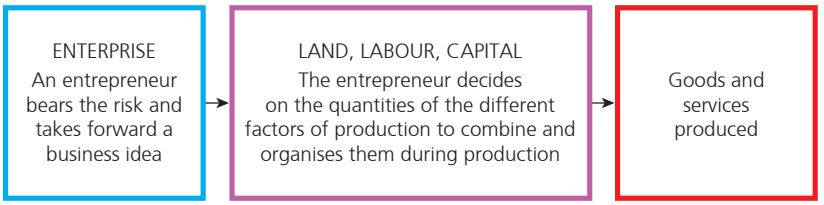

Figure 1.1.4 Factors of production and the production process

Case study

Changes in clothes retail

Many high street shops in the UK sell clothes. These clothing retailers often have significant costs to rent premises in good locations and to pay sales assistants. They buy other items as well, including fittings for their shops such as clothes rails and mirrors, tills and credit card machines, signs and display materials.

In recent years, there has been increasing use of the internet to buy clothes. The businesses selling through the internet may have costs that are different from high street shops, such as rent for an out-of-town warehouse, wages for drivers and warehouse assistants, and packaging, such as cardboard boxes. They are likely to have many more customers, as customers from all over the world can see the products they sell on the internet and can order them for direct delivery. The combination of higher sales and lower costs per item can give online clothes shops an advantage.

During the Covid-19 pandemic, at times most clothes shops were not allowed to open. The government tried to help businesses. For example, it helped pay for staff who were told to stay at home and gave money to help pay some business costs while shops were closed. However, the future for high street clothes shops is uncertain. Many shops have shut down and it is hard to know whether customers will return to the high street at previous levels or will continue to buy online instead.

Follow-up questions

1. Think of examples of the four factors of production linked to clothes retail.
2. Think of differences between the factors of production used for clothes sold online and on the high street.
3. How might the decisions of businesses running high street clothing shops affect consumers and the government?

Activity

In small groups or individually, consider your school.

1. Who are the consumers of your school?
2. List as many different producers as possible that provide goods and services to your school.
3. List and categorise as many factors of production as possible that are used in the production of your school.
4. What is the government's role in your school?

A range of economic groups and resources are involved in schools

Extension material

Interview a local entrepreneur. Your questions could include:

1. What goods and services do they sell? Why did they choose these in particular?
2. Who are their consumers and how do they get the consumers to buy their goods and services?
3. Does the government do anything that has a specific impact on their business?
4. What resources do they use to produce their goods and services? What proportions of people and machines do they use in production and why?

Progress check

Now you have finished this topic, you should be able to:

- explain the role of consumers
- explain the role of producers
- explain the role of the government
- explain how consumers, producers and the government are all interdependent
- explain land as a factor of production
- explain labour as a factor of production
- explain capital as a factor of production
- explain enterprise as a factor of production
- explain how land, labour, capital and enterprise might be combined

Topic 1.2
The basic economic problem

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by scarce resources and unlimited wants
- explain the economic problem, including the questions of how resources should be allocated, what, for whom and how goods and services should be produced
- explain what is meant by opportunity cost
- evaluate the costs and benefits of economic choices, including the impact on economic, social and environmental sustainability

Key terms

Scarce resources When there is an insufficient amount of something to satisfy all wants.

Unlimited wants The infinite desire for goods or services consumers would like to have.

What are scarce resources and unlimited wants?

Scarce resources are where there are fewer things to make goods and services than are desired. Other useful words to describe the scarcity of resources include 'limited', 'finite' and 'insufficient'.

Unlimited wants (also known as 'infinite wants') mean the desire for anything a consumer would like, whether or not they have the resources to purchase it. Another way to describe the problem of unlimited wants is that there are too many different uses for the resources. Once a resource is used for one purpose, it is often used up and cannot be used for anything else.

Examples of scarce resources and unlimited wants for those resources are:

- the limited resource of oil and unlimited competing uses for it, such as petrol or central heating
- the finite resource of land and alternative uses for it, such as for growing wheat or building housing
- the scarce resource of doctors and the unlimited wants for their services by consumers, for example in different competing areas such as GPs or surgery
- insufficient housing and unlimited wants of a growing population

Unlimited wants do not take into account the ability to actually buy something. For instance, if it does not matter whether consumers can afford to buy different goods and services; they are likely to always want more of the good. In other words, if consumers did not have to consider how much money they had, they might want a limitless number of clothes so that they had a specific outfit for every occasion.

Activity

1 In small groups, think of a resource, such as wheat.
   a Why might this resource be described as 'scarce'?
   b How many uses of this resource can you think of?
2 As a class, exchange your ideas to give you a better understanding of these concepts.
3 How might society decide to allocate these scarce resources between these alternative uses?

The distinction between 'wants' and 'needs'

Wants are unlimited and include anything a consumer would like, whether or not they have the resources to purchase it, such as the latest electronic gadget. Needs are limited only to what is needed to survive, such as water. Note that although the world's scarce resources could never fulfil the infinite wants of consumers, it might be possible to satisfy consumers' needs. There may be enough resources to provide clean air, food, water, clothing and shelter for everyone.

For instance, the National Health Service (NHS) has been at risk of being overwhelmed by wants and needs for its services. Even with the expansion of some of its resources, such as hospital beds, it has had to make difficult choices in the way patients are prioritised. This has, in turn, created a backlog of patients needing treatment.

A growing population with unlimited wants has put a strain on healthcare

Now test yourself

1 Decide whether each of the following products is better described as a want or a need.
   a Energy for heating
   b Hair gel
   c Jewellery
   d A loaf of bread
   e Drinking water
   f An online game

What is the economic problem and how should resources be allocated?

Put simply, the **economic problem** is that people want more than can be made from the available resources in the world. There is a gap between the limited amount of resources and the unlimited wants for them. The choice between different uses of resources is called allocation of resources. Choices and decisions have to be made to try to meet consumers' wants.

Key term

Economic problem How to best use scarce resources to satisfy the unlimited wants of people.

Three key economic questions are considered when trying to make the best use of limited resources:

1. What should be produced (e.g. should resources be used to make consumer goods, machinery, defence weapons or hospitals)?
2. How should it be produced (e.g. should firms use the latest technology or skilled craftspeople, operate using small-scale or large-scale production, and use incentives to motivate labour, managers and entrepreneurs)?
3. Whom should it be produced for (e.g. should goods and services be allocated to those with most money or those with special needs)?

These are the three key parts to the economic problem. There are many different ways of solving the economic problem, some of which are discussed throughout this book.

What is meant by opportunity cost?

When deciding how to allocate scarce resources, the decision can be made based on **opportunity cost**. Opportunity cost is something that is given up when making a decision about the use of scarce resources. For instance, a person with a limited income has to decide what to buy, and the opportunity cost is what to sacrifice or go without. In making choices, the individual has to consider exactly what they are giving up (beyond just the thing itself). Is it the enjoyment, benefits and uses that are sacrificed?

Here are some examples of opportunity cost.

- If you have the limited resource of 50p to spend on either an apple or a banana, and you choose the banana, the opportunity cost is the apple. The apple is the good that you have given up.
- If a family, with its limited income, has to choose between buying a car or having a new bathroom fitted and it chooses the car, the opportunity cost is the new bathroom.
- If a firm that produces cars and motorbikes decides to make more motorbikes, the opportunity cost is the cars that are sacrificed. The firm has fixed resources available to it at any point in time and has moved some of these from making cars to making motorbikes. It has therefore reduced the number of cars it can make.
- If a government increases spending on education, it might need to make savings elsewhere, such as reducing spending on public transport. The public transport that is sacrificed (with its benefits) is the opportunity cost.

Key term

Opportunity cost The next best alternative given up when making a choice.

Activity

Consider all the options available to you after you complete your GCSEs (A-levels, apprenticeships etc.). Choose your top two options and list the benefits of both. Based on these benefits, which would you say is your first choice? The other option and all its benefits that you have given up would be your opportunity cost.

Evaluating the costs and benefits of economic choices

Costs and benefits of **economic choices** are weighed against each other in order for an individual producer, consumer or the government to make the best decisions about how to allocate scarce resources. To evaluate the costs and benefits, economists consider the impact on the three key areas of economic, social and environmental sustainability.

Key term

Economic choice An option for the use of selected scarce resources.

Key term

Economic sustainability The best use of resources in order to create growth or development for a country, firm or individual, both now and into the future.

Economic sustainability

The **economic sustainability** of an economic choice ensures the best and most responsible use of scarce resources so that a firm or economy can keep on growing over time. It considers the impact on a range of economic factors, now and into the future (see Figure 1.2.1). These factors may include the associated economic costs of a decision, such as the costs involved in production or the price that a consumer pays. They may also include the impact on unemployment (see Topic 3.2) and government spending or tax revenue (see Topic 3.5).

Figure 1.2.1 Chain of reasoning example: an economic choice and its impact on economic sustainability

Activity

Research online the costs and benefits of Crossrail. In particular, look for mention of economic, social and environmental impacts. Make notes on three costs and three benefits that seem to have different types of impact. Good starting points for research are **www.bbc.co.uk**, **www.theguardian.com** and **www.crossrail.co.uk**.

Social sustainability

Key term

Social sustainability The impact of development or growth that promotes an improvement in quality of life for all, now and into the future.

Social sustainability considers how an economic choice affects a community's quality of life and wellbeing. It requires that growth or development meet the basic needs of all, now and into the future, and encourages fairness and a better society with respect for others.

Social impact may also cover who within society benefits and who within society pays. For instance, the economic choice to build a new fast passenger railway between London and Birmingham is likely to benefit most city commuters who live along that route but may be paid for in part from income tax revenue generated by citizens from all over the UK.

For instance, when an economic choice is made to build a new railway, it may have both positive (see Figure 1.2.2) and negative impacts on a community.

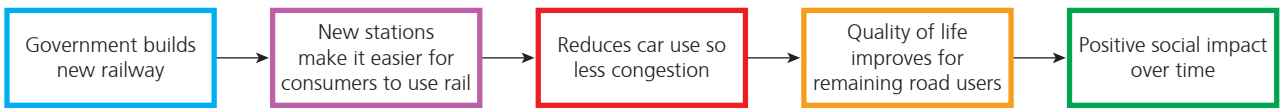

Figure 1.2.2 Chain of reasoning example: a positive impact of building a new railway on social sustainability

Key term

Environmental sustainability The impact of development or growth where the effect on the natural world is small and possible to manage, now and into the future.

Environmental sustainability

The impact of economic choices on **environmental sustainability** is an increasingly important consideration. It focuses on the impact on renewable and non-renewable resources, pollution creation and climate change, and the availability of future resources (see Figure 1.2.3).

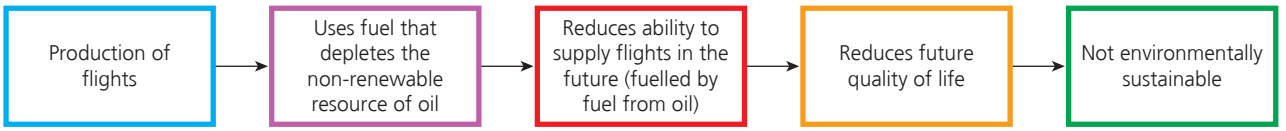

Figure 1.2.3 Chain of reasoning example: a negative impact of passenger flights on environment sustainability

A current focus for research and discussion between countries is climate change: its causes and impact on the world. It is important for all countries and governments to consider the impact on the environment of all economic choices. For example, all coal-fired power stations in the UK are gradually being closed as they produce significant pollution. The government is also investing in low-pollution energy sources.

Renewable and non-renewable resources

The distinction between renewable and non-renewable resources can be relevant for environmental sustainability. Renewable resources can be replaced as long as they are not overused, as in the case of forests. If forests are managed responsibly, with new trees being planted to replace older trees that have been cut down, this resource can be replaced. Non-renewable resources cannot be replaced once they are used, as with coal. Coal took millions of years to form, so once it is used it cannot be replenished. There is much debate over whether these resources are being used up at too fast a rate.

Activity

Many new shopping centres have been built on the outer edges of towns and cities. Make a list of the costs and benefits of these projects. Try to include impacts on economic, social and environmental sustainability. See if you can explain any of these impacts using chains of reasoning.

Now test yourself

2 Which of the following statements are true and which are false?

- **a** Solar power is a non-renewable resource.
- **b** Oil is a non-renewable resource.
- **c** Sand is a renewable resource.
- **d** Wind is a renewable resource.
- **e** Diamonds are a non-renewable resource.
- **f** Energy from burning wood can be a renewable resource.

Activity

1 In small groups, discuss and research the benefits and costs of constructing a new high-speed railway, such as High Speed 2 (HS2, a new high-speed railway linking major cities in the UK).

2 Make a list of these benefits and costs, and divide them according to whether they impact the economy, society or the environment.

3 Take one of each and try to explain them using chains of reasoning.

4 Choose your best points and see if you can make an overall supported judgement on whether the benefit may outweigh the cost of constructing a new high-speed railway.

Evaluate this

Evaluate whether the benefits outweigh the costs of constructing a new high-speed railway.

Using the information in this topic and your own knowledge, evaluate whether the benefits outweigh the costs in this example.

This is the first time you will have encountered the 'Evaluate' skill in the course, so here is an example of a chain of reasoning for analysis and possible matching evaluation.

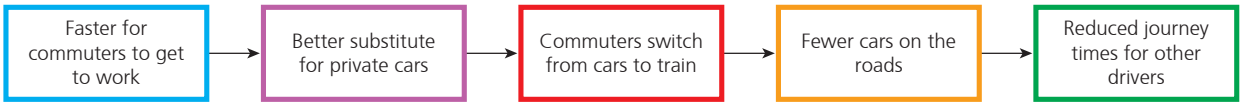

Figure 1.2.4 Chain of reasoning example: a benefit of constructing a new high-speed railway

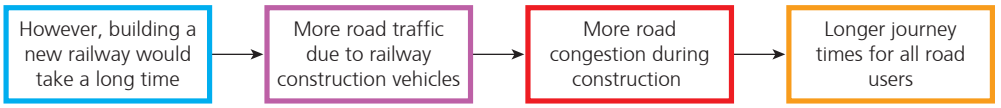

Figure 1.2.5 Chain of reasoning example: how a benefit may be outweighed by a cost of constructing a new high-speed railway

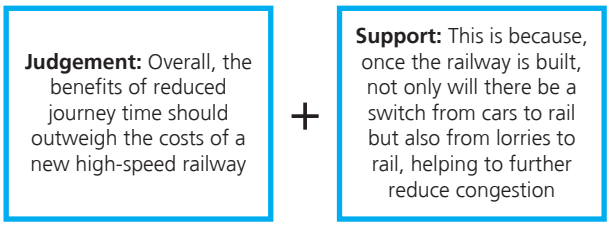

Figure 1.2.6 An example of a judgement with support for whether the benefit may outweigh the cost of constructing a new high-speed railway

There is more advice on this technique on p. ix.

Extension material

1. Find an article in the news about economic choices that have economic, social and environmental sustainability impacts. A good starting point is **www.bbc.co.uk**.
2. Research a current proposal being considered by your local council, such as building new roads, housing estates or council offices. A good source for ideas is your local newspaper. See what information you can find out about the project and its advantages and disadvantages. Identify these as having economic, social and environmental sustainability impacts. Based on your findings, evaluate the project and decide whether you think it should go ahead.

Case study

Heathrow airport and the new third runway

There are plans to expand Heathrow airport with a new third runway that will have better links to rail services across London. Heathrow is already a major hub airport and one of the world's busiest, operating closer to capacity than other British airports. Building a new runway should reduce congestion in the existing London airports. This is because more planes will be able to land at the same time (which will therefore significantly increase the potential number of flights coming into London). However, it may also make Heathrow airport the biggest emitter of carbon dioxide in the country.

Furthermore, from a choice of different airport expansion plans, this option is predicted to create the most jobs and make the most money for the country. However, the expansion will be extremely costly to construct and operate.

The proposal received much opposition from local communities because, despite the benefits for international travel, many houses in the area would be affected, for example, by increased noise pollution.

A third runway at Heathrow has been opposed by some groups

Follow-up questions

1 Think of a cost and a benefit of a third runway at Heathrow for each of the categories of environmental, economic and social. How might you explain these costs and benefits?

2 Consider whether the benefits of building a third runway at Heathrow outweigh the costs.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by scarce resources
- explain what is meant by unlimited wants
- explain the economic problem
- explain what is meant by 'what goods and services should be produced'
- explain what is meant by 'for whom goods and services should be produced'
- explain what is meant by 'how goods and services should be produced'
- explain what is meant by opportunity cost
- explain the impact of economic choices on economic sustainability
- explain the impact of economic choices on social sustainability
- explain the impact of economic choices on environmental sustainability
- evaluate the costs and benefits of economic choices

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Part 2
The role of markets and money

Topic 2.1
The role of markets

Learning outcomes

After studying this topic you should be able to:

- explain what is meant by a market
- explain the features of the primary, secondary and tertiary sectors, including the difference between the production of products and services
- explain the difference between factor and product markets, including their interdependence
- evaluate the costs and benefits of specialisation and exchange in markets, including for producers, workers, regions and countries

What is a market?

A **market** is a way of bringing together buyers and sellers to buy and sell goods and services. This market could be:

- a physical market with many stallholders (sellers) and buyers, as is found in towns and cities or in farmers' markets
- a shop where the seller is the shop owner or the sales assistant, and the buyer is the customer
- an auction where the selling price is determined by how many buyers there are and what they are prepared to pay
- through the internet or over the telephone, or through catalogues sent by post

Key term

Market Any way of bringing together buyers and sellers to buy and sell goods and services.

A market is any way of bringing together buyers and sellers

Activity

Think of a product, such as cars or washing machines. How many sellers of this product are there in your town? (Remember, there are different ideas of what a market is.)

Do they all sell the product at the same price? If not, can you think why this could be? Once you have completed the tasks, exchange your ideas with the rest of the class.

(Note that we will be giving you the means of answering this question like an economist later on in this book, but at this stage, try to come up with some sensible ideas.)

Markets exist in all types of economies. The concept of 'a market' is best seen in a **market economy**. This relies on the forces of supply and demand (see Topics 2.2, 2.3 and 2.4) to determine the allocation of scarce resources (see Topic 1.2). In reality, there are no pure market economies. Instead, most economies are mixed economies. In this type of economy, resources are allocated both by market forces and by the government.

Key term

Market economy An economy in which scarce resources are allocated by the market forces of supply and demand.

What are the features of the primary, secondary and tertiary sectors?

The production of goods in an economy takes place in three different sectors. The Forestry Commission, for example, cuts down trees and sends the wood (primary sector) to a furniture manufacturer. This manufacturer makes a wooden table (secondary sector) which goes to a furniture shop. It, in turn, sells the table to a customer (tertiary sector).

This section will explain the features of the three sectors, including the difference between the production of goods and services.

What is the primary sector?

The **primary sector** refers to the direct use of natural resources. It is the extraction of basic materials and goods from the land and sea. It includes agriculture, fishing, forestry, mining, oil and gas extraction and quarrying.

All these products are either consumed directly, for example fish, vegetables etc., or are the raw materials for the production of other goods. Slate quarrying, for example in Cumbria, provides materials for the roofs of buildings and for the making of household goods such as clocks and place mats.

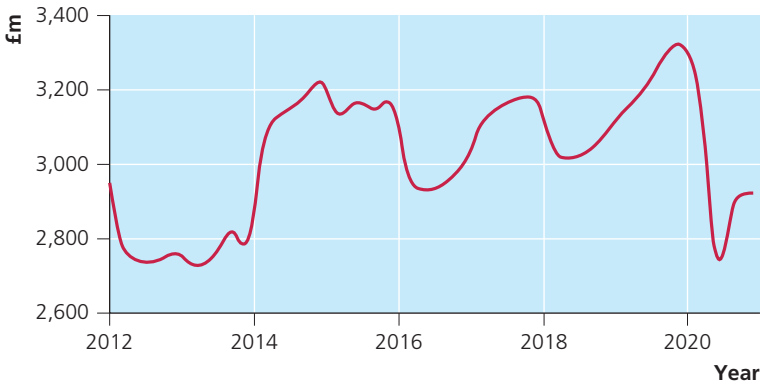
Key term

Primary sector The direct use of natural resources, such as the extraction of basic materials and goods from land and sea.

Activity

Investigate what primary sector activities take place in your area of the country. Make a list and then link them to secondary sector activities in your area. Compare your list with others in the class.

Activity



Sources: www.tradingeconomics.com; ONS

Figure 2.1.1 Value of UK agricultural output since 2012

1 Explain what has happened to agricultural output since 2012. (When asked to explain a chart such as this one, don't repeat the information but explain the overall trend.)

2 In which year was the value of output:
   a highest
   b lowest?

3 In small groups, discuss what you think might happen to the value of agricultural output in the future. Remember, you must offer reasons for your views. Be prepared to report on your group's ideas to the whole class.

4 If you have time, research using the Office for National Statistics (ONS) website what has happened to the value of output trends in other areas of the primary sector.

What is the secondary sector?

Key term

Secondary sector All activities in an economy that are concerned with either manufacturing or construction.

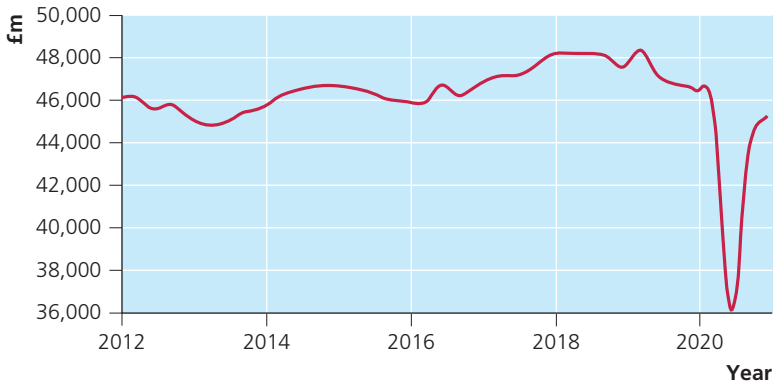
The **secondary sector** refers to all the activities in an economy that are concerned with either manufacturing or construction. Both of these involve taking the products of the primary sector either directly, i.e. when raw materials are converted into manufactured goods, or indirectly, i.e. when the raw materials have undergone some process already, and then producing a good.

Manufacturing

Manufacturing includes both:

- the direct use of raw materials from the primary sector, such as refining oil to make petrol, or making wooden furniture and cheese
- the indirect use of materials, such as making component products for a car, or mobile phone parts. It includes everything from handicrafts to high technology. Finished goods may be used for manufacturing other, more complex products, such as aircraft, household appliances or cars.

Activity



Sources: www.tradingeconomics.com; ONS (www.ons.gov.uk)

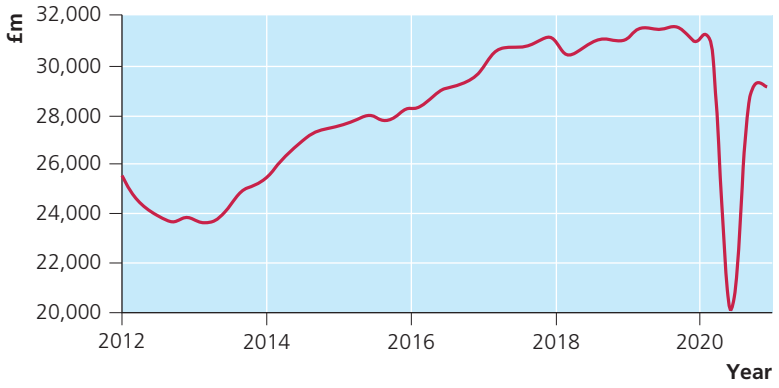
Figure 2.1.2 Value of UK manufacturing output since 2012

1. Download your own copy of this chart using the sources shown below the figure, but with up-to-date figures.
2. What are the differences between your chart and the one shown above?
3. In what ways does the trend in manufacturing differ from that for agriculture?

Construction

Construction is the process of constructing a building or infrastructure. This could be buildings such as houses, schools or offices, or infrastructure such as an airport runway or a road.

Activity



Sources: www.tradingeconomics.com; ONS

Figure 2.1.3 Value of UK construction output since 2012

1. How does the trend shown for construction compare with that for manufacturing?
2. Discuss as a class what factors could have caused the differences.

Study tip

Make sure you are clear on the differences between the three sectors. Remember that construction is part of the secondary sector (students often state that construction is part of the tertiary sector).

Activity

Make a list of secondary sector activities in your area. Compare these with others in your class. Then use the primary sector list you produced earlier to link these activities with secondary sector activities in the area.

1. In pairs, investigate one of the secondary firms to find out if they use products from the local primary sector in their business. If they do, try to find out what percentage of their inputs this represents.
2. Combine your investigations with those of the other pairs to discover what percentage of the secondary firms rely on primary activity in your area.
3. What conclusions can you draw from this? Discuss these as a class.

What is the tertiary sector?

The **tertiary sector** refers to all activities in the economy in which a service is provided. Services are provided not only to other firms, but also to individual consumers and the government. Services involve a wide range of different activities, including transport, retail entertainment, tourism and finance.

Key term

Tertiary sector All activities in an economy that involve the idea of a service.

Retail is a part of the tertiary sector and provides a direct service to consumers

Activity

1. Make a list of as many different services as possible that you and your family consume. Compare your list with others in your group.
2. In pairs, discuss which sector restaurants should be classified in. Be prepared to explain this to the rest of the class.

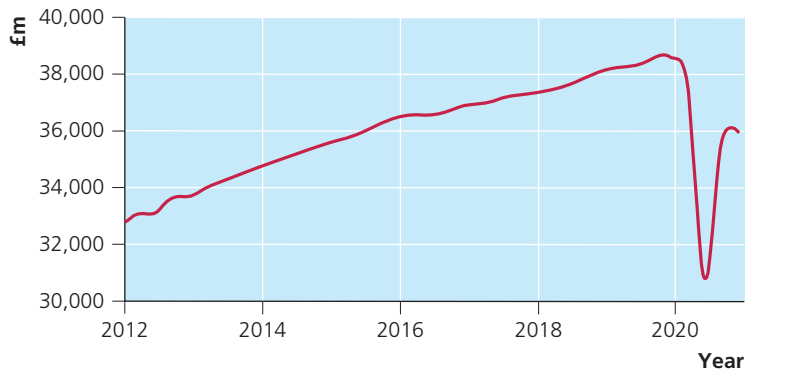
One way in which the tertiary sector differs from the secondary sector is that services are based on people dealing with other people directly, whereas the secondary sector is concerned with the production of actual goods. Cars, for example, can be physically touched (tangible), but car insurance cannot (intangible).

In the past 100 years, most economies have seen a significant shift from the primary and secondary sectors to the tertiary sector. In the UK, the tertiary sector is both the largest sector in terms of employment and contribution to the size of the economy (gross domestic product or GDP, see Topic 3.1) and the fastest-growing sector. In 2019 the primary sector contributed about 4% of GDP, the secondary 17% and the tertiary 79%.

Activity

In groups, discuss other possible differences between tertiary and secondary sectors. Present your findings to the class.

Activity



Sources: www.tradingeconomics.com; ONS

Figure 2.1.4 Value of UK service sector output since 2012

1 What has happened to the service sector's output over the period shown?
2 In groups, discuss why the trend you have identified has taken place. Then exchange your ideas with the rest of the class.
3 If you have time, research using the sources shown what has happened to the value of output in other areas of the tertiary sector.

Activity

Find out what the latest figures are for the three sectors in terms of employment and contribution to GDP. Construct a chart to show them. A good source of data is the ONS website: **www.ons.gov.uk** and **www.ons.gov.uk/economy**.

Study tip

Try to use up-to-date figures and information in answers.

Now test yourself

1 Give three examples of different types of market.
2 In which sector of the economy should the following be placed?
   a House building
   b Deep-sea fishing
   c Restaurants
   d Vaccines

Key terms

Product market Market in which final goods or services are offered to consumers, businesses and the public sector.

Factor market Market in which the services of the factors of production are bought and sold.

What is the difference between product and factor markets?

The **product** and **factor markets** are concerned with buyers and sellers of goods and services (product market) and the factors of production (factor market). (See Topic 1.1.)

What is the factor market?

A factor market is one in which the services of the factors of production, such as different skills of workers, but not the actual factors of production, are bought and sold. There are, therefore, markets for each factor of production: labour markets, the market for raw materials (land), the capital market, and the enterprise, or entrepreneurial, market. The firm then uses all of these to make goods or to provide services.

The price for each factor is based on supply and demand, and is a derived demand (see Topic 2.7). The key points about the factor market are:

- It refers to the buying and selling of the services of factors of production.
- The demand for the factors is a derived demand.
- The price of factors is determined by the interaction of demand and supply.
- Households supply labour to firms in return for wages/salaries.

What is the product market?

A product market refers to markets in which final goods or services are offered to consumers, businesses and the public sector. It is concerned with finished goods and services, not the buying and selling of raw materials or products used in producing final goods and services (which are part of the factor market).

Examples of product markets are food from supermarkets, spare car parts for a garage, and stationery supplies for an office. Effective product markets ensure that consumers benefit from lower prices and a wider choice of goods and services by increasing competition and encouraging the entry of new companies with new products or brands. They also encourage all firms to innovate and create new goods or services (see Topic 2.5).

The key points about the product market are:

- It refers to the buying and selling of final goods and services.
- Households, other firms and the public sector are the buyers.
- The price of the product is determined by the interaction of demand and supply of a product (see Topic 2.6).

Interdependence of factor and product markets

The interdependence of the two markets can be shown as follows. Households are involved in both markets. They supply labour to firms, which in turn pay them wages and salaries (the factor market). The households then consume the goods and services that are produced (the product market).

Firms buy resources in return for making payments to the factors of production (see Topics 1.1 and 2.7). The interaction between product and factor markets involves the principle of derived demand. Derived demand means that a product or factor of production is not demanded for itself but is dependent on the demand for the product it helps to produce. If the demand for cars increases, the producer may demand more factors of production – for example, labour and parts from their suppliers – to meet the demand.

Now test yourself

3 Households can be part of both the factor and product markets. How does this come about?

The position of households, as described above, and the existence of derived demand show that the two markets are interdependent, i.e. they support each other.

Activity

Schools provide the service of education.

1 In pairs, or small groups, decide how the service of education in your school can be broken down into more specific services, such as teaching, administration and lab assistance. In addition, your school may provide other products, for example to outside organisations. Find out what these are.

2 Then make a list of all the factors of production that are required by your school.

3 Explain whether teachers are part of both the factor and product markets. Prepare a presentation to explain why this is/is not the case.

Evaluating the costs and benefits of specialisation and exchange in markets

Specialisation occurs when individuals, firms, regions and countries concentrate on producing those goods and services in which they have an advantage. It often means that they have to give up producing other goods and services. This involves the idea of opportunity cost (see Topic 1.2). By giving up these products, the individual or firm has to rely on exchange in order to obtain them.

Exchange involves the giving up of something the individual or firm has, in return for something they need, but do not possess. Economic behaviour involves the exchange of one scarce resource for another. Originally, exchange was by bartering, but today we usually use money (see Topic 2.8).

Specialisation should mean that the individual or producer focuses on what they are best at doing, resulting in an increase in output and greater efficiency. For example, if I am better at cooking, but my partner is better at decorating, then by specialising in what we are best at it is likely that the work gets done faster and to a higher standard. In addition, specialisation can apply to all the factors of production (see Topic 1.1).

Key terms

Specialisation The process by which individuals, firms, regions and whole economies concentrate on producing those products that they are best at producing.

Exchange The giving up of something that the individual or firm has, in return for something they wish to have but do not possess.

Case study

Ford Engineering Group

The Ford Engineering Group is a global specialist in the high-precision engineering and pressing of component parts for the aerospace, automotive and other high-technology industries. Only a few other companies in the world provide these services. Ford's aerospace division provides parts for many of the world's leading aerospace manufacturers.

Follow-up questions

1 In which sector of the economy is the Ford Engineering Group? Explain your answer.

2 Explain the advantages that the Ford Engineering Group might gain from specialising in the production of component parts.

What are the costs and benefits for producers?

World output has increased through firms specialising in different types of products. Manufacturers, for example, concentrate on the end product and often buy in most, or all, of the components from other manufacturers. This enables them to gain more benefits such as large economies of scale (see Topic 2.6).

In addition, producers must exchange the income they earn by selling their products for the components they need to enable them to produce. Table 2.1.1 shows the benefits and costs to producers of specialisation and exchange.

Study tip

In evaluation questions, try to use words such as 'although', 'because', 'however', 'more important' and 'to a greater extent' as evidence that evaluation is taking place.

Evaluate this

Using the information in this topic and your own knowledge, evaluate whether the benefits of specialisation for producers outweigh the costs.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Table 2.1.1 Benefits and costs of specialisation and exchange for producers

Benefits for producers	Costs for producers
Higher output: total production of goods and services is increased. In some areas it is possible to use automated systems or specialist equipment.	As output increases, **costs may eventually rise**. This is because resources may become shorter in supply or it takes more people to organise the workforce, etc.
Higher productivity: workers who specialise in one task become as skilled as they possibly can in that area, which increases productivity (output per worker per hour, see Topic 2.6).	**Dependency:** production of goods and services depends on all parts working well. Problems such as a technical failure or a strike can lead to the whole process stopping.
Higher quality: the best and most suitable factors of production can be employed to produce the output. Producers can buy the best components from specialists instead of having to make them.	**Failure of exchange:** exchange can fail if it is not possible to buy the scarce resources or components needed to produce, or if the supplier greatly increases the price or restricts production.
Bigger market: if all producers specialise, then for each product there should be more buyers for each producer.	**Movement of workers:** workers may become bored and leave (known as labour turnover), so new workers have to be recruited and trained. This can particularly affect low-skilled and low-paid work. In the UK the employee turnover rate is about 12% per year, i.e. nearly one worker in eight changes jobs every 12 months. This change in workforce is highest in areas such as retailing, hotels, catering and leisure.
Economies of scale: larger output will enable the producer to gain economies of scale (see Topic 2.6).	
Time saving: it takes time to stop producing one product and to start another, so specialisation saves time and money.	

Case study

Tesla

Tesla is an automotive and energy-storage company that designs, manufactures, and sells electric cars, electric vehicle power, train components and battery products. It is the world's most valuable car company.

In April 2021, Tesla recorded a profit of $438 million on revenues of $10.39 billion, despite facing supply issues and the latest in a series of safety investigations following a fatal crash in Texas when it is thought the car was on autopilot.

Sales of its Model Y compact sport-utility vehicle and demand in China helped Tesla deliver roughly 184,800 vehicles in the first 3 months of the year, more than double the number during the same period a year earlier.

In May 2021 it was reported that sales of electric vehicles in the UK were expected to be below the predicted level.

Follow-up questions

1 Give two reasons why the sales of electric cars are increasing.

2 Give two reasons why sales of electric vehicles in the UK were lower than expected.

Extension material

Discuss what Tesla could do to overcome the disadvantages of specialising in the electric car market.

What are the costs and benefits for workers?

All workers today specialise unless they aim to be totally self-sufficient and make and produce everything they need. By specialising, a worker exchanges their labour for money. With this money they can then buy the products they need and want.

Specialisation can take the form of an expert in a particular type of work, such as an economics teacher, an electrical engineer or a hospital consultant. It can also occur when a worker performs only one part of a production process, such as checking the weight of bags of dried fruit on the conveyor belt on a production line or working in the lighting department of a shop. Specialisation by individuals, as in the cases mentioned, is called the **division of labour**. Table 2.1.2 shows the benefits and costs to workers of specialisation and exchange.

Study tip

Evaluation must always take place in the context of the actual question asked and of any context material.

Key term

Division of labour Where workers specialise in, or concentrate on, one area of the production process.

Table 2.1.2 Benefits and costs of specialisation and exchange for workers

Benefits for workers	Costs for workers
Increased skill: by specialising, workers become more skilful in and knowledgeable about their work. This can result in them earning more money (see Topic 2.7).	**Boredom:** doing the same job every day may become boring and lead to demotivation.
Natural strengths: workers can do what they are best at and do not have to do work they are not so good at. This should again allow them to earn more.	**Deskilling:** by specialising, workers lose the skills to do other types of work and are less able to respond to changes in demand.
Increased job satisfaction: allowing workers to do what they are good at is likely to improve their motivation and satisfaction at work.	**Unemployment (see Topic 3.2):** if there is a fall in demand for a particular product, workers may find it difficult to get another job because they do not have the necessary skills or experience. This may also occur because machines can replace their work.
Increased standard of living (see Topic 3.1): by earning more money, workers can buy more goods to satisfy not only their needs, but also some of their wants.	

Study tip

Remember that you are likely to be asked to evaluate the costs and benefits of specialisation. You should spend time making sure that you fully understand the arguments and can come to a supported conclusion. A brief example could be: 'Although there are costs to workers, such as deskilling leading to unemployment, the benefits are greater as there is an increase in job satisfaction since workers are doing what they are best at. This may lead to higher pay.'

Evaluate this

Using the information in this topic and your own knowledge, evaluate whether the benefits of specialisation for workers outweigh the costs.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Case study

Barbour and the division of labour

Each Barbour jacket starts its life at a cutting station, where rolls of waxed cotton are cut into a length which makes three jackets. An industrial cutter is used to carve through layers of waxed cotton, cutting out the various shapes that will eventually make up one of Barbour's jackets.

Each jacket involves about 36 individual processes, involving many different workers. Each jacket has to go through different sewing procedures including: applying the tartan lining to the inside of the jacket, sewing on pockets and placing the label on the inside collar. The jackets go round the factory on a pulley system that is constantly moving.

The jackets then go through a range of finishing processes including: a worker marking where the buttons and eyelets are to go with a yellow crayon, adding the zip pulls and sewing on the hem. Finally, each jacket is subject to a quality control process.

Follow-up questions

1. Using the case study material, explain what evidence there is for Barbour using a division of labour system.
2. Explain the disadvantages to the workers at Barbour of this division of labour.
3. Analyse an advantage to the producer of the process outlined in the case study.

What are the costs and benefits for regions?

As well as producers and workers, regions within a country can also specialise. They will specialise in whatever they are best at. Originally this was based on local natural resources. Most regions of the UK have at some time been known for a particular type of product, such as motorcars in the West Midlands and textiles in Lancashire and Yorkshire. Today, the Cambridge area specialises in high-technology businesses, while the Lake District specialises in tourism. This does not mean that a region only produces one product, but that it is particularly well known for its specialism, which makes an important contribution to the local economy. Some industries, such as food, have a range of regional specialities such as Lancashire hotpot or the Melton Mowbray pork pie. Table 2.1.3 gives the costs and benefits of specialising for regions.

The Lake District specialises in tourism

Table 2.1.3 Benefits and costs of specialisation and exchange for regions

Benefits for regions	Costs for regions
Efficient use of resources: a region could specialise in a particular industry due to availability of resources, so it will be easier to use that resource efficiently.	**Risk of fall in demand:** if demand falls due to changes in taste and fashion (see Topic 2.2) then the industry will collapse or shrink, leading to resource wastage.
Creates jobs for residents: the development of an industry in a particular region helps the residents of that area, since they can find work near to their homes.	**Resource exhaustion:** if the raw materials are no longer available then those employed in the industry will become unemployed, e.g. coal mining in the northeast.
Infrastructure development: a region that specialises in a particular industry will develop both infrastructure and supply industries (see external economies of scale, Topic 2.6) to support that industry. This will lead to further regional development.	**Loss of advantage:** another region or country may become better at producing the good, leading to the problems of resource wastage and unemployment, e.g. shipbuilding has moved from areas such as Merseyside, Clydeside and Tyneside to South Korea.

Activity

1. In pairs, find out what your region, or area, specialises in. Then find out what another region some distance away specialises in. Why do you think these specialisms are different?
2. As a class, discuss what each pair has discovered and decide on the factors that have led the different regions to specialise.

What are the costs and benefits for countries?

Like regions, countries will specialise in producing what they have the greatest advantage in doing. Originally, this specialism was based on natural resources. This is still the case for some countries, such as cocoa beans from Ghana or oil from Saudi Arabia. In many cases, however, countries have moved to specialising in particular skills and knowledge. The UK is a major producer of financial services. As with regions, specialisation changes over the years as resources are exhausted or other countries develop greater advantages.

Activity

In pairs, find out what the UK specialises in. (Hint: it is likely to export these products.) Find out how this has changed over the last 100 years. Why has it changed? Exchange your findings with the rest of the class.

Specialising by countries leads to international trade, with exports of the specialist products and imports of those of other countries (see Topic 4.1). Table 2.1.4 gives the costs and benefits of specialisation and exchange for countries.

Table 2.1.4 Benefits and costs of specialisation and exchange for countries

Benefits for countries	Costs for countries
Economies of scale (see Topic 2.6) and **efficiency:** countries will specialise in what they do best, leading to greater efficiency and economies of scale. This increases the country's output.	**Unemployment:** specialisation not only creates jobs but also destroys them. As specialisation changes, workers in the declining industry may not be able to find new jobs, as they lack the necessary skills (see Topic 3.2).
More jobs: the increased output may result in more investment and job creation. In some cases, especially in developed countries such as the UK, these jobs require skilled labour, leading to higher incomes.	**Over-dependence:** countries can over-specialise and become dependent on one or a very small number of products. If world demand changes, these industries and the country's economy may collapse.
International trade: if a country specialises then it will no longer produce some goods that are wanted, but will have a surplus of its specialist products. This leads to international trade (see Topic 4.1) and a greater choice of goods and services for its people.	**Over-exploitation of resources:** output may be increased by over-exploiting resources, leading to unsustainable development (see Topic 4.4).
Improved standard of living: increased choice, income, output and infrastructure mean a better standard of living for most people.	**Negative externalities:** over-exploitation of resources and/or production can lead to serious environmental damage (see Topics 3.8 and 4.4).
Government revenue: increase in output, income and trade will lead to greater revenue from taxes for the government, which can again lead to improved living standards as more or better schools, hospitals etc. are provided.	

Now test yourself

4 For each of the following decide:

- Is it a benefit or a cost?
- Does it apply mainly to producers, workers, regions or countries?

a The west coast of Cumbria is known as the energy coast.

b There is a rise in the standard of living.

c Livestock accounts for 50%+ of export revenue.

d There is a high turnover of employees.

e The size of the market increases.

f There is a wider range of goods and services.

Extension material

1 Using the data shown in Figures 2.1.1 to 2.1.4 above, compare the changes in output over the period from 2012. Which part of the economy has done best? Explain your answer.

2 Using the ONS website, update Figures 2.1.1 to 2.1.4 and see if there are any changes to the answer you gave above.

3 Contact a manufacturing firm in your area and try to arrange a visit to see how real-life production supports what you have learnt in this topic; or, if a visit is not possible, invite someone from the firm to come into school and talk to you about what they do and how they do it. You might want to ask them about: what factors of production they use, how they 'buy' them, how they sell to their consumers, whether they specialise in certain products and why, and whether they employ specialist workers and why. This is an opportunity for you to compare your knowledge gained from this topic with 'real life'.

4 The CIA *World Factbook* lists transport in the UK under the following headings: Airports, Heliports, Pipelines, Railways, Roadways, Waterways, Merchant Marine, and Ports and Terminals.

- **a** In which sector of the economy would transport be found? Explain your answer.
- **b** Explain how these eight transport types show that transport is an example of specialisation.
- **c** Explain how the railways in the UK are an example of a market.
- **d** In your area, you will have one or more of the above types of transport. Investigate how these influence both the product and factor markets in the area.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the statement that 'although specialisation causes costs to both producers and workers, overall it is beneficial to both groups'.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by a market
- tell the difference between primary, secondary and tertiary sectors
- differentiate between the production of goods and services
- explain the difference between factor and product markets
- understand the interdependence of the factor and product markets
- evaluate the costs and benefits of specialisation and exchange for producers
- evaluate the costs and benefits of specialisation and exchange for workers
- evaluate the costs and benefits of specialisation and exchange for regions
- evaluate the costs and benefits of specialisation and exchange for countries

Topic 2.2
Demand

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by demand
- draw and explain a demand curve using data, including individual and market demand
- draw shifts of, and movements along, the demand curve
- analyse the causes and consequences for consumers and producers of shifts of, and movements along, the demand curve
- explain price elasticity of demand
- draw demand curves of different elasticity
- evaluate the importance of price elasticity of demand for consumers and producers

What is meant by demand?

Demand is the quantity of a good or service that consumers are willing and able to buy at a given price in a given time period. It is important to note the terms 'willing' and 'able'. There is no effective demand unless someone both wants to purchase the product and has the money to be able to do so. This person might desire to fly first class to New Zealand, but unless they are willing to do so and have the money to pay for the ticket, they have no real demand.

Demand can also come about due to the demand for another product. This is called derived demand (see Topic 2.1). A good example of this is transport. Although some people do use transport just for the journey, most demand for transport is derived from the demand to commute to work, go on holiday or move goods from one place to another (see also Topic 2.7).

Key term

Demand The willingness and ability to purchase a good or service at the given price in a given time period.

Study tip

Make sure that you clearly understand the desire for a good or service and the effective demand for it. In economics, we are interested only in effective demand.

The demand for transport is derived partly from the demand to commute to work

For most goods and services the quantity demanded varies inversely with the price, i.e. as the price rises the quantity falls, or as the price falls the quantity rises. This is called the **law of demand** and comes about because:

- as the price of a good or service falls, consumers have more money left over so that they can buy more with the same amount of money
- as the price of a good or service falls, more consumers are now able to afford the product, so they are likely to buy it

The law of demand describes the situation that we find normal. We would expect to consume more of a product as the price falls and vice versa.

Key term

Law of demand For most products the quantity demanded varies inversely with its price.

Now test yourself

1 Which of the following statements are true and which are false?
   - a Demand is what consumers buy.
   - b Demand for a good or service can come about due to demand for another product.
   - c Effective demand is the same as demand.
   - d As the price of a product falls, the quantity demanded increases.

Study tip

In economics, all demand (and supply) lines are called curves even if they are drawn as straight lines.

Drawing and explaining a demand curve

The demand curve for most goods and services slopes downwards because of the inverse relationship between its quantity and its price. This is shown in Figure 2.2.1.

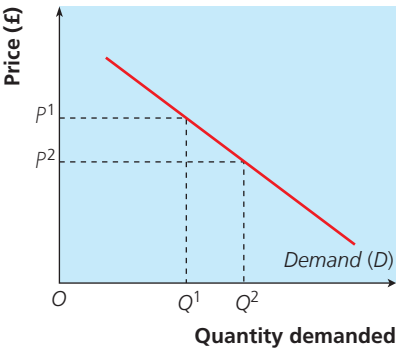


Figure 2.2.1 The demand curve

What is meant by individual demand?

Everyone has their own demand curve for a good or service, which is known as **individual demand**. Consider Juanita's demand for jumpers at different prices. Table 2.2.1 shows the schedule of her demand. (This just means a table with prices and the related quantity.) It shows us how many jumpers Juanita is *prepared* to buy at different prices. It does not tell us what actual amount she *will* buy because we do not know the prices at which producers are willing to supply (see Topics 2.3 and 2.4).

Table 2.2.1 Juanita's demand schedule

Price of jumpers (£)	Quantity of jumpers demanded
50	0
40	1
30	2
20	3
10	4

Key term

Individual demand The demand for a good or service by an individual consumer.

Study tip

It is perfectly acceptable to use *P* for price, *Q* for quantity and *D* for demand. Later, you can use *S* for supply.

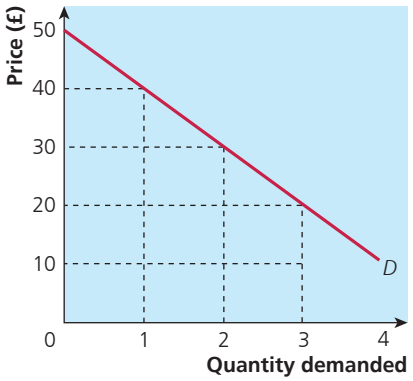


Figure 2.2.2 Juanita's demand curve for jumpers

Study tip

Remember to label a diagram fully. If you leave off price/quantity, the person marking your paper has no idea what is being measured. Equally, if the curve is not labelled, *D* in Figure 2.2.2 is meaningless.

Key term

Market demand The total demand for a good or service in a given time period, found by adding together all individual demands.

Figure 2.2.2 shows Juanita's demand curve for jumpers.

Activity

Table 2.2.2 Three demand schedules for cereal bars

Price (*p*)	Kian's demand for cereal bars	Niamh's demand for cereal bars	William's demand for cereal bars
100	1	0	0
80	2	1	2
60	4	2	4
40	8	3	6
20	16	4	8

Using the information in Table 2.2.2, and graph paper if available, draw three demand curves, one each for Kian, Niamh and William. Make sure that you keep these diagrams safe because they will be required for the next activity.

Discuss in pairs why the three demand curves are all different. (Later in this topic we will give you some economic tools to answer this, but don't worry about that at this stage.)

What is meant by market demand?

The **market demand** is the total demand for a good or service. It is found by adding together all the individual demands. This can be seen in Figure 2.2.3, where the third diagram, total customers, is a result of adding together the two previous diagrams, male and female customers.

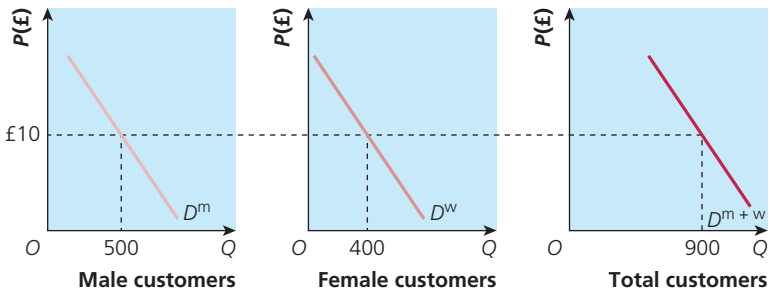


Figure 2.2.3 The market demand curve

Activity

1. Using the three demand curves for Kian, Niamh and William, and assuming they are the only three consumers, draw a market demand curve. How does it differ from the three individual ones?
2. Agree on a product that all the members of your class or group like to buy. Decide on your individual demands for the product at a range of prices. Add these together and produce your own market demand curve. You could then share this with the rest of the class.

How to draw shifts of, and movements along, the demand curve

As noted above, shifts of the demand curve mean that the whole curve moves either to the right (outward) or to the left (inward). Movements along the demand curve, however, mean movement up (contraction) or down (expansion) the same demand curve.

What are shifts of the demand curve?

Shifts of the demand curve are caused by non-price factors (see Figure 2.2.4). If, for example, consumers' incomes increase then the demand curve will move outwards from D to D^1 and the quantity demanded at price P will rise from Q to Q^1. Equally, if people move on from last year's fashion shoes to this year's shoes, there will be a fall in demand for last year's shoes from D to D^2 and the quantity demanded at price P will fall from Q to Q^2.

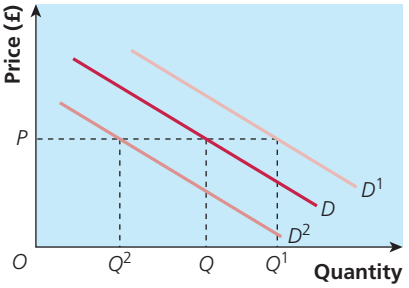


Figure 2.2.4 Shift of the demand curve

What is meant by movements along the demand curve?

Movements along the demand curve are caused by changes in the price of the good or service. In Figure 2.2.5, if the price falls from P to P^1 then the quantity demanded increases from Q to Q^1. This is expansion of demand. On the other hand, if the price rises from P to P^2 then the quantity falls from Q to Q^2. This is contraction of demand.

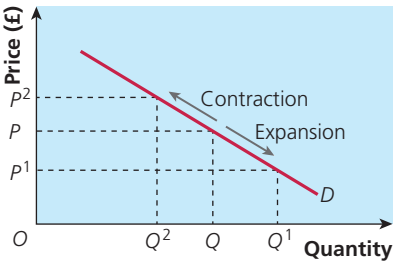


Figure 2.2.5 Movement along the demand curve

Case study

Electric scooters

The need for sustainable urban mobility and modern transportation infrastructure is driving the change from fossil fuel powered forms of transport to ones using electricity. Electric scooters (e-scooters) are claimed to have a positive influence on energy consumption and air quality as they are electric, quiet and clean. The average e-scooter produces only 97 grams of CO_2 per mile compared with the average UK car, 450 grams per mile. Battery technology and the provision of renewable energy are improving, so their environmental credentials will only improve. In addition, monetary and non-monetary incentives are encouraging their adoption.

E-scooter use in the UK has so far been restricted to trials, as there is concern about their effect on pedestrians and motorists.

Follow-up questions

1. Give two factors that could influence consumer demand for e-scooters. Give reasons for their effect on consumer demand.
2. Using a diagram, how could improving battery technology affect consumers' demand for e-scooters?
3. Using a diagram, how could concerns for the effects of e-scooters affect their demand?

Analysing shifts of, and movements along, the demand curve

It is important to distinguish clearly between a **shift of the demand curve** and a **movement along the demand curve**. A shift of the demand curve means that the quantity demanded at each price changes. This is caused by non-price factors. A movement along a demand curve is caused by a change in price and by no other factor.

What causes shifts of the demand curve?

A shift of the demand curve is when the demand curve moves to the right or to the left. All the causes of these shifts in demand are non-price ones. That is, they are not to do with the actual price of the good or service. A shift in a demand curve occurs when the quantity of a good demanded changes even though the price remains the same.

Activity

Table 2.2.3 The demand for milk at a garage shop

Price of a litre of milk (£)	1.80	1.70	1.60	1.50	1.40	1.30	1.20
Litres of milk consumed per day	20	24	28	32	36	40	44

1 Using the figures in Table 2.2.3, draw the demand curve for milk from the garage shop.

2 Following a news item about the health benefits of milk, the demand increases by 4 litres at each price. Calculate the new demand schedule and then plot this on the graph.

Below are some factors that could cause the demand curve to shift (another one is given in a later activity).

In order to keep this as simple as possible, only either an increase or a decrease in demand is considered, but the other one would just be the exact opposite: for example, a fall in income would lead to the opposite effects to a rise in income.

Income

If income rises then consumers are able to buy more goods and services at every price. If income becomes more unevenly distributed (see Topic 3.3) then there will be an increase in demand for luxury goods and services as the rich become wealthier. If poverty increases then the demand for basic and cheap products is likely to rise.

Marketing

All forms of marketing are essentially designed to increase the demand for a product. The best-known form of marketing is advertising. Large firms such as McDonald's, BP and Ford spend tens of millions of pounds every year on advertising.

Key terms

Shift of the demand curve A complete movement of the existing demand curve either outward (to the right) or inward (to the left).

Movement along the demand curve When the price changes, leading to a movement up or down the existing demand curve.

Study tip

Remember: *analyse* means to present logical chains of reasoning based on knowledge and application. Appropriate use of economic terms and explanation of diagrams are likely to indicate that analysis is taking place.

Activity

1 In groups, or as a class, discuss how effective you think advertising is at increasing demand. Choose a favourite brand of clothes or a snack, and use this for your discussion.

2 If possible, ask the marketing manager of a local firm to come and talk about why their firm advertises and how effective it is.

Tastes and fashion

Over time, consumers' tastes change and so too does fashion. People prefer to buy different or more advanced products, so demand for these products increases. For example, consumers now prefer 5G smartphones to 4G mobile phones. The result will be an increase in demand for 5G phones and a decrease in demand for 4G phones. The fashion industry is built on persuading people to throw out last year's clothes and buy new designs.

Substitutes and complements

Substitutes are goods and services that can be used in place of another good or service. If the price of one product rises then people will change to buying the other one. Products that are substitutes for each other could be tea and coffee, Coca-Cola and Pepsi, honey and jam, or Barclays and HSBC banks.

Complements are goods and services that go together, such as cars and fuel, keyboards and desktop computers, and mobile phone and chargers If the demand for one goes up, due perhaps to a fall in price, so too does the demand for the other.

Population

There are three aspects of population to consider briefly: size, age and gender.

- If the number of people in a country increases or decreases, it is likely that the demand for most goods and services will also increase or decrease. For example, an increase in population will put more demand on health services, education, housing and food production.
- Change in the age of the population is also important. If a population ages so that there are more older people, it is likely that there will be an increase in demand for the types of goods they want or need. Older people may prefer cars to motorbikes or going on cruises rather than activity holidays.
- If there is an increase in the number of women in a country or in the number of women working and thus having more purchasing power, there is likely to be an increase in demand for goods women favour. This would be equally true if there were an increase in the number of men.

Activity

In pairs, analyse what would happen to the demand for goods and services if there were a sudden increase in the number of babies born (as happened after the end of the Second World War). Think about not only the immediate effects, but also the fact that this rise in population will move through the age structure. Then exchange your pair's ideas with other pairs.

Government policies

Governments can affect the demand for a product either by imposing **taxes** or by giving **subsidies** (see Topics 3.5 and 3.8). Taxes take money out of firms' and individuals' pockets, which then goes to the government. These taxes include income tax (see Topic 3.5).

Subsidies put money into firms and individuals through, for example, benefits. By giving a subsidy, the government hopes to increase demand.

Activity

It is a good idea to have your own examples, as it is important to show originality and not just a reproduction of textbook examples. Write down four examples of pairs of substitute goods and four of complementary goods. Exchange your ideas so that you have a class list.

Key terms

Tax A compulsory payment to the government.

Subsidy An amount of money the government gives directly to firms to encourage production and consumption.

At present, the UK government is giving subsidies for electric-powered cars to persuade more people to buy them.

Economic situation

The state of the economy as a whole and/or the world economy can affect demand. In 2008 during the global financial crisis people became unemployed (see Topic 3.2) or were worried about the possibility of unemployment. This led to a fall in demand for many goods and services. On the other hand, there was an increase in demand for charity shops.

Price expectations

If people expect prices to rise, they are likely to demand more of certain products now. This is because they then hope to sell the product and make a profit on it in the future. Examples of this kind of product are housing, shares and works of art. Alternatively, people may buy goods now to save money in the future when prices rise. This is often seen if a government is expected to put up the tax on petrol – people queue to buy the petrol before it becomes more expensive.

Activity

There are many other factors that can influence demand, such as the weather. Make a list of at least eight products whose demand can be affected by the weather. When you have done this, share your ideas with others in the class.

What are the consequences of shifts of the demand curve?

The most important consequence of a shift of the demand curve is that it will lead, for nearly all products, to the price and quantity of the good or service moving in the same direction. If the demand increases then both the price and quantity will rise. If the demand decreases then both the price and quantity will fall.

The situation may not always be so straightforward. Some possible issues are:

- If the price rises, but incomes rise faster, consumers will be able to demand more petrol, for example, despite the price rise.
- Demand for substitute products will fall if people prefer other goods and services.
- The increase in demand may allow producers to gain greater economies of scale (see Topic 2.6). This could allow them either to cut the price, which means movement down the demand curve, or to enjoy higher profits.
- If demand falls, producers may go out of business if they can no longer make a profit (e.g. Burtons, Peacocks and DW Sports in 2020).

What causes movements along the demand curve?

A movement along the demand curve is shown either by moving up the curve, causing the quantity of demand to contract (decrease), or by moving down the curve, causing the quantity demanded to expand (increase – see figures later in this topic). Movement along the demand curve is caused solely by a change in price, which is caused by a shift of the supply curve. You will learn more on this in Topic 2.3.

What are the consequences of movements along the demand curve?

The main consequence is that price and quantity move in opposite directions. If the price rises, the quantity demanded falls. Similarly, if the price falls, the quantity demanded increases. This is all according to the law of demand (see above).

If a consumer's income does not change then a movement up the demand curve will mean they can buy fewer goods and services, thus reducing their standard of living. Alternatively, they will be forced to look for cheaper substitutes. The reverse will be true if the movement is down the demand curve.

Producers will find that rising prices and falling demand will lower their sales and profits. This may mean they have to reduce output, make workers unemployed or even close down. A movement down the demand curve may allow producers to increase their market, or even their market share, leading to higher profits and possibly forcing their competitors out of the market (see Topic 2.5).

Study tip

Make sure you are clear as to the difference between a movement of a demand curve, a shift in demand, a movement along the demand curve and a change in the quantity demanded. Confusion between these is a common error.

Summary

Table 2.2.4 is a summary of the differences between shifts of, and movements along, a demand curve.

Table 2.2.4 Summary of the changes in demand and their effects

Change in demand	Effect
Increase in demand due to a rightward shift of the demand curve	Both the price and the quantity demanded of the product increase
Decrease in demand due to a leftward shift of the demand curve	Both the price and the quantity demanded of the product decrease
Increase in quantity demanded due to a fall in price, leading to a movement down the demand curve	The price falls, but the quantity increases (expansion of demand)
Decrease in quantity demanded due to a rise in price, leading to a movement up the demand curve	The price rises, but the quantity falls (contraction of demand)

Now test yourself

2 Complete the following sentences:

- If a firm increases its advertising, the demand curve will move to the .....
- If you expected the price of a favourite good to rise next month, you would ..... your demand for it.
- An outward shift in the demand curve will lead to a ..... in price and a ..... in quantity.
- Falling demand may lead to workers being ..... and firms having to ....

What is meant by price elasticity of demand?

Earlier in this topic you met the law of demand, which explained why most demand curves slope downwards: as the price rises, consumers buy less. It does not tell us by how much quantity demanded will change with the change in price. A rise in the price of petrol has only a small effect on the quantity of petrol that is bought, whereas a rise in the price of a bar of a particular brand of chocolate will lead many consumers to switch to other brands of chocolate or non-chocolate substitutes.

Price elasticity of demand (*PED*) measures the responsiveness of quantity demanded to a change in the price of the product. If a price change leads to a smaller change in quantity, as in the case of petrol, then the demand is price **inelastic**. This means it has a value between 0 and –1. Goods or services that have few substitutes or are necessities are usually price inelastic.

If a price change leads to a larger change in quantity, as in the case of the bar of chocolate, the demand is price **elastic**. This means it has a value between –1 and infinity. Goods and services that have many substitutes or take up a large proportion of a consumer's income are usually price elastic.

If a product has a value of exactly –1 then it is unitary elastic.

Key terms

Price elasticity of demand (*PED*) The responsiveness of quantity demanded to a change in the price of the product.

Inelastic demand When the percentage change in quantity demanded is less than the percentage change in price.

Elastic demand When the percentage change in quantity demanded is greater than the percentage change in price.

What do the *PED* values mean?

The minus sign means that the demand curve slopes downwards, i.e. it obeys the law of demand. *PED* has no units, so the answer to a *PED* calculation is just a number.

If the value of *PED* is more than –1 (ignoring the sign), for example –2, then it is price elastic. Quantity demanded is responsive to a change in price (see Figure 2.2.6).

If the value of *PED* is less than –1, for example 0, then it is price inelastic. Quantity demanded is relatively unresponsive to a price change (see Figure 2.2.7).

There are three special *PED*s:

- *PED* = 0. This is called perfectly price inelastic (see Figure 2.2.8).
- *PED* = ∞ (infinity). This is called perfectly price elastic (see Figure 2.2.9).
- *PED* = –1. This is called unitary price elastic (see Figure 2.2.10).

Study tip

Always include the minus sign in your answer for *PED*. Remember, if price rises, quantity must fall for any demand curve, and vice versa.

Now test yourself

3 Without looking back, what is the definition of price elasticity of demand? (This needs to be very precise.)

How to draw demand curves of different elasticity

In Figure 2.2.6, a decrease in price from P to P^1 leads to a larger increase in quantity from Q to Q^1. This shows that quantity is responsive to a change in price.

In Figure 2.2.7, a decrease in price from P to P^1 leads to a smaller increase in quantity from Q to Q^1. This shows that quantity is relatively unresponsive to a change in price.

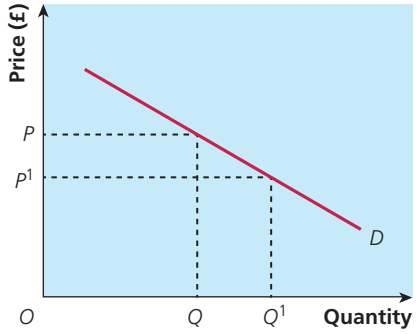


Figure 2.2.6 Price elastic demand curve

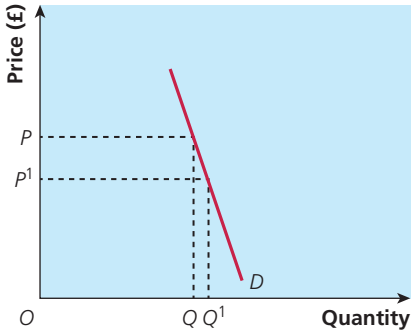


Figure 2.2.7 Price inelastic demand curve

In Figure 2.2.8, a decrease in price from P to P^1 leads to no change in quantity; it remains at Q. This shows that quantity is totally unresponsive to a change in price.

In Figure 2.2.9, although there is no change in price – it stays at P – there is still an increase in quantity from Q to Q^1. This shows that quantity is infinite in its response to a change in price, i.e. any quantity will be bought at that, but only that, price. While it is difficult to find these goods and services in practice, possible examples include buying online, where consumers can keep searching for the lowest price, or any product that appears identical to the buyer.

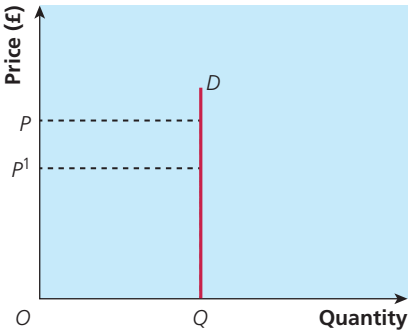


Figure 2.2.8 Perfectly price inelastic demand curve

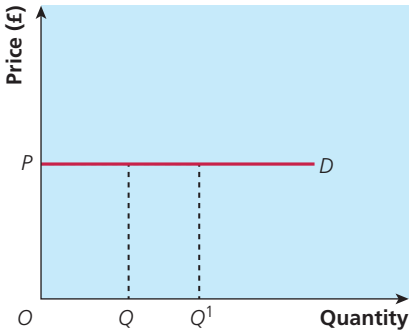


Figure 2.2.9 Perfectly price elastic demand curve

Figure 2.2.10 shows a unitary price elastic demand curve. With unitary elasticity the change in price matches the change in quantity: for example, a fall of 10% in price gives a 10% rise in quantity. This is a value for *PED* of –1.

Activity

1. In groups, compile a list of products you think would be inelastic and another list of those that would be elastic. Then as a class, exchange your ideas and compile a class list.
2. Discuss as a class which goods might have a perfectly inelastic demand, or very near to perfect. Do you think there are any products that might be completely perfectly elastic (think of substitutes) or unitary?

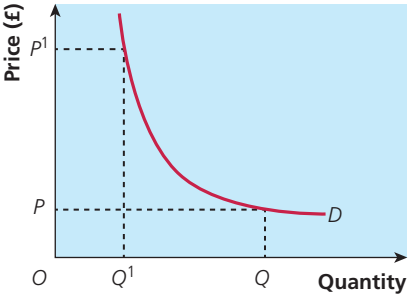


Figure 2.2.10 Unitary price elastic demand curve

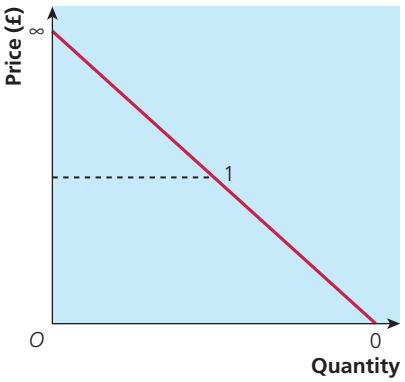


Figure 2.2.11 How elasticity varies along the demand curve

Price elasticity varies all the way along a straight-line demand curve. In Figure 2.2.11, price elasticity is:

- infinity at the top where it meets the price axis
- 1, halfway down
- zero at the bottom where it meets the quantity axis

Evaluating the importance of price elasticity of demand for consumers and producers

Although knowledge of movements of, and along, the demand curve are useful to both consumers and producers, this knowledge does not enable either group to predict (other than vaguely) what the effect of a change in demand or price will be. To do so, it is necessary to know the value of *PED*.

What are the effects on consumers?

The value of the price elasticity of demand is useful for consumers in planning their expenditure. If the demand is elastic, then the change in the price of the product will lead to a change in the total expenditure in the opposite direction. If the demand is inelastic, then change in the price of the product will lead to a change in the total expenditure in the same direction.

While most consumers do not have the means to calculate *PED*, this does not mean that it has no effect on them. Consumers who purchase goods with inelastic demand are affected because governments could impose high levels of taxation on these goods and services. This is because they know that they can raise tax revenue on goods and services that consumers need, as consumers will pay the higher prices. Among the goods with high levels of tax, and an inelastic demand, are alcohol, motor fuel and tobacco (see Topics 3.5 and 3.8).

Equally, consumers who have to travel at peak times on the railway are willing to pay far more for their journey than someone who can choose a cheaper time. In July 2021, it cost £156 for a single ticket from Manchester to London on the 07.55 train, but only £66 on the 10.31. Those travelling earlier have a more inelastic demand, so the rail company knows it can charge more.

In the case of some products, the elasticity changes depending on the time of the year. In winter, consumers' demand for ice cream might be quite elastic, so they will buy much more if the price falls, but a lot less if the price rises. In summer, however, demand may be inelastic as ice cream becomes more desirable. This means that the consumer would probably be willing to pay more to get an ice cream in the summer than in the winter.

Activity

Find out the price of fares from your local station to London or your nearest large city. Why is there a range of different fares?

Activity

In pairs, make a list of products for which you think you have an inelastic demand and another for elastic-demand products. Does your elasticity change during the year? Discuss whether you expect your elasticity to change over time. Compare your ideas with another pair.

Demand for ice cream changes depending on the season

What are the effects on producers?

Producers can use their knowledge of the price elasticity of demand for their products to increase their total revenue (see Topic 2.6).

Total revenue (TR) = price (P) × quantity (Q)

In this case, producers' knowledge of the value of price elasticity of demand is useful in pricing decisions. When the demand is elastic, for the firm to earn more revenue it has to reduce its price. When the demand is inelastic, in order to earn more revenue the firm should raise its price.

Knowing the value of elasticity, the producer would be able to calculate the effect on quantity of a change in price. If the product had an elastic demand, then cutting the price would lead to a larger percentage rise in quantity, so total revenue would increase. The reverse will be the case for price inelastic demand. In other words, the producer could raise the price to increase revenue. The various possibilities are shown in Table 2.2.5.

Table 2.2.5 The effect of a price change on total revenue

Change in price	The effect when demand is price elastic	The effect when demand is price inelastic
Decreases	The change in quantity is greater than the change in price, so total revenue increases.	The change in quantity is less than the change in price, so total revenue decreases.
Increases	The change in quantity is greater than the change in price, so total revenue decreases.	The change in quantity is less than the change in price, so total revenue increases.

Now test yourself

4 If a product has a *PED* of –7.5, is its demand elastic or inelastic?

5 What happens to the value of *PED* of a straight downward-sloping line as price falls?

6 Draw a unitary price elastic demand curve.

7 Why is knowledge of *PED* useful to a producer?

Extension material

Originally P = £10 and Q = 10. If a good has a *PED* value of 2 and price falls from £10 to £8, it is possible to calculate the original total revenue (*TR*) and the new *TR*.

Original *TR*:

Original $TR = 10 \times 10 = £100$

New *TR*:

$$PED = \frac{\%\Delta Q}{\%\Delta P} = 2 = \frac{\%\Delta Q}{20\%} = 2 \times 20 = 40\%$$

New Q is 10 + 40% = 14

$TR = 8 \times 14 = £112$

Evaluate this

Using the information in this topic and your own knowledge, evaluate the statement that producers with goods that are inelastic in demand will always raise their price.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Will this bumper crop be ploughed in?

Activity

Investigate the pricing policies of companies such as cinemas and holiday firms. You should be able to come up with your own ideas as well. Do they charge different groups of consumers different prices? If so, what makes these groups have elastic or inelastic demand?

Producers may also be able to charge different prices to different parts of their market. We have already considered the case of rail operators which vary their charges depending on the time of the day. This is again based on the rail companies trying to maximise their revenue by raising prices to those with inelastic demand, and lowering prices to those with elastic demand.

Farmers and other producers of primary products often face an inelastic demand for their products. Farmers whose crops have an inelastic demand dread having bumper harvests because this usually means that prices fall and so too does their revenue and income. In 2011, one strawberry grower in the northeast decided that it was better to plough

his crop back into the ground, as the price had fallen to such a low level. Equally, the fall in oil prices in 2015 meant that many oil-producing countries faced a significant fall in their incomes.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the extent to which price elasticity of demand is important for producers.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note that the question says 'the extent to which', so when evaluating, even if you think it is important, you need to decide how important.

Case study

The effect on oil-producing countries of a fall in oil prices

In February 2016 it was reported that the price of a barrel of oil had fallen in 8 months from $110 to $30. This caused oil producers' revenue and profits to fall rapidly. Producers, therefore, have had less money, and less incentive, to invest in new oil wells.

This has meant that governments have received lower tax revenue. Government expenditure in the United Arab Emirates has had to be drastically reduced, with spending in the final quarter of 2015 being about 10% lower than in the previous quarter.

Follow-up questions

1. Using the evidence from the passage, is the demand for oil price elastic or inelastic?
2. Draw a diagram to show the original demand curve for oil.
3. On the diagram, draw a new demand curve to show the effect of a fall in demand on price and quantity demanded.
4. How might a fall in the price of oil affect consumers?

Evaluate this

Using the case study 'The effect on oil-producing countries of a fall in oil prices' and your own knowledge, evaluate the extent to which consumers in the United Arab Emirates (UAE) will benefit from falling oil prices.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Extension material

1. There are many other consequences of a shift of the demand curve. In pairs, write down two more possible consequences. When you have done this, analyse the likely outcomes of these consequences for consumers and producers. You could then share your ideas with the rest of the class.
2. Earlier in the topic we said that 'for most goods and services the quantity demanded varies inversely with the price'. In pairs, try to think of any goods or services for which this might not be the case. Make sure you can explain why, and then share your ideas with the class.
3. Using the data in Table 2.2.6, calculate the *PED* for each decrease in price, e.g. £14 to £12.

Table 2.2.6 Demand schedule

Price (£)	14	12	10	8	6	4	2
Quantity	4	6	8	10	12	14	16

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by demand
- draw and explain, using data, individual demand curves
- draw and explain, using data, market demand curves
- analyse the causes and consequences for consumers and producers of shifts in the demand curve
- analyse the causes and consequences for consumers and producers of movements along the demand curve
- draw shifts in the demand curve
- draw movements along the demand curve
- explain price elasticity of demand
- draw demand curves of different elasticity
- evaluate the importance of price elasticity of demand for consumers and producers

Topic 2.3
Supply

Learning outcomes

After studying this topic you should be able to:

- explain what is meant by supply
- draw and explain a supply curve using data, including individual and market supply
- draw shifts of, and movements along, the supply curve
- analyse the causes and consequences for consumers and producers of shifts of, and movements along, the supply curve
- explain price elasticity of supply
- draw supply curves of different elasticity
- evaluate the importance of price elasticity of supply for consumers and producers

What is meant by supply?

Supply is not just the quantity produced, but the ability and willingness of firms to provide goods and services at each price level in a given time period. The time period is very important for supply because in some cases it is easy to increase supply, such as tins of Heinz baked beans, whereas in other situations, such as cinema seats, the supply cannot easily be changed (see later in this topic for more detail).

For most goods and services the quantity supplied varies directly with the price, i.e. as the price rises, the quantity increases, or as the price falls, the quantity also falls. This is called the **law of supply** and comes about because:

- Higher profits are likely to be earned by existing firms if they supply more.
- Production costs are likely to rise as output expands, so a higher price is needed to cover these extra costs.
- New firms may be attracted to the market because the higher prices mean they can cover their higher production costs.

In this topic we are concerned with the supply of goods and services.

Key terms

Supply The ability and willingness of firms to provide goods and services at each price in a given time period.

Law of supply For most products the quantity supplied varies directly with its price.

Drawing and explaining a supply curve

The supply curve for most goods and services slopes upwards because of the direct relationship between its quantity and its price. This means that if the price rises, so does the quantity, while if the price falls, so does the quantity. This is shown in Figure 2.3.1.

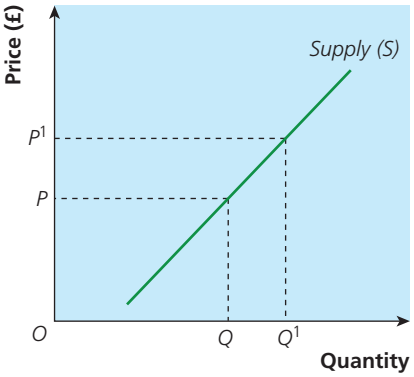


Figure 2.3.1 The supply curve

Study tip

Remember to label diagrams fully. But there is no need to write words in full, so price = *P*, quantity = *Q*, supply = *S* and demand = *D* are sufficient.

Key term

Individual supply The supply of a good or service by an individual producer.

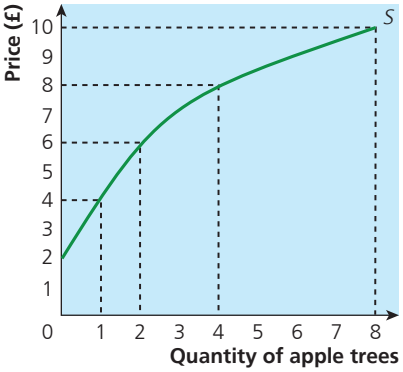


Figure 2.3.2 Claude's supply curve of apple trees

Study tip

Supply can also refer to the supply of labour (see Topic 2.7) and the supply of money (see Topics 2.8 and 3.6).

Key term

Market supply The total supply of a good or service as a result of adding together all individual producers' supplies.

What is meant by individual supply?

Individual supply is the supply of a good by an individual producer. Each individual producer will have their own supply curve for a good or service. In the example given in Table 2.3.1, we are considering the supply of apple trees at different prices. Table 2.3.1 shows the schedule of Claude's supply (this just means a table with prices and the related quantity). It shows us how many apple trees Claude is prepared to sell at different prices. It does not tell us the actual amount the producer will supply because we do not know the prices at which consumers will demand (see Topics 2.2 and 2.4). (See also Figure 2.3.2.)

Table 2.3.1 Claude's supply schedule

Price of apple trees (£)	Quantity of apple trees supplied
2	0
4	1
6	2
8	4
10	8

Activity

Table 2.3.2 The supply schedule for ice cream tubs

Price (£)	Borys' supply of ice cream tubs	Mariana's supply of ice cream tubs	Parvez's supply of ice cream tubs
5	4	10	16
4	3	8	8
3	2	6	4
2	1	4	2
1	0	2	1

1 Using the information in Table 2.3.2, and graph paper if available, draw three supply curves, one each for Borys, Mariana and Parvez. Make sure that you keep these diagrams safe because they will be required for the next activity.

2 Discuss in pairs why the three supply curves are all different. (Later in this topic we will give you some economic tools to answer this, but don't worry about it at this stage.)

What is meant by market supply?

The market supply is the total supply of a good or service. It is found by adding together all the individual producers' supply. This can be seen in Figure 2.3.3, where the third diagram (market supply (S^{ms}), is a result of adding together the two previous diagrams, Firm A (S^{a}) and Firm B (S^{b}).

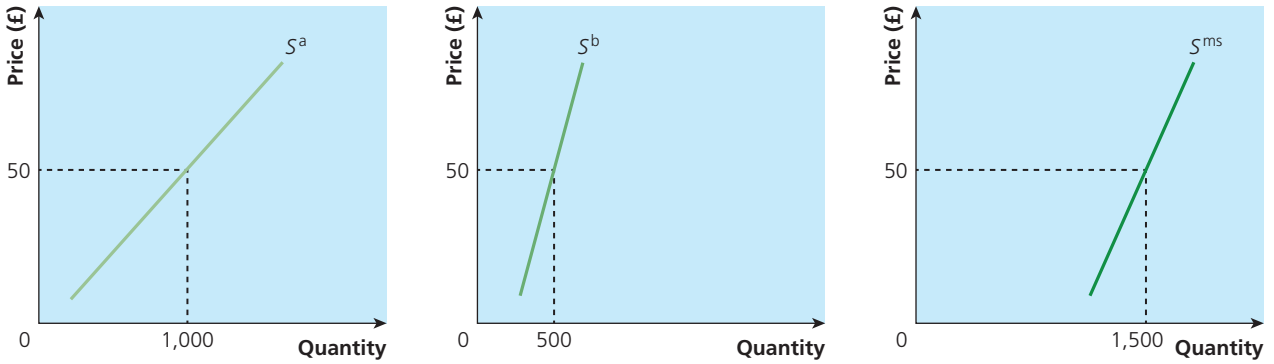


Figure 2.3.3 The market supply curve

Firm A can supply 1,000 units at £50, while Firm B can supply 500 units at the same price. By adding the two together the market supply is given: 1,500 units at £50.

Now test yourself

1 Complete the following sentences using either *supply*, *individual supply* or *market supply*:
   - **a** The supply of a good by one firm is called ..... .
   - **b** The ability and willingness to provide goods over a specified time period is called ..... .
   - **c** The total provision of a good is called ..... .
   - **d** The addition of the quantity offered by each firm is called ..... .

Activity

Using the three diagrams for Borys, Mariana and Parvez, and assuming they are the only three producers, draw a market supply curve. How does it differ from the three individual ones?

How to draw shifts of, and movements along, the supply curve

It is very important to distinguish clearly between a **shift of the supply curve** and a **movement along the supply** curve. A shift of the supply curve means that the quantity supplied at each price changes. This is caused by non-price factors. A movement along the supply curve is caused by a change in price and by no other factor.

How to show a shift of the supply curve

A shift of the supply curve is shown in Figure 2.3.4 by moving the supply curve to the right, S to S^1. This shows an increase in supply at every price of Q to Q^1. Equally, a shift of the supply curve can be shown by moving the supply curve to the left (S^1 to S). This shows a decrease in supply at every price of Q^1 to Q.

How to show a movement along the supply curve

In Figure 2.3.5 a movement either up or down the supply curve leads either to an increase in both the price and the quantity, P/Q to P^1/Q^1, which is called an expansion of supply, or to a fall in both, P/Q to P^2/Q^2, which is called a contraction of supply.

Key terms

Shift of the supply curve The complete movement of the existing supply curve either outward (to the right) or inward (to the left).

Movement along the supply curve When the price changes, leading to a movement up (expansion) or down (contraction) on the existing supply curve.

Study tip

When drawing diagrams in your answers, make sure that you: use a ruler, draw them large enough to be easily seen and understood, and overall make them tidy. It is essential that you use black ink and not pencil or other colours so that your diagram can be clearly understood.

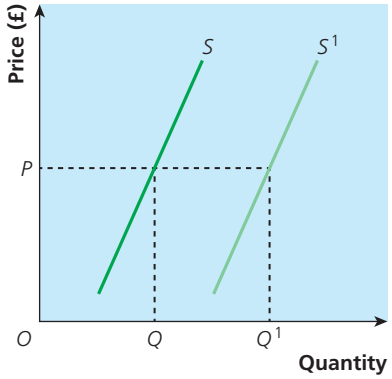


Figure 2.3.4 A shift of the supply curve

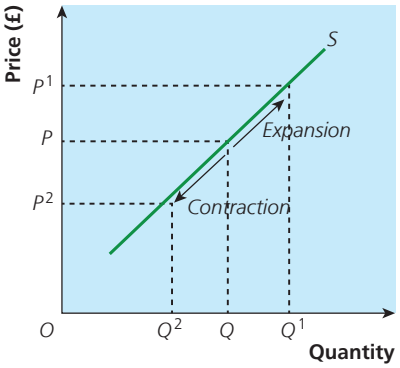


Figure 2.3.5 A movement along the supply curve

Case study

Confusion and the supply curve

Collette was in conversation with Ranjit. She believed that if she supplied more of her eggs to local shops, she would get a lower price, but more revenue. Instead, she found that she was getting a higher price and more revenue. Ranjit explained that this was because there had been an expansion of supply rather than a shift in supply. At this, Collette looked confused and said, 'I don't understand!'

Follow-up questions

1. Using a diagram, explain to Collette what is meant by an expansion of supply.
2. Using a diagram, explain to Collette why she could be correct in saying that if she supplied more, she would get a lower price, but greater revenue.
3. Assuming that it costs Collette the same to supply any quantity of eggs, analyse why an expansion of supply might be better for her than a shift in supply.

Analysing the causes and consequences of shifts of, and movements along, the supply curve

The basic difference between shifts of, and movements along, the supply curve is that movements along the supply curve are a result of a change in price, while a shift of the supply curve is caused by non-price factors. The causes of both and their consequences are explained in more detail below.

What causes shifts of the supply curve?

A shift of the supply curve is seen by the supply curve moving to the right or to the left. This is an increase, or decrease, in supply. All the causes of these shifts in supply are non-price ones, i.e. they are not to do with the actual price of the good or service. A shift in a supply curve occurs when a good's quantity supplied changes even though the price remains the same.

Below are some of the main factors that could cause the supply curve to shift. In order to keep this as simple as possible, only either an increase or a decrease in supply is considered, but the other one would just be the exact opposite: for example, a fall in production costs would lead to the opposite effects to a rise in production costs.

Costs of production

An increase in the costs of production means that a firm would supply less at every price. This could be caused by an increase in the price of raw materials, such as oil, or a rise in wages.

Taxes and subsidies

An increase in an indirect tax such as VAT (see Topic 3.5) would lead to a rise in costs and thus a fall in quantity supplied at each price. Similarly, a government subsidy to a firm would allow the firm to supply more at every price, leading to a shift in supply to the right.

Technology

The introduction of new or improved technology can reduce the costs of production and/or increase the amount that can be produced. The mechanisation of farming has meant that farmers can now grow more of a crop. Equally, the use of computers in many industries has greatly reduced costs by increasing the speed at which work can be carried out.

Activity

Table 2.3.3 The supply schedule of electric car production

Price of cars (£)	10,000	11,000	12,000	13,000	14,000	15,000
Number of cars produced per week	100	120	140	160	180	200

1 Using the figures in Table 2.3.3, draw the supply curve for electric cars.

2 Due to improved technology, the supply now increases by 10% at each price. Calculate the new supply schedule and then plot this on the graph.

Climate

This is a very important factor in agriculture. Changes in the weather can lead to significant differences in how much farmers can supply each year. The weather can affect all work that takes place outside, such as construction.

Number of producers or size of existing firms

If the number of producers in an industry increases, supply will shift to the right. Equally, if existing firms increase their size by opening new factories or devoting more land to the growing of a crop, supply will also shift to the right.

Government regulation

Governments can intervene in the market by, for example, health and safety regulations, consumer protection or the minimum wage. These will all increase the costs of firms and could lead to the supply curve shifting to the left.

Study tip

Make sure you understand the difference between a shift of a supply curve (a shift in supply) and a movement along the supply curve (a change in the quantity supplied).

What are the consequences of shifts of the supply curve?

As already stated, the main consequence of a shift in the supply curve is that price and quantity move in opposite directions. The assumption

here is that the supply curve shifts to the right. Examples include:

- Economies of scale (see Topic 2.6): the ability of a firm to produce more at every price should lead to a fall in average costs and the gaining of greater economies of scale. This could lead to greater profits or lower prices for consumers or both.
- Efficiency: being able to produce more with the same resources leads to greater efficiency, which may include greater productivity (see Topic 2.6).
- Sales: being able to supply more at a lower price may lead to higher sales.
- Exports (see Topic 4.1): all the above would make a firm more competitive (see Topic 2.5) and increase its ability to export successfully.
- Monopoly (see Topic 2.5): if a firm becomes more competitive than its rivals then it may be able to drive them out of the market, leading to the establishment of a monopoly.

Now test yourself

2 Which of the following are causes, and which are consequences, of a shift in the supply curve?

a New technology
b Greater economies of scale
c Monopolies
d More government regulation
e A fall in the costs of production
f More efficient production

What causes movements along the supply curve?

Movements along the supply curve are caused solely by changes in the price, which in turn are caused by shifts of the demand curve (see Topics 2.2 and 2.4). If the price rises, then a supplier will want to put more of its product on the market as it will gain greater revenue. If total costs rise by less than total revenue, this results in more profit. If the price falls, the reverse will be true.

What are the consequences of movements along the supply curve?

The first consequence of any movement along a supply curve is that the quantity supplied will move in the same direction as the price. If this is an expansion, it is likely to lead to greater profits. It may, however, lead to more firms entering the market, resulting in a shift of the supply curve to the right, which will in turn lead to a fall in price.

This is particularly noticeable in the agricultural industry. Farmers with a choice of what to produce will opt for the product that will give them the greatest profit. This will then shift the supply curve to the right, leading to a surplus of supply and a fall in price. If the price falls, the opposite may happen (see the final section of this topic).

In addition, a fall in price is likely to reduce profits and less efficient firms may be pushed out of the market, while efficient firms may have to reduce their production.

Summary of differences

Table 2.3.4 is a summary of the differences between a shift of, and a movement along, a supply curve.

Table 2.3.4 Summary of the changes in supply and their effects

Change in supply	Effect
Increase in supply due to a rightward shift of the supply curve	The price falls and the quantity supplied of the product increases
Decrease in supply due to a leftward shift of the supply curve	The price rises and the quantity supplied of the product decreases
Decrease in quantity supplied due to a fall in price, leading to a movement down the supply curve	Both the price and the quantity supplied of the product fall (contraction of supply)
Increase in quantity supplied due to a rise in price, leading to a movement up the supply curve	Both the price and the quantity supplied of the product increase (expansion of supply)

What is meant by price elasticity of supply?

Earlier in this topic you met the law of supply, which explained why most supply curves slope upwards: as the price rises, the producer provides more. It does not tell us by how much quantity supplied will change with the change in price.

Price elasticity of supply (*PES*) measures the responsiveness of quantity supplied to a change in the price of the product. If a price change leads to a smaller change in quantity, as in the case of oil, then the supply is **price inelastic**. This means it has a value between 0 and 1.

If a price rise leads to a larger change in quantity, as in the case of a box of cornflakes, then the supply is **price elastic**. This means it has a value between 1 and infinity.

If a product has a value of 1 then the supply is **unitary elastic**.

What do the *PES* values mean?

The supply curve slopes upwards, so the price and quantity change in the same direction (except for the three exceptions shown below). Therefore the calculation is always positive, i.e. it obeys the law of supply. Also, *PES* has no units, so the answer to a *PES* calculation is just a number.

If the value of *PES* is 0 or less than 1, for example 0.5, then it is price inelastic. Quantity supplied is relatively unresponsive to a price change (see Figure 2.3.6). For example, if *PES* is 0.5 then a 10% rise in price would lead to a 5% rise in quantity.

If the value of *PES* is more than 1, for example 2, then it is price elastic. Quantity supplied is responsive to a change in price (see Figure 2.3.7). For example, if *PES* is 2 then a 10% rise in price would see a 20% rise in quantity.

There are three special *PES* exceptions:

- *PES* = 0. This is called perfectly price inelastic (see Figure 2.3.8).
- *PES* = ∞ (infinity). This is called perfectly price elastic (see Figure 2.3.9).
- *PES* = 1. This is called unitary price elastic (see Figure 2.3.10).

The next section explains in more detail how supply curves of different elasticity are drawn.

Study tip

Make sure that you learn the definition of *PES* very carefully. Too many answers are vague.

Key terms

Price elasticity of supply (*PES*) The responsiveness of quantity supplied to a change in the price of the product.

Inelastic supply When the percentage change in quantity supplied is less than the percentage change in price.

Elastic supply When the percentage change in quantity supplied is greater than the percentage change in price.

Unitary supply When the percentage change in quantity is the same as the percentage change in price.

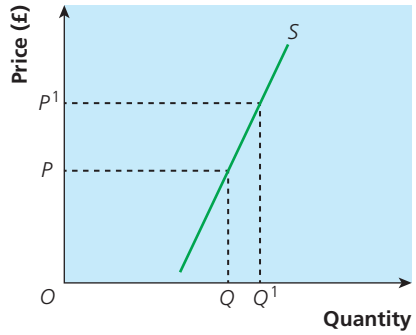


Figure 2.3.6 Price elastic supply curve

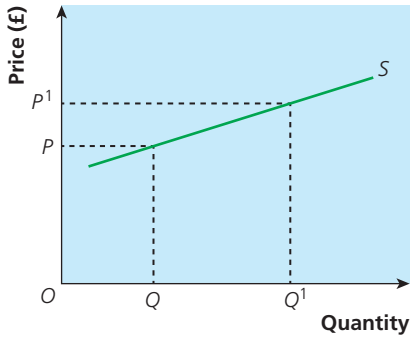


Figure 2.3.7 Price inelastic supply curve

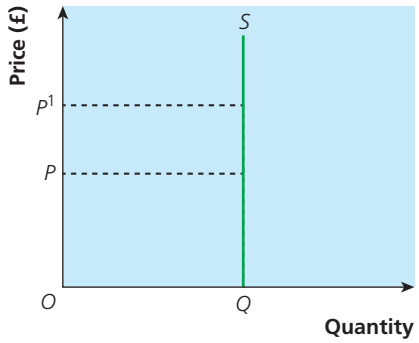


Figure 2.3.8 Perfectly price inelastic supply curve

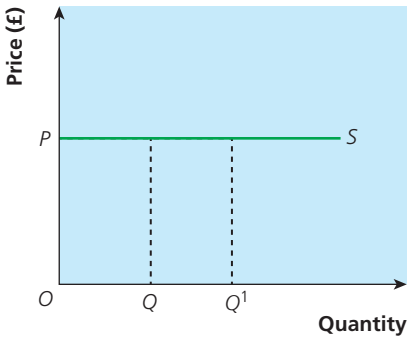


Figure 2.3.9 Perfectly price elastic supply curve

How to draw supply curves of different elasticity

In Figure 2.3.6, an increase in price from P to P^1 leads to a smaller increase in quantity from Q to Q^1. This shows that quantity is relatively unresponsive to a change in price. This could be because it is difficult to store the product, such as milk, so only a limited extra quantity can be supplied if the price rises.

In Figure 2.3.7, an increase in price from P to P^1 leads to a larger increase in quantity from Q to Q^1. This shows that quantity is responsive to a change in price. If resources are easily available, it will be possible to respond quickly to price changes.

In Figure 2.3.8, an increase in price from P to P^1 leads to no change in quantity; it remains at Q. This shows that quantity is totally unresponsive to a change in price. There are products whose supply cannot, at least in the short run, be increased, or can be increased only by running down limited stocks. This applies to many food products. Damsons, a type of plum, are only grown in limited parts of the UK. They are picked in September. This means that, except for those that are cooked and frozen, it is another year before more become available.

Activity

In pairs, try to think of at least five other different, i.e. non-fruit, products that would also be difficult to get more of very quickly. Then share your ideas with others in the class.

Seasonal fruits, such as cherries, are usually only available for part of the year

In Figure 2.3.9, although there is no change in price (it stays at P), there is still an increase in quantity from Q to Q^1. This shows that quantity is infinite in its response to a change in price, i.e. any quantity will be supplied at that, but only that, price.

In Figure 2.3.10, an increase in price from P to P^1 leads to the same percentage increase in supply from Q to Q^1. This shows that quantity is unitary in its response to a change in price, i.e. any percentage change in price will bring about the same percentage change in quantity. Any straight supply line that goes through the origin will have a value of 1.

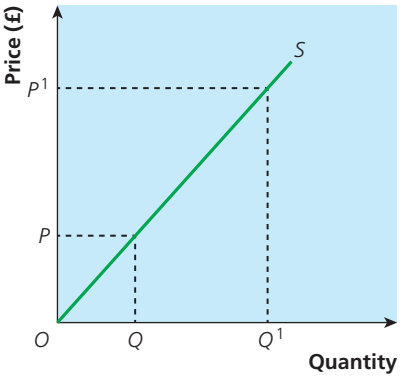


Figure 2.3.10 Unitary price elastic supply curve

Activity

1 In groups, compile a list of products you think would have inelastic supply and another list of those that would have elastic supply. Then as a class exchange your ideas and compile a class list.

2 Discuss as a class which goods might have a perfectly inelastic supply, or very near to perfect. Do you think there are any products that might be completely perfectly elastic or unitary?

Evaluating the importance of price elasticity of supply for consumers and producers

Although knowledge of movements of, and along, the supply curve are useful for both consumers and producers, this knowledge does not enable either group to predict (other than vaguely) what the effect of a change in price would be on the quantity supplied. To do so it is necessary to know the value of *PES*.

Study tip

Supply curves are unlikely to be linear in real life. This means they will have a different *PES* as one moves along the curve. Supply will be more elastic at lower prices and more inelastic at higher prices.

What are the effects on consumers?

While most consumers do not have the means to calculate *PES*, this does not mean that it has no effect on them. If *PES* is inelastic then it may prove more difficult for a consumer to get more of the product without paying a much higher price. In some cases, such as seats in a sports stadium or at a concert, even an ability to pay more may not provide a seat, as the numbers are restricted to how many seats there are. Consumers will find that although through their demand they can affect the price, there is little they can do to access more supply except by paying much higher prices. On the other hand, if *PES* is elastic, it is relatively easy to obtain more of the product, but there may be less flexibility in negotiating the price the consumer wants.

What are the effects on producers?

In most cases it is better for firms to have an elastic *PES*, as they can respond more easily to price changes. Firms can increase their elasticity by:

- adopting, or upgrading to, the latest technology
- creating spare capacity
- improving storage methods to prolong the life of a product
- keeping large amounts of stock
- training employees so that they can perform a range of jobs as required

Activity

In small groups, discuss how these five points could make *PES* more elastic. Are there any other ways in which this could be achieved? Share your ideas with the other groups.

Now test yourself

3 Define elasticity of supply. Make sure your definition is accurate.

4 If the value of *PES* is 0.8 then supply is said to be price ..... .

5 If *PES* is said to be elastic, what happens to the change in price and quantity as there is a movement up the supply curve?

6 If *PES* is inelastic, how might this affect the consumer?

7 Give four ways in which a producer can try to increase its elasticity of supply.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the view that producers should always try to increase the value of the price elasticity of supply of their products.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Case study

The producer and price elasticity of supply

The operations director of TCR Sports Ltd was worried that if the firm could not respond quickly enough, it would lose orders to foreign firms that were more flexible. The operations director asked Mila if she could advise him on how to increase the price elasticity of supply of the firm's products.

One suggestion Mila made was that TCR Sports Ltd should try to ensure that its stocks of goods were easily available.

Follow-up questions

1 What is meant by price elasticity of supply?

2 Other than the suggestion in the case study, how else could TCR Sports Ltd increase the *PES* of its products?

Extension material

Table 2.3.5 Supply schedule

Price (£)	2	4	6	8	10	12	14
Quantity	4	6	8	10	12	14	16

1 Using the data in Table 2.3.5, calculate the *PES* for each change in price, e.g. £2 to £4.

2 In the section 'What causes shifts of the supply curve?', you were given some of the possible causes. In pairs, write down two more possible causes. You could then share your ideas with the rest of the class. Make a class list of those that the class accepts and add them to your notes.

3 Contact a local firm and ask it how it tries to make its supply more elastic (more responsive to changes in price). If several of you do this, you could share your research with the rest of the class.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the importance of price elasticity of supply to consumers.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by supply
- draw and explain, using data, individual supply curves
- draw and explain, using data, market supply curves
- analyse the causes and consequences for consumers and producers of shifts in the supply curve
- analyse the causes and consequences for consumers and producers of movements along the supply curve
- draw shifts in the supply curve
- draw movements along the supply curve
- explain price elasticity of supply
- draw supply curves of different elasticity
- evaluate the importance of price elasticity of supply for consumers and producers

Topic 2.4
Price

Learning outcomes

After studying this topic, you should be able to:

- explain price as a reflection of worth and its role in determining an efficient distribution of resources
- explain what is meant by equilibrium price and quantity
- draw and analyse the interaction of demand and supply
- explain the role of markets in the determination of price and the allocation of resources
- analyse how the market forces of demand and supply affect equilibrium price and quantity

Price is the sum of money paid by a consumer to a producer for a good or service. As you will see below, it is determined by the interaction of supply and demand.

Key term

Price The sum of money paid by a consumer to a producer for a good or service. It is determined by the interaction of supply and demand.

Study tip

Don't confuse price and cost. Price is the amount it takes to buy a good or service. Cost is how much money it takes a producer to provide the product.

Is price a reflection of worth?

Although price is used to indicate worth, it is not an accurate measure of worth in all cases. One cannot state a price for a product that everyone would agree with. In any particular situation, each of us might be prepared to pay a different price for a product. In another situation we might offer a different price for that same product. Nevertheless, because we have scarce resources in the world, we need some way of pricing items based on their worth.

Worth is how much you value something. It can vary between different people, due to fashion or in different situations. I might come home from playing sport, for example, and be hot and thirsty. I pay the same price for a drink in a shop as I would normally. In this situation, the drink is worth more to me than it was before going out and playing, even though the price is constant.

In other situations, however, the price of the product and its worth will be very similar or the same. If you want to see a performer sing or play, you might be prepared to pay a high price yet think it was worth the money.

Activity

Make a list of ten goods and/or services you might be interested in buying. Find out their price. Then decide how much they are worth to you. Group them into three columns: price greater than worth; price = worth; worth greater than price. Compare your ideas with others in the class. What does this tell you about price and worth?

The role of price in determining an efficient distribution of resources

The best production level is where average production costs are at their lowest and the profit margin is at its highest (see Topic 2.5). **Efficiency** is concerned with the best production level and the distribution of scarce resources. In a market economy, price is the means by which these scarce resources are allocated between competing users.

Price fulfils three important functions in determining the efficient distribution of resources: signalling, transmission of preferences and rationing.

Signalling

Prices change to signal where resources are needed. If prices rise, this shows that more resources are required, whereas if they fall then fewer are needed.

People are worried about climate change. They need electricity but many would prefer it to be 'green' or clean electricity. This has led to the building of many wind farms, with the government giving guaranteed prices to the owners. This in turn has led to resources moving from coal-fired power stations to wind farms.

Prices are, therefore, the signals that guide the allocation of resources.

Activity

If you can attend an auction, either in person or online, this will allow you to see the price system in operation as a means of allocating resources among those wanting to buy them. If only some of you are able to do this, make a report to the rest of the class. If the above is not possible, you could use items on eBay to make the report.

Transmission of preferences

Through their choices (see Topic 1.2) producers can send information to resource suppliers about their changing needs. Higher prices will encourage owners of resources to supply more. Continuing with the example of the provision of electricity, the government has sent a message through its statements on climate change that it wants 'green' energy and is prepared to pay for it. This has encouraged suppliers to build wind farms. Equally, when an economy is not doing well, some suppliers of resources may withdraw from the market because the price they get is too low.

Rationing

Prices help to ration scarce resources. If resources are scarce, the price rises, so that only those willing and able to pay the price are allocated the resources. Many football stadiums are too small for the number of people who would like to watch a match. This has led clubs to raise the price of attending, which has stopped many supporters from going because they cannot afford a ticket.

Key term

Efficiency The optimal production and distribution of scarce resources.

The government has given subsidies to wind farms to reduce reliance on fossil fuels

Now test yourself

1 State what is meant by:
   a cost
   b price
   c worth

2 Which of the following statements refer to rationing, signalling and transmission of preferences?
   a It helps to make scarce resources go round.
   b Producers can send information about changing needs.
   c It guides the allocation of resources.

What is meant by equilibrium price and quantity?

Key term

Equilibrium price and quantity Where the quantity supplied exactly matches the quantity demanded.

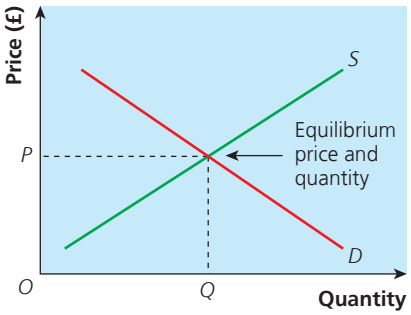


Figure 2.4.1 Equilibrium price and quantity

Equilibrium means a balance that in this case is the balance between the quantity demanded and the quantity supplied. **Equilibrium price and quantity** is where supply (*S*) equals demand (*D*). It is the point at which price is unlikely to change given the existing conditions for supply and demand.

In Figure 2.4.1, the equilibrium price is *P*, while the equilibrium quantity is *Q*, i.e. where supply is equal to demand and there is no pressure for price or quantity to change.

There is an assumption that markets will always move towards this equilibrium position. As you will see, if there is too much supply, the only way it can be got rid of is by lowering the price, thus returning to a new equilibrium. Sales in shops are a good example of this in practice.

Equilibrium price is, therefore, the market-clearing price. This is because at this price, the exact quantity that producers supply to the market will be equal to the amount consumers wish to buy at that price. There is therefore no supply left, and no people who had effective demand (see Topic 2.2) who failed to get what they wanted. This is efficient because there is neither an excess of supply nor a shortage.

Drawing and analysing the interaction of demand and supply

When drawing supply and demand diagrams, it is important to get them correct from the start. Only then can you make sensible use of them to offer analysis. The following scheme is designed to enable you to do this.

How to draw the interaction of demand and supply

The technique for showing the interaction between demand and supply on a graph is as follows.

- Draw the axes and label them 'Price' and 'Quantity'.
- Draw a demand curve and label it *D*.
- Draw a supply curve and label it *S*.

Remember, demand curves normally slope downwards, while supply curves slope upwards.

- Label the initial equilibrium (see Figure 2.4.1).
- Ask yourself whether you would expect price to rise or fall and what would happen to quantity.
- Decide whether it is a change in demand or a change in supply.
- Decide whether it is an increase or decrease in demand or supply.
- Draw and label the new curve.
- Label the new equilibrium.
- Take one final moment to check that the diagram shows what you expected.

We can now apply this method to draw the effect of a change in demand or supply. First, let's assume we are informed that consumers' real incomes have increased (see Figure 2.4.2).

- Draw the axes and label them 'Price' and 'Quantity'.
- Draw the original demand and supply curves, making sure that they slope in the correct direction, and label them *D* and *S* respectively.
- Label the equilibrium price (*P*) and quantity (*Q*). An increase in real incomes is a factor affecting demand and it will lead to an increase in demand.
- A new demand curve to the right of the original can now be drawn and labelled D^1.
- Finally, the new equilibrium price (P^1) and quantity (Q^1) can be placed on the diagram. If this is what we expected (a rise in both price and quantity), then we can move on to the next task.

Now let's look at shifts of the supply curve. Suppose a government wants to encourage people to do more exercise. To do so, it subsidises the membership of health clubs and gyms (see Figure 2.4.3).

- Again, draw the axes and label them 'Price' and 'Quantity'.
- Draw the original demand and supply curves, making sure that they slope in the correct direction.
- Label them *D* and *S* respectively.
- Label the equilibrium price (*P*) and quantity (*Q*).

In this case, a subsidy is a factor affecting supply and it will lead to an increase in supply.

- A new supply curve to the right of the original can now be drawn and labelled S^1.
- Finally, the new equilibrium price (P^1) and quantity (Q^1) can be placed on the diagram. If this is what we expected (a fall in price and an increase in quantity), then we can move on to the next task.

Now test yourself

3 Complete the following sentences:

- **a** Demand curves normally slope ....., while supply curves slope ..... .
- **b** On a supply and demand diagram, the vertical axis is labelled ....., while the horizontal axis is labelled ..... .
- **c** Before drawing the diagram, I should decide whether I would expect the ..... or ..... to rise or fall.
- **d** After drawing the diagram, I should check that I have ..... the axes and the lines.

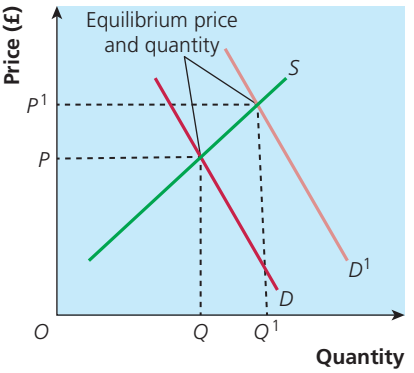


Figure 2.4.2 The effect of an increase in demand showing application of the technique of drawing supply and demand diagrams

Study tip

Having drawn a supply and demand diagram, perform a final check. Have you labelled the axes and all the lines? Does demand slope downwards and supply upwards? Is the result what you expected? If not then recheck before writing your analysis.

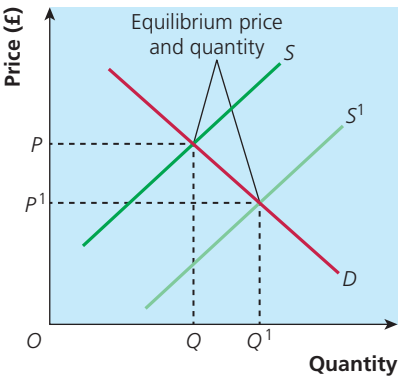


Figure 2.4.3 The effect of an increase in supply showing application of the technique of drawing supply and demand diagrams

Analysing the interaction of demand and supply

This section of the topic is not only about 'how to draw', but also 'how to analyse'. Analysis means the use of economic ideas, terms, concepts and diagrams to help explain the answer.

Among other phrases that can indicate analysis are:

- this means that...
- the effect of this is...
- this has an effect on...
- this can cause...
- as a result...

If you use a diagram, make sure that it is clearly referred to in the text by using letters such as P to P^1 or D to D^1 (see below).

To analyse the effect of an increase in consumers' incomes, look at Figure 2.4.2.

The increase in incomes has resulted in an outward shift of the demand curve from D to D^1 because consumers can now afford to buy more goods. This has led to a rise in price from P to P^1 and an increase in the quantity demanded and the quantity supplied from Q to Q^1. The increase in incomes has meant that consumers can buy more of the good/s, but have to pay a higher price.

Similarly, an analysis of Figure 2.4.3 would be as follows. The subsidy has resulted in an outward shift of the supply curve from S to S^1. This had led to a fall in price from P to P^1, but an increase in quantity of health club/gym memberships from Q to Q^1. Health clubs can now afford to supply more because they are being supported with money from the government. Consumers can buy more memberships with their money, as the price has fallen.

The advantage of drawing a diagram, as you have seen, is that you can refer to it in your analysis and it is clear what you are trying to explain.

Study tip

If you are answering a question about supply and demand, always try to draw an appropriate diagram and then explain it. The explanation is vital, as a diagram on its own is not analysis. The two combine to provide analysis.

Activity

Follow the steps above to draw a diagram showing the effect of the following on equilibrium price and quantity:

- a rise in unemployment (see Topic 2.2)
- an increase in wages (see Topic 2.3)

Before drawing the second demand or supply curve to show the effect, don't forget to ask yourself: is it a change in demand or supply? Is it an increase or decrease in demand or supply?

When you have drawn one of the diagrams, write an analysis. Then repeat this for the other diagram.

The role of markets in the determination of price and the allocation of resources

Markets bring buyers (those who demand products) and sellers (those who supply products) together (see Topic 2.1). The purpose of a market is to set a price that is acceptable to both the buyer and the seller.

The role of markets in the determination of price

The **determination of price** is the interaction of the free market forces of demand and supply to establish the general level of price for a good or service. In some cases, the seller sets the price. If you go into a shop, whether it is a large store, such as Primark, or a small business, such as a local Indian restaurant, the price is already set and is clearly shown. If the buyer does not like the price, then they can go elsewhere. If enough buyers do this, the seller will have to reduce the price, as there is excess supply.

As can be seen in Figure 2.4.4, if the seller sets a price of P^1 then this causes excess supply, as supply exceeds demand, so some of the goods or services are left unsold. The market only clears at price P, where both demand and supply are quantity Q.

In some cases, prices can be directly negotiated between buyers and sellers. If you want to buy a car, you do not accept the first price you are offered to exchange your present car for a new one, but negotiate a deal you are prepared to pay and the car dealer is prepared to give.

Equally, at a price lower than the equilibrium price there will be excess demand, as many sellers will be unwilling or unable to supply at that price. This can be seen in Figure 2.4.5, where at a price of P^1 demand exceeds supply, so that some buyers are unable to purchase the product. The market only clears at price P where both demand and supply are quantity Q.

The presence of excess supply or excess demand is a situation where the market is not in equilibrium (sometimes called disequilibrium). In a market system, this would be automatically put right by the price rising (where there is excess demand) or falling (where there is excess supply) to bring about equilibrium. For competitive markets to work efficiently, both consumers and producers must respond to the price signals.

The role of markets in the allocation of resources

Prices, in a market system, are the means by which the **allocation of resources** takes place. They distribute scarce resources among producers and determine how the resulting goods and services are allocated among consumers.

In a market system, scarce resources are rationed (see Topic 1.2), incentives are given to producers to supply more and signals are offered to producers, consumers and to the owners of factors of production, such as labour (see Topics 1.1 and 2.7). These signals can be seen working in the cases of excess demand and supply explained above.

Study tip

Before going further, revisit Topic 2.1 to make sure you understand what is meant by a market and a market economy.

Key term

Determination of price The interaction of the free market forces of demand and supply to establish the general level of price for a good or service.

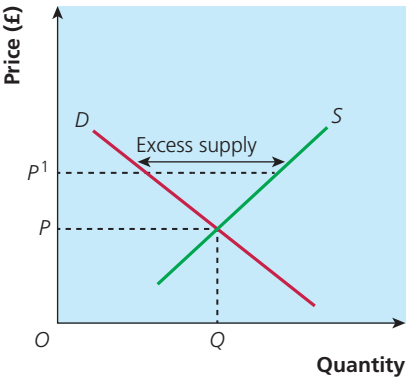


Figure 2.4.4 Excess supply

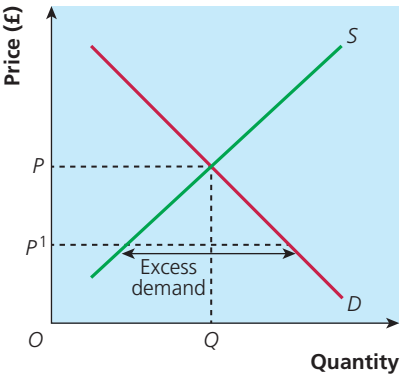


Figure 2.4.5 Excess demand

Key term

Allocation of resources How scarce resources are distributed among producers, and how scarce goods and services are allocated among consumers.

Study tip

Before going further, revisit Topic 1.2 to make sure you understand what is meant by scarce resources and the economic problem.

In a market economy, consumers will have the power to influence resource allocation. Their spending decisions will send signals to the producers about what goods to produce and how many to produce. If consumers are prepared to pay more for an item, suppliers will move scarce resources to the production of that good.

Equally, if they are only prepared to pay less (excess supply), producers will move resources away from that good. This power of consumers to influence how the market allocates resources means that consumers determine what is produced and for whom it is produced and thus rule the market (see Topic 1.2). The market system, therefore, is a means of achieving the efficient allocation of resources.

Case study

The changing mobile phone market

Both Apple and Samsung, which have led the market in expensive new smartphones, are finding that their sales are falling and they now have phones that are unsold. Consumers seem ever less willing to pay £1,000 for a new model when there is little change from the previous one. At the same time there has been a change in demand for cheaper phones and cheaper producers. In response, both Apple and Samsung have introduced 'budget phones'.

Follow-up questions

1. Using a diagram, explain how Apple and Samsung are finding that 'they now have phones that are unsold'.
2. Using a diagram, explain how lower-cost producers have been able to gain sales.
3. Explain how Apple and Samsung providing 'budget phones' is an example of consumer power.

How do the market forces of demand and supply affect equilibrium price and quantity?

Key term

Market forces Factors that determine price levels and the availability of goods and services in an economy without government intervention.

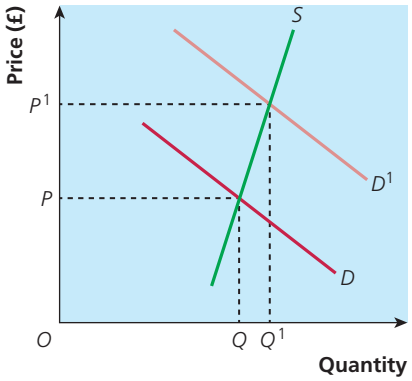


Figure 2.4.6 The effect of an increase in demand for business land use

In previous sections of this topic, you have seen how the equilibrium price and quantity are the result of the interaction of supply and demand. In this section we are going to analyse how **market forces** affect the equilibrium price and quantity.

Market forces are those that determine price levels and the availability of goods and services in an economy without any government intervention (see Topic 3.8). Market forces push prices up when either demand rises or supply falls. Equally, market forces drive prices down when demand decreases or supply increases. As you have seen, when the two are equal the market is in equilibrium.

This is what Adam Smith, often seen as the founding father of modern economics, called the invisible hand. It is where demand and/or supply change to achieve equilibrium, seemingly without any observable help.

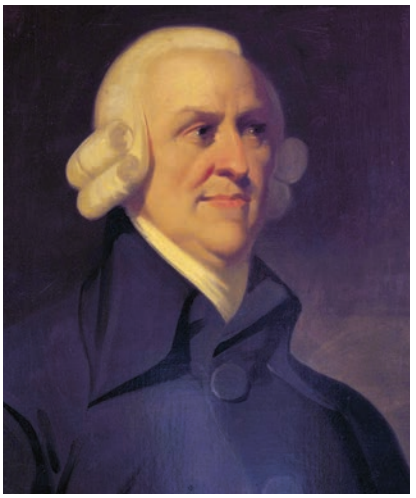
Figure 2.4.6 is an example of how market forces affect the equilibrium price and quantity.

Assuming that there is an increase in demand by firms for land to build factories, offices, retail outlets etc., the result will be an increase in the equilibrium price and quantity of land.

The supply of land for business use is fairly inelastic. The result is that as demand for this land increases (D to D^1), there is a large rise in price

(P to P^1), but only a small rise in the quantity supplied (Q to Q^1). A new equilibrium has been created at P^1Q^1 where $D^1 = S$. This could then lead to less land being available for housing if landowners decided to move their land to the business market.

While equilibrium is a situation where supply is equal to demand, markets are always in a constant state of change. Both supply and demand are subject to different forces of change. These forces play a critical role in altering market equilibrium prices for, and quantities of, goods and services.



Adam Smith, the founder of modern economics

Activity

In each of the following situations draw one or more diagrams and analyse the impact on equilibrium price and quantity of:

1. iPads, after a successful advertising campaign by Apple for its products
2. orange juice, when there are ideal weather conditions for the growing of oranges
3. small digital cameras, when there is a breakthrough in technology greatly improving the photo imaging on smartphones
4. air travel, after the tax on passenger flights is doubled

Now test yourself

4. Draw and label diagrams to show the effect on equilibrium price and quantity of:
   - a. an increase in advertising
   - b. an excess of supply
5. What is meant by the invisible hand?
6. What happens to price and quantity when there is an increase in supply?

Table 2.4.1 shows a summary of changes in equilibrium price and quantity.

The market forces of supply and demand are the means, therefore, of both allocating scarce resources and determining the price and quantity of the goods and services they provide.

Table 2.4.1 Summary of changes in equilibrium price and quantity

Shift in demand	Effect on demand	Effect on equilibrium price	Effect on equilibrium quantity
To the right	Increases	Increases	Increases
To the left	Decreases	Decreases	Decreases
Shift in supply	**Effect on supply**	**Effect on equilibrium price**	**Effect on equilibrium quantity**
To the right	Increases	Decreases	Increases
To the left	Decreases	Increases	Decreases

Study tip

Remember that price and quantity move in the same direction when there is a change in demand, but in opposite directions when there is a change in supply.

Case study

The market for computers

The twenty-first century has seen a big change in the computer market. Originally, computers were mainly for business use or for word processing. They were large, less efficient and slower.

As technology has improved, consumer power has asserted itself. Computers now have much larger screens and better processors at a cheaper cost, allowing people to buy better products for lower prices. In addition, consumers can now use their computers for a much wider range of activities, including entertainment.

In response to the rise of tablet computers and smartphones, laptops have become ever thinner and more portable to survive and be competitive in the market.

Follow-up questions

1 Explain what is meant by consumer power.

2 How does the information in the passage show that 'consumer sovereignty has asserted itself'?

3 Analyse how advances in technology could lead to lower prices for computers.

Extension material

1 Using online research, discover at least three situations in which the price exceeded the worth of a product. Why was this the case? Share your findings with others in the class.

2 Investigate the housing market in your area. Find out how prices have changed in the last year and the reasons for this. Draw supply and demand diagrams to explain these price changes. You could talk to an estate agent or visit a website such as Zoopla or Rightmove.

3 Investigate a local sports stadium, theatre, cinema or any other place that has a fixed number of seats available to consumers. Is there excess supply or demand? If so, come up with a plan to move the market to equilibrium. Present this to the class.

Progress check

Now you have finished this topic, you should be able to:

- explain whether price is a reflection of worth
- explain the role of markets in determining an efficient distribution of resources
- explain what is meant by equilibrium price and quantity
- draw and analyse the interaction of demand and supply
- explain the role of markets in the determination of price
- explain the role of markets in the allocation of resources
- analyse how the market forces of demand and supply affect equilibrium price and quantity

Topic 2.5
Competition

Learning outcomes

After studying this topic, you should be able to:

- explain competition between producers in a market economy, including the reasons why producers compete
- analyse how competition affects price
- evaluate the economic impact of competition on producers and consumers
- explain the meaning of monopoly and oligopoly and how they differ from competitive markets

Producers in a market economy: competition and why producers compete

Two key ideas are considered in this topic:

1. **Competition**: this is where different firms are trying to make sales to the same buyer. Competition takes the form of both price and non-price factors, such as marketing, quality and consumer service.
2. Market economy: this is where the forces of supply and demand allocate scarce resources (see Topic 2.1).

In a competitive market, a large number of producers compete with each other to satisfy the wants and needs of a large number of consumers. In a competitive market, no single producer, or group of producers, can decide how the market operates. Equally, no individual consumer, or group of consumers, can determine the price or quantity of goods and services in the market.

Key term

Competition Where different firms are trying to sell a similar product to a consumer.

What is meant by competition between producers in a market economy?

Producers are competitive because they are trying to achieve profit maximisation or a larger market share. In addition, competition between different firms leads to increased efficiency, as they do whatever is necessary to lower their costs of production. Reduced costs of production can in turn lead to lower prices.

Price competition

This is the most obvious form of competition. Firms lower their prices to gain customers and thus market share. Any firm that cannot achieve this will find itself losing customers and potentially going out of business.

Activity

Write down all the reasons you can think of why producers might compete. Now read on, but remember that not all the possible reasons are mentioned below. If you have listed reasons not mentioned in this topic, discuss with the class whether they agree with you.

Activity

In pairs, or small groups, research examples of competition in your local area. You can use the media, the internet, your own research or local knowledge. Try to find a variety of examples. Then share your findings with the other pairs/groups.

Activity

As a class, agree who will record a number of adverts during the week from the television or the internet and what these will be. One possibility would be to record all the different car adverts. Show these in class and try to decide how effective the adverts are, and why car firms spend millions of pounds on these adverts. Do you think the price of the adverts and their effectiveness cancel each other out?

Study tip

Remember that competition takes many forms, of which price is only one.

Equally, however, firms cannot sell at less than cost = price for any length of time as this will also result in them going out of business. Price competition, therefore, is limited. This form of competition is more likely to take place where there are a number of larger firms, for example between car sellers.

Activity

As a class, draw up a list of goods that are sold in a number of different shops. For example, in a town with several supermarkets, you might want to compare prices between them. Divide shops, and goods, between the class members and find the prices. Report back to the class. Discuss why some prices in the various shops were the same and some were different.

Non-price competition

Non-price competition can take many different forms. Small producers can often compete by offering a specialist product, or more personalised consumer service. Small shops continue to exist because they offer either one or both of the above, but may also be more conveniently located. Quality of the product is another simple way of competing. Non-price competition often leads to consumer loyalty.

The most obvious way to compete for many producers is through marketing. This involves the process of identifying what consumers want and then devising a strategy of trying to satisfy these wants. The best-known method is by advertising.

One of the aims of advertising is to create, and ensure, consumer loyalty to a certain brand. Buyers are often prepared to pay higher prices for a brand they know, and which has been heavily advertised, rather than an unknown brand or a shop's own make, even when they are basically the same. You only have to look at the shelves of supermarkets to see this is the case.

Specialist businesses, such as delicatessens, compete by offering a more personalised service and product

Now test yourself

1 Complete the following sentences:

a Competition is where firms try to sell a ..... product to a consumer.

b In a competitive market, a ..... number of producers compete with each other to satisfy consumer wants.

c Firms cannot sell, for any length of time, at less than ..... .

d Advertising aims to create .... to a brand.

Why do producers compete?

Producers compete initially for three basic reasons:

- to enter a market
- to survive in a market
- to make a profit (see Topic 2.6)

Market entry

If a producer wants to enter a market it has not previously been in, either because it is a new business or has a new product, it must devise ways of persuading consumers to buy its product. It can do so, for example, by advertising or by offering the product at a low price. This will then force existing producers to respond. In this way there is competition.

Survival

To survive in a market, firms often find it necessary to compete for consumers and market share. Existing customers need to be persuaded to return, while new consumers should be enticed to try the product. Firms often extend the range of products they offer so as to persuade their customers to buy more goods with them rather than another seller. Sainsbury's, for example, now sells electrical goods and offers banking facilities.

Profit

Firms need to make a profit both to survive and to grow. Profits provide the means for investment, in order for the firm to expand the business and to innovate. Producers that are able to innovate successfully are then able to compete strongly in the market. Producers such as Apple have very successfully introduced new products such as the iPhone, which has allowed it to make gains in the mobile phone market.

Case study

The failure of Debenhams

Debenhams had been in existence for over 250 years, but in 2020 it collapsed. This can be put down to a failure of management on several counts.

First, back in the 1990s Debenhams had a number of top designers providing distinctive ranges of clothes. As time passed, this was no longer the case, so it fell behind new online fashion businesses like ASOS and Boohoo. Worse still, these newcomers branched out into traditional areas of strength for Debenhams, such as beauty products. Overall, it failed to adapt quickly enough to these challenges and the move to online shopping.

Secondly, in 2006 it announced that it would double its number of shops to 240. Many of these, however, proved to be underperforming and had high costs, including rising rents, business rates, wages and maintenance.

A former chairman of Debenhams suggested that they would have done better with just 70 shops.

Thirdly, poor financial management meant that Debenhams had huge debts as a result of this over-expansion. This was combined with lease agreements on many of its stores of up to 35 years, with average annual rent rises guaranteed at 2.5% when retail sales were falling.

Finally, during the Covid-19 pandemic, Debenhams stores had to close as consumers switched to online shopping where they had a greater choice of sellers.

The online business was bought by Boohoo and still operates as Debenhams Online Limited.

Follow-up questions

1 How many stores did Debenhams have in 2006?
2 Why did Debenhams fail to compete successfully?
3 Why would huge debts and long lease agreements make it difficult for Debenhams to compete successfully?

Analysing how competition affects price

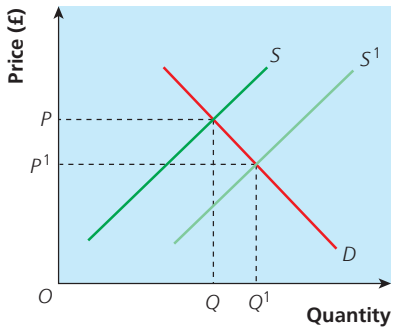


Figure 2.5.1 Increase in competition

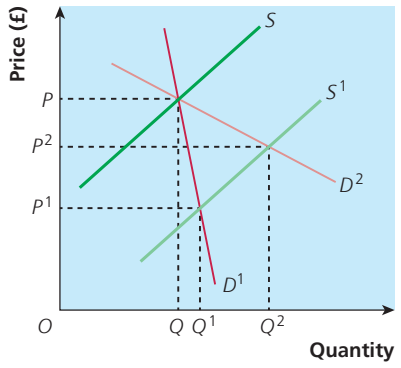


Figure 2.5.2 The effect on price change of different *PED*s

A great advantage of competition is that it has the potential to drive the price down so that firms produce at the point where total revenue = total cost (see Topic 2.6). The effect of competition is shown in Figure 2.5.1.

The increase in competition causes the supply curve to shift to the right (S to S^1). This results in an increase in quantity bought and sold, from Q to Q^1, and a fall in price, from P to P^1. This is the result that we would expect. The extent of the fall in price will depend on the *PED* (see Topic 2.2) of the product.

In Figure 2.5.2, if the demand is price inelastic (D^1), price falls sharply from P to P^1, with little effect on the quantity (Q to Q^1). This would be typical of products that are necessities. The increase in competition means that the sellers are fighting to take each other's customers.

On the other hand, if demand is price elastic (D^2), price only falls by a relatively small amount, from P to P^2, but there is a significant effect on the quantity (Q to Q^2). This would be typical of non-essential goods. Here the fall in price is creating new quantity demanded. In both cases, this is what we would expect.

It is possible, however, for competition to lead to higher prices. Marketing costs, such as advertising, have to be paid by someone, so producers will try to pass these costs on to consumers by charging more. This is one of the reasons why branded and heavily advertised goods often cost more than those that are not heavily advertised – for example, Kellogg's breakfast cereals as against Sainsbury's own-brand cereals.

Inventions and innovations can also lead to higher prices. Producers driven by the need to be ahead of their competitors look for new products. If you are the first, you can charge a high price because some consumers want to be ahead of their friends. As competitors produce similar products and producers are able to gain economies of scale (see Topic 2.6), the price may fall.

Now test yourself

2 Give the three reasons why producers compete.
3 What is the great advantage of competition to the consumer?
4 Draw a supply and demand diagram to show this advantage.
5 Give two reasons why competition can lead to higher prices.

Evaluating the economic impact of competition on producers and consumers

Although competition is assumed to have a positive effect for both producers and consumers, and this section will largely look at these positive points, don't forget that competition may have some negative impacts.

What is the economic impact of competition on producers?

Competition forces producers to improve their efficiency. This includes finding ways to reduce their costs. This has been the driving force behind technical innovation and the application of computerisation to production. It has taken place both on the factory floor, for example in car production, and in the office, for example with computers providing real-time information. It will, in turn, increase the productivity of the factors of production (see Topics 1.1 and 2.6). Furthermore, this is likely to lead to growth of the economy (see Topic 3.1) and thus greater demand for goods and services. This greater demand will lead to greater profits for the more efficient producers, which will then expand output to meet demand.

Producers will be more willing to innovate to stay ahead of competitors as new products or new ways of doing the same thing will attract more consumer demand (see the case study 'CDs are dead – long live streaming!'). In addition, this will attract new investment as investors realise that there are new opportunities for earning money (see Topic 2.8).

There are, however, some negative aspects of competition for producers. Those who are slow to adapt to changing technology or demands of consumers will either go out of business or be forced out of that particular market. IBM was the first producer of personal computers, but its failure to keep up with changes forced the firm out of that market. Equally, the failure of British Home Stores (BHS) was partly due to its inability to keep up with consumer wants.

There is also an impact on workers. New technology, and/or the need to cut costs, may lead to firms no longer demanding their skills and/or labour and consequently they become unemployed (see Topic 3.2).

Case study

CDs are dead – long live streaming!

Most musicians release new music through streaming services such as Spotify or Tidal which use flash memory. In this way they can potentially reach a much larger audience. In 2020, however, two major artists, Adele and Taylor Swift, released new albums on CD but were in dispute with streaming services over terms (since resolved). Customers bought both CDs in very large numbers with Adele reaching number 1 in the charts.

Follow-up questions

1. Draw a supply and demand diagram to show how the rise of streaming services could affect the price and quantity sold of CDs.
2. Draw a supply and demand diagram to show the effect of Adele's number 1 hit on the market for CDs.
3. Explain whether CDs and streaming are substitutes or complementary goods.

Activity

Schools have competitors in the form of other schools. What are the benefits of this competition for the customers of schools (parents and children)? Make a list of points and discuss them with your class.

What is the economic impact of competition on consumers?

There is an assumption that competition must be wholly good for consumers. This is based on the idea that competition leads to a fall in price, as shown in Figures 2.5.1 and 2.5.2, but it also extends to the quality of the goods and services: competition will force firms to improve the quality of the product they offer. In addition, innovation and inventions will increase the choice and the variety of goods and services available to the consumer. Overall, competition will lead to consumer sovereignty (see Topic 2.4) and thus to more products that consumers want at a price they are prepared to pay. This will lead to a rise in consumers' standard of living (see Topic 2.1).

The falling price of food in recent years, for example, has meant that households spend a significantly lower proportion of their income on food and have more money for other goods and services. In 2022 the reverse is true. In addition, competition often means that goods and services that are not wanted, and are of poor quality or too high a price, are likely to be forced out of the market.

It is possible, however, for competition potentially to disadvantage the consumer. Producers may introduce goods, for example pesticides, that are dangerous or harmful either directly or indirectly to consumers. Consumption of these may cause negative effects (see Topic 3.8).

Advertising can be a method of persuasion. Consumers may be encouraged to buy products they do not need, for example a new type of toothpaste. Producers may tempt consumers to buy a product by offering a low price, but then increase the price once consumers are 'hooked' on it.

Low-cost airlines have competed against the major airlines by offering very low fares, but customers often find that they then have to pay a range of extra charges before or during the flight.

Study tip

When you are writing about the economic impact of competition on producers and consumers, remember that there will be both positive and negative points. In addition, the emphasis must be on the economic impact: for example, high-fat, cheap food may lead to poor health, but what is the economic, as opposed to the purely social, impact?

Activity

Divide the class into three groups.

- One group researches examples of products that they are encouraged to buy, but do not need.
- One group researches examples of initial low prices that are then raised.
- One group researches the extra charges added by low-cost airlines.

The groups then present their findings to the whole class.

Now test yourself

6 State one advantage of competition to a producer. Give reason(s) for your answer.

7 State one disadvantage of competition to a producer. Give reason(s) for your answer.

8 State one advantage of competition to a consumer. Give reason(s) for your answer.

9 State one disadvantage of competition to a consumer. Give reason(s) for your answer.

Case study

The rise of fast fashion

Retailers such as Zara and Boohoo have specialised in low-cost clothing which many traditional retailers have found hard to match. While both have recorded increasing profits, helped by their online presence, traditional retailers have struggled or gone out of business. Many have found competing on price almost impossible. Boohoo has bought many of these retailers, including Debenhams, Burtons and Dorothy Perkins, but have closed the stores and retained just the brand name.

Both Zara and Boohoo have been criticised for sourcing clothes from producers which pay very low wages and where working conditions are poor.

Follow-up questions

1 Why have many traditional retailers found it impossible to compete on price?

2 Other than low prices, why have many traditional retailers gone out of business?

3 Using a supply and demand diagram, analyse how Boohoo's purchase of many traditional brands could lead to less choice and higher prices.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the effect of the competition in the clothing industry on consumers.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

(Note, consumers also live in the local community and may be workers as well as buying clothes.)

What is meant by the terms 'monopoly' and 'oligopoly'?

Up to now we have only considered competitive markets where there are many sellers and buyers. In many cases, however, the number of sellers or producers may be very limited. This section will look at two examples of this, and how they differ from competitive markets.

Monopoly

Key term

Monopoly A sole producer or seller of a good or service.

In economics, a **monopoly** is a sole producer of a good or service. This could be in a country as a whole or in some area of the country. By definition, monopoly is characterised by an absence of competition. If I want to go direct to London by rail from Norwich, the only provider of trains is Greater Anglia. It is a monopoly supplier of the rail service between these two destinations.

Unless the government or a regulator, such as the Office for Road and Rail (ORR) in the case of train companies (see Topic 3.8), prevents it, monopolies can set either the price or the quantity of products in the market. If a monopoly sets the price then consumers will decide how much they wish to buy at that price and therefore how much will be supplied. The same idea works for a monopoly that offers a set amount. The price will be set by the amount consumers are willing to demand.

Activity

Draw a supply and demand diagram to show the changes in price and quantity with an inelastic supply (see Topic 2.3) and two different levels of demand. Compare your diagram with others in your class.

Monopolies exist because they have barriers to entry. These may be:

- legal ones – for example, only Royal Mail can deliver letters to your home
- greater efficiency than potential rivals due to very large economies of scale, which reduce the costs for larger producers (see Topic 2.6)
- location, so that even small firms can be monopolies – for example, the village post office may be the only place to buy milk until you can get to a town
- copyrights and patents that prevent copying while they exist

Legally, however, a monopoly exists when one provider has at least 25% of the market. Apple, for example, holds over 54% of the market for smartphones. In this case we can talk about Apple having monopoly power.

Oligopoly

Key term

Oligopoly Where a small number of firms control the large majority of market share.

Oligopoly is where a small number of firms control the large majority of market share. Technically, an oligopoly is said to exist if the five largest firms have 50% or more of the market share. Such a group would have monopoly power.

While there is no precise limit to how many firms there can be in an oligopoly, the number must be low enough to ensure that the actions of one firm have a significant effect and influence on the other firms. This can be seen clearly in the case of supermarkets, where if one cuts its prices the others all tend to follow.

An oligopoly, however, does not prevent the existence of smaller firms producing or selling the same type of products. Although the 'Big Four' supermarkets (Tesco, Sainsbury's, ASDA and Morrisons) control over 63% of the market, this still leaves over 36% share for the other sellers, which range from large to small firms – see Figure 2.5.3.

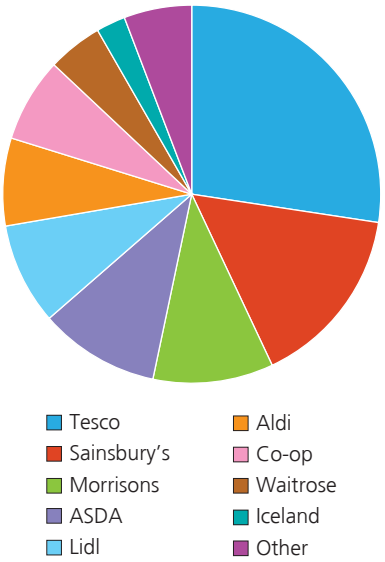


Figure 2.5.3 Supermarkets' market share, 2021

Clearly any decision about, for instance, price made by any of the larger supermarkets will impact on their rivals and result in a quick response. A good example has been the cutting of prices by the 'Big Four' in response to the low prices charged by relatively new competitors Aldi and Lidl.

While oligopolies will have barriers to entry, they are usually not sufficient to prevent other firms entering the market and increasing competition.

Oligopolies often try to control the market through collusion: that is, they get together and agree to set the price so that they avoid price competition. This is illegal in the UK.

Now test yourself

10 What is the main difference between a monopoly and an oligopoly?

11 Legally, what market share must a firm have to become a monopoly?

12 What is meant by collusion?

13 How is it possible for a small firm to become a monopoly?

Activity

The figures shown in Figure 2.5.3 represent the approximate sales by value for the first three months of 2021. Find out what the most recent figures were. If they have changed, discuss why, in small groups or as a class.

Activity

In groups, discuss what other examples of oligopolies there may be. Using the internet, investigate these examples to see if you are correct. Is there any evidence of new firms entering these markets? When you have done this, share your information with the rest of the class.

How do monopoly and oligopoly markets differ from competitive markets?

An obvious way in which monopolies and oligopolies differ from competitive markets is that the firms involved are usually much larger than those involved in the competitive market. If firms do grow in the competitive market (for example, Tesco and Sainsbury's started off as small firms), the market is moving towards an oligopoly. This and other differences are considered in Table 2.5.1.

Table 2.5.1 Differences between monopoly, oligopoly and competitive markets

Difference	Monopoly	Oligopoly	Competitive markets
Size	Usually very large	Can be very large but may also have smaller firms	Normally relatively small
Number of firms	One	A few	Many
Control of prices	Is able to set the price, but cannot then control the quantity.	Can influence the price but is restrained by the reaction of rivals. May try to collude.	The price is set by the market forces of supply and demand.
Level of price and output (see also main text)	In theory, a monopoly will charge a higher price and produce a smaller quantity.	Both price and quantity will depend on how strong competitors are and the ability to collude.	Price and quantity are both set by market forces. In theory, the price will be lower and the quantity greater.
Efficiency	In theory, monopolies are seen as not being efficient, but by achieving large economies of scale they can be efficient.	Usually seen as not being economically efficient.	Competitive markets normally lead to economic efficiency.

It is often assumed that monopolies will charge a higher price and produce a smaller quantity than firms in a competitive market. This assumes that there are no other changes, but a monopoly is likely to be a much larger firm than any in a competitive market. As a result, it is likely to gain large economies of scale (see Topic 2.6). This allows it to

have lower costs and, therefore, to be able to charge a lower price. This is worth bearing in mind when explaining the differences between monopoly and competitive markets.

Extension material

1 The Competition and Markets Authority (CMA) regulates monopolies and competition in the UK (see Topic 3.8). Using the website **www.gov.uk/government/organisations/competition-and-markets-authority**, prepare a presentation for the class on what the CMA does and how it can increase competition.

2 Explain why firms in competitive markets might choose non-price competition over price competition.

Progress check

Now you have finished this topic, you should be able to:

- explain competition between producers in a market economy
- explain the reasons why producers compete
- analyse how competition affects price
- evaluate the economic impact of competition on producers
- evaluate the economic impact of competition on consumers
- explain what is meant by monopoly
- explain what is meant by oligopoly
- explain how monopoly and oligopoly differ from competitive markets

Topic 2.6
Production

Learning outcomes

After studying this topic, you should be able to:

- explain the role of producers, including individuals, firms and the government
- evaluate the importance of production and productivity for the economy
- calculate and explain total cost, average cost, total revenue, average revenue, profit and loss
- evaluate the importance of cost, revenue, and profit and loss for producers, including how costs and revenues affect profit and supply
- explain what is meant by economies of scale

What is the role of producers?

A producer makes and supplies goods or services. Producers may be individuals, firms or governments. They make the goods and services by combining the factors of production (see Topic 1.1). Producers may be small, such as an individual, or very large, such as a multinational corporation (MNC). A MNC is a firm that has its head office in one country, but has operations in a number of other countries.

Producers are responsible for the supply element of demand and supply. They therefore help to influence market prices. Often, producers aim to sell their goods or services so that they make a **profit**.

In addition, producers are important in the economic system because they both employ workers and pay their wages. Employment results in goods and services being produced. Paying the workers enables them to buy the goods and services that a range of different producers provide (see 'Evaluating the importance of production and productivity' below.)

Individuals as producers

Individuals can be producers of non-market goods and services such as cleaning, childminding and cooking. Many of these producers may work only part time.

Other individuals are self-employed and work directly for themselves. These individuals produce goods and services that enter the market. Examples of such people are market traders, joiners and plumbers. They work for themselves and thus keep all the profits.

Key term

Profit The difference between the revenue received from the sale of a good or service and the costs involved in making and/or selling the good, including any opportunity costs.

Activity

Make a list of all the goods and services produced in your family which are not sold.

Activity

In pairs, make a list of as many other jobs you know of where an individual is working for themselves to produce goods or services.

Trade workers are often self-employed individual producers

Activity

Make a list of services which are provided by the government either fully (e.g. police) or in part (e.g. health). In groups, or as a class, discuss which of them are/could be provided by the private sector and why others have to be provided by the government.

Key term

Production The total output of goods and services produced by a firm or industry in a period of time.

Firms as producers

When we talk about producers, we usually mean firms. Firms can vary from very small businesses up to MNCs. Some produce for just their local market or area; others sell across the country, or internationally. Smaller firms are usually involved in competition, but larger producers may be monopolies or oligopolies (see Topic 2.5). The larger producers are often able to exert power over markets by limiting the amount they supply or by lowering prices to try to drive out competitors (see Topic 2.5).

Governments as producers

Governments are producers of a range of services. The private sector would not produce some of these services, such as police or defence, because many people would not be willing to pay for something they do not directly consume. In the UK, the government also supplies some services, such as healthcare, which the private sector can supply. Private healthcare is too expensive for many people and the government feels that health services should be available to all (see Topic 3.8).

In some cases, governments are also producers of goods. In the past in the UK, the government owned a number of industries, such as coal and steel, before they were privatised.

Evaluating the importance of production and productivity

Production

Production refers to the total output of goods and services produced by a firm or industry in a period of time. It comes about by bringing together the factors of production. These include workers (labour), machinery (capital), the site (land) and the person who has set up the business (enterprise). Using more factors of production (see Topic 1.1) or increasing the productivity of existing factors (see 'Productivity' below) can increase production.

An increase in production is likely to bring about:

- an increase in employment, unless it is caused by greater productivity (Topics 3.1 and 3.2)
- an increase in profits for firms and the industry
- larger economies of scale (see 'Why is high productivity important?' below)
- an increase in market share if the production of one firm increases compared with that of other firms
- economic growth for the economy (see Topic 3.1)
- a rise in the standard of living (see Topic 2.1), as consumers have more goods and services to buy

The above may not happen, however, if a firm finds that disadvantages of growing arise. This will result in the average cost of production increasing as the firm grows. In this situation, firms are reluctant to increase output.

Productivity

Productivity is one measure of the degree of efficiency in the use of factors of production in the production process. It is measured in terms of output per unit of input:

$$\text{Productivity} = \frac{\text{total output}}{\text{total input}}$$

Extension material

Table 2.6.1 Total input and output

Total input	Total output
10	100
15	195
20	280
25	325

Using the data in Table 2.6.1, calculate the level of productivity if the firm uses 10, 15, 20 and 25 units of input. Try to think of reasons why productivity changes with changes in input. Exchange your ideas with others in your class.

Key term

Productivity One measure of the degree of efficiency in the use of factors of production in the production process. It is measured in terms of output per unit of input.

Activity

Individually, think of ways in which you could work more productively whether in or out of the classroom. You could then share these with others in the class.

What does productivity depend on?

Productivity depends on improving the inputs to the production process. This could be achieved through investment in better equipment, for example improving the quality of the machines available. It could also be improved with better education and training for the workforce. This would increase skills and knowledge. Another way for a manufacturer to increase productivity would be to find better-quality raw materials.

Often just small changes, rather than expensive schemes, can increase productivity, such as workers coming up with small, simple ways to enhance their work.

Now test yourself

1 Explain the difference between production and productivity.

Why is high productivity important?

Individuals, firms and governments usually want to increase their productivity.

In the case of individuals, higher productivity is likely to be rewarded with higher wages and an increase in the standard of living.

For firms, higher productivity will result in:

- Lower average costs and increasing economies of scale. This makes the firm more competitive, so that it can then decrease prices and/or compete more effectively on a world scale. This will benefit the economy by increasing gross domestic product (GDP) (see Topic 3.1)

through greater consumption and more exports. This then also improves the balance of payments (see Topic 4.2).
- Greater profits, allowing firms to pay higher wages to attract the best workers, and reinvest in new equipment and research. Investment will again increase competitiveness and GDP. Higher wages will benefit the economy by encouraging people to get better qualifications and to improve their skills, thus further increasing productivity (for more on wages, see Topic 2.7).

Governments will benefit through economic growth (see Topic 3.1) because:
- Productivity will increase the total output of the economy. This is likely to lead to greater employment and higher wages, which then leads to greater government revenue through taxes (see Topics 3.1 and 3.5).
- More competitive firms will lead to greater exports and thus further economic growth (see Topics 3.1, 4.1, 4.2 and 4.4).

What are the costs of productivity?

In addition to benefits, increased productivity can create costs for the economy. For example:
- If a firm increases productivity by using capital equipment in place of labour, this may increase unemployment. This will not only have an immediate effect of causing the government to have to support the worker and their family through benefits, but also possible longer-term effects on the worker's family.
- Increased productivity may lead to greater international competitiveness, which may lead to other countries retaliating (see Topic 4.2). This will cause a fall in GDP.

How can producers increase productivity?

Firms can increase productivity by:
- workers specialising (see Topic 2.1) in part of the production process
- investment in new technology and more capital equipment
- improving the skills of workers through training

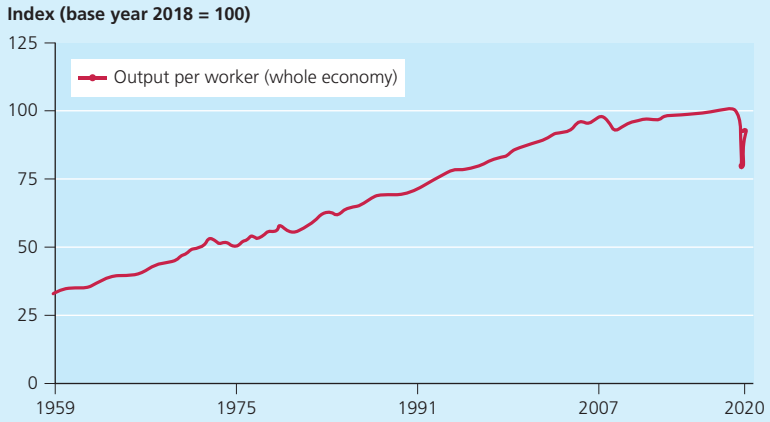
Activity

Investigate a local firm (don't forget that farms also count as firms) to find out how they have tried to increase both production and productivity. If different students are able to find this out about different firms, then you can compare your findings.

When demand in the economy is high, firms need to increase production to meet the demand. This leads firms to produce as much as they can (called full capacity). This results in the productivity of workers rising, as all factors of production are being used to their full extent. Equally, when demand falls (see Topics 3.1 and 3.4) productivity growth also slows down.

Case study

Productivity in the UK



Source: ONS

Figure 2.6.1 Productivity in the UK, 1959–2020

Figure 2.6.1 shows that, except for a dip in 2008 due to the financial crises, and in 2020 due to Covid-19, UK productivity has generally risen over the last 60 years.

Follow-up question

1 Why has output per worker risen? Try to offer at least four reasons.

Evaluate this

Using the information in this topic and your own knowledge, evaluate whether increased production or increased productivity is more important for the UK's economy.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

What are total cost, average cost, total revenue, average revenue, profit and loss?

In this section, total cost, average cost, total revenue, average revenue, profit and loss will be explained and you will be shown how to calculate them.

Total cost

Total cost (*TC*) includes the costs of producing an item, such as raw materials, which vary with output (variable costs). It also includes the costs that a firm has by just existing, such as machinery, marketing etc. (fixed costs). Total costs are calculated by:

Total cost (*TC*) = total fixed cost (*TFC*) + total variable cost (*TVC*)

Activity

Recently two claims have been made. The first one was that 'future productivity will depend very largely on new technology such as the use of robots in production'. The second one said: 'future productivity will depend on workers having better education and skills'.

As a class, discuss whether new technology or a better-trained workforce will be more important in the future.

Study tip

Be careful that you don't confuse production and productivity. They are quite different, even if there are links.

Activity

Find out what all the costs are of running your school. You can consider the number of classes taught to be the output of the school. Divide the costs into fixed and variable. Then, as a class, draw up an agreed list.

Key term

Total cost All the costs of the firm added together.

Key terms

Average cost The cost of producing a unit (unit cost of production).

Total revenue The total income of a firm from the sale of its goods or services

Average revenue The revenue per unit sold.

Average cost

Average cost (*AC*) is the cost of producing a unit (unit cost of production). It is calculated by dividing total cost by output or quantity:

$$\text{Average cost } (AC) = \frac{\text{total cost } (TC)}{\text{quantity } (Q)}$$

A fall in average costs shows that a firm is becoming more efficient (gaining greater economies of scale – see later in this topic). A rise in average costs shows that the firm is becoming less efficient.

Activity

Table 2.6.2 Output and related costs

Output	Total fixed cost	Total variable cost	Total cost	Average cost
0	100	0	100	–
10	100	40		
20	100	70		
30	100	95		

1 Calculate the total and average costs for each level of output shown in Table 2.6.2.

2 Describe what happens as output increases.

Total revenue

Total revenue (*TR*) is the total income of a firm from the sale of its goods or services. Total revenue is often called sales revenue or sales turnover. The value of total revenue is found by multiplying the price of the product by the quantity sold:

$$\text{Total revenue } (TR) = \text{price } (P) \times \text{quantity } (Q)$$

or:

$$TR = P \times Q$$

A local fish and chip shop that sells 150 portions at £6 each will make £900 in revenue (£900 = 6 × 150).

Average revenue

Average revenue (*AR*) is the revenue per unit sold. It is calculated by dividing total revenue by the quantity sold:

$$\text{Average revenue } (AR) = \frac{\text{total revenue } (TR)}{\text{quantity } (Q)}$$

or:

$$AR = \frac{TR}{Q}$$

Average revenue, therefore, is the same as the price of the product, i.e. $AR = P$. If you look back to total revenue, you will be able to understand the relationship between *TR*, *AR*, *P* and *Q*.

Now test yourself

2 Which of the following are true and which are false?
- a Total cost is equal to $AC \times Q$.
- b Average cost is a measurement of productivity.
- c Total revenue is equal to $P \times Q$.
- d Average revenue is the same as the price of a product.

Profit and loss

Profit is when a firm gains more revenue than it pays out in costs. It is the financial reward that entrepreneurs aim to achieve to reflect the risk that they take. Profit is calculated by:

Profit = total revenue (TR) – total cost (TC)

Profit maximisation is one of the main aims of most firms. This occurs where there is the greatest difference between total revenue and total costs, or between average revenue and average costs.

A **loss**, on the other hand, is where a firm is losing money because its revenue is less than its costs, i.e. $TR < TC$. This may or may not matter immediately to a firm, depending on whether it has reserves (saved profits) to enable it to continue (see 'Revenue' below).

Key term

Loss When a firm's revenue is less than its costs, i.e. $TR < TC$.

Activity

Mina owns a small business making metal ornaments for homes, gardens, shops and hotels. She is not sure what output would enable her to maximise her profits.

After research, you have gathered the information shown in Table 2.6.3.

1 Calculate the average revenue and profit or loss for each level of output.

2 Using the information you have gathered and your calculations, which output should Mina produce in order to maximise her profits?

Table 2.6.3 Research information

Output	Total revenue	Average revenue	Total cost	Profit/loss
10	100		140	
20	180		180	
30	240		210	
40	280		230	
50	300		240	
60	270		260	

Evaluating the importance of cost, revenue, profit and loss for producers

In this section, you will examine the importance of cost, revenue, profit and loss for producers. In addition, you will discover how costs and revenues affect profit and supply.

Cost

As seen above, if total costs are less than total revenue, a firm makes a profit. If total costs exceed total revenue, the result is a loss. In addition to price, the cost of production is one factor affecting the supply of a good or service (see Topic 2.3).

If the cost of production falls, then a firm can supply more at every price. In Figure 2.6.2, the supply curve shifts to the right (S to S^1). If costs rise, for example wages increase, then the supply curve shifts to the left (S^1 to S). Less is supplied at every price.

All firms try to keep their costs under control in order to make or increase their profits. While costs are generally only one factor in determining the market price (see Topic 2.4), in some specialised markets prices are based on costs.

Production costs generally rise as output increases. This means that as costs rise with the quantity produced and supplied, so too does the supply price. This means that the supply curve slopes upwards (see Topic 2.3).

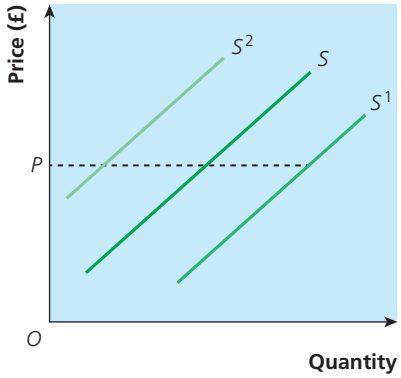


Figure 2.6.2 The effect of changes in costs of production on the supply of a good/service

Extension material

In economics, we include the opportunity costs in total costs.

If I set up my own business and earn £250,000 with total costs of £150,000, I make a profit of £100,000. If I could have earned £80,000 doing my previous job then this is the opportunity cost and needs to be subtracted, i.e. £100,000 – £80,000 = £20,000, which is the economic profit.

Case study

HMS *Queen Elizabeth*

The idea of building two very large aircraft carriers was first put forward in the 1998 Defence Review. This was then followed by different firms submitting bids to build them. The contract for the two ships, HMS *Queen Elizabeth* and HMS *Prince of Wales*, was signed in July 2008. In November 2017, HMS *Queen Elizabeth* was handed over to the Royal Navy. At 65,000 tonnes the aircraft carrier is the Navy's biggest ever warship.

When the contract was signed, the estimated cost was £3 billion. The estimate in 2021 is that the two will cost over £6 billion.

HMS *Queen Elizabeth* became operational in 2021 and the HMS *Prince of Wales* is due to be operational in 2023.

HMS *Queen Elizabeth*

Follow-up questions

1. Calculate the increase in the cost of the two aircraft carriers between 2008 and 2021.
2. What are two possible reasons why the cost has greatly increased?

Evaluate this

Using the information in the topic and your own knowledge, evaluate at least three effects on the producers of rising costs of HMS *Queen Elizabeth* and HMS *Prince of Wales*.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Extension material

Use the internet to carry out research on the extra costs involved in building HMS *Queen Elizabeth* and HMS *Prince of Wales*. This could include, for example, the aircraft themselves. Present your findings to the class.

Revenue

Revenue is important because without enough inflow of money from sales, a producer cannot earn a profit and remain in business in the long run. Low revenue levels, therefore, may lead to a loss and the producer going out of business.

In addition, revenue is important for producers because:

- Growth in revenue encourages investors to invest more money into the firm. This allows producers to expand further, buy new equipment etc.
- Steady levels of revenue allow producers to secure loans and favourable interest rates on overdrafts etc. The ability to run an overdraft means that producers do not have to worry so much in the short run about whether they can pay suppliers, workers etc.
- It creates confidence in the firm on the part of workers, business partners, suppliers etc. For example, workers are more likely to remain in the firm's employ and suppliers may feel more able to supply the producer with goods and allow it to pay later.

All the above mean that the producer is able to supply the goods or services demanded and is able to supply more if demand increases.

Profit

Profit is important in a market economy because it signals to scarce resources (see Topic 1.2) to move to those firms making the most profit. This is because larger profits indicate more efficient use of resources. It is a measure, therefore, of the success of an investment in the firm, whether by the entrepreneur, banks and other lenders, or by suppliers and customers.

Profit is also an important source of finance for a business. Profits that the producer keeps to put back into the business are a cheap source of money for investment and growth, especially for smaller firms.

What is the importance of profit for producers in a market economy?

Profit is important for producers in a market economy because:

- It generates finance for investment (see above).
- It acts as a signal and tells other producers that they too might be able to make a profit in that market.
- It allows a producer to attract more resources to the firm or industry.

Loss

In the short run, a loss may not result in a firm closing, as it can use money it already has saved, for example in the bank, or even borrow money. In the long run, however, it cannot go on making a loss. It will either run out of money or the people who have lent it money will demand repayment. This will result in the producer having to close.

Loss fulfils the opposite role to profit. If an industry is making a loss, factors of production will leave it to find an industry that is making a profit.

Study tip

Be careful that you don't confuse revenue and profit. They are very different concepts, and in an exam you must make it clear that you realise they are not the same.

Activity

Try to find one or two firms that are:

- increasing their profits
- showing a fall, or not an increase, in profits, or even a loss

Try to find out why this might be. What are the results of this for the firm, workers, the local community etc?

Evaluate this

Using the information in the topic and your own knowledge, evaluate whether it is more important for a firm to increase revenue or cut costs.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Now test yourself

3 Explain the difference between revenue and profit.

4 The text above says that 'loss fulfils the opposite role to profit'. Explain what this means.

What are economies of scale?

Economies of scale are the cost advantages a firm can gain by increasing the scale of production. As a result of these economies of scale, the average costs of production fall as output rises.

The producer gains because the firm is now more efficient in its production, which gives it a competitive advantage in the market. It can also gain higher profits and/or lower the price to consumers, therefore increasing market share.

Key term

Economies of scale The cost advantages a firm can gain by increasing the scale of production, leading to a fall in average costs.

It is important to note that economies of scale are available to any size of firm. If a one-person business takes on another worker, then some of the economies of scale, such as division of labour, become available.

The consumer gains because prices may fall, increasing their spending power.

There are many different types of economies of scale, but they are usually grouped under internal economies of scale and external economies of scale. Internal economies of scale come about as a result of the growth of the firm itself, leading to a fall in average costs. External economies of scale, on the other hand, are benefits that a firm gains from being a member of an industry, or because of its location.

Internal economies of scale

Internal economies of scale are a result of the growth of the firm itself, leading to cost savings and resulting in a fall in average costs.

Technical economies

Larger firms are able to purchase expensive specialist equipment. This is possible because the cost can be spread across a large output, while a small firm could not do this.

Economies of increased dimensions

Doubling the dimensions of a shipping container will increase its costs four times because it will take up four times the area (remember that area is length × width). The volume of the container, however, has increased eight times (volume is length × width × height). This means the cost of carrying something has halved. This explains the growth in both the size and use of super tankers and container ships.

Purchasing or bulk-buying economies

Buying goods and services in bulk results in the purchaser being able to buy at a lower cost per unit. In other words, they are getting a discount. Producers buy in bulk, resulting in the cost of materials falling.

Division of labour

Larger firms can divide work up into separate tasks so that their workers become specialised (see Topic 2.1) in a small part of the production process. Cars are produced on a production line where the car passes along so that different workers can add different parts.

Financial economies

Larger firms can borrow money from banks more easily and at lower rates of interest (see Topic 2.8), as they are seen as less of a risk than small firms. Larger firms also have a greater range of sources for new capital, such as the issuing of shares.

Managerial economies

Larger firms can afford to employ specialist staff for functions such as finance, marketing, production and exporting.

Marketing economies

Larger firms can use more expensive marketing methods that reach more potential customers, such as television and newspapers. Their marketing budget can be spread over a wider range of goods and services, or a larger quantity of the same products. This results in marketing costs per unit falling.

Study tip

Don't state that only large firms can gain economies of scale. All firms can gain some economies by growing.

The use of super tankers and container ships has grown as the cost of transporting goods has halved

Activity

1. Try to find examples of discount offers for buying 'in bulk' (two or more items). Share these with others in your class.
2. Then, as a class, discuss how supermarkets can sell goods at a cheaper price than smaller shops.

Activity

In small groups, discuss why a large firm, such as BP, will find it easier to borrow large amounts of money than a small firm. Why do banks see large firms as less risky?

Risk-bearing economies

Larger firms can spread the risk by offering a range of goods or services. If one product loses sales then it can still rely on the others. Sainsbury's not only offers food and groceries, but now sells electrical goods, financial services, fuel etc.

Risk-bearing economies can also occur if products are sold in different markets, for example at home and abroad. Toyota sells cars in more than 170 countries and produces cars in 54 countries.

Activity

1 Identify a larger firm which produces or sells a wide range of products. What did it originally sell? What is it now selling in addition to this?

2 Explain the advantages and disadvantages to the firm and its customers of the firm producing or selling a wide range of products.

Research and development economies

Larger firms may be able to afford to have their own research and development (R&D) department. This can allow them to stay ahead of their competitors. Amazon, for instance, spent around over £27 billion on R&D in 2018.

Case study

Amazon

Amazon makes use of a range of different economies of scale. The best known are probably those of increased dimensions, in terms of its massive warehousing, and bulk buying, for example in the selling of books. Amazon's warehouses can hold hundreds of thousands of items, covering an enormous range of different types of goods, giving rise to another economy of scale. It has developed a number of new products such as 'Alexa' to offer to its customers. In addition, it has been able to take advantage of external economies of scale.

Follow-up questions

1 Why is 'massive warehousing' an example of economies of increased dimensions?

2 What is being referred to in the passage by 'another economy of scale'? Give reason/s for your answer.

3 The development of new products such as 'Alexa' could be an example of which economy of scale? Give reason/s for your answer.

4 Suggest how large firms, such as Amazon, can take advantage of external economies of scale.

External economies of scale

External economies of scale are those that a firm benefits from as a member of an industry or because of its location. They are due to factors outside the direct control of the firm. They are available, therefore, to all firms in the industry, regardless of size.

Examples of external economies of scale include:

- Improvement in transport links: better roads, faster rail travel etc.
- Education and training facilities: for example, a local university's research and development (R&D) facilities can overcome the problem of small firms not being able to afford their own.

- Concentration of firms: suppliers of parts may locate near the main producer, thus cutting transport costs. Nissan, a car producer based in Sunderland, not only has suppliers on the site of the factory itself, but also many more in the immediate area.
- Location: if an area gets a good reputation for a certain industry, it is likely to attract more companies due to the advantages of location, such as the availability of skilled labour. Silicon Valley, California, USA, is well known for its tech industry, but so is Stockholm, Sweden, and places such as Cambridge and Silicon Roundabout, London, in the UK.

Now test yourself

5 State the type of economy of scale described in each of the following:

- **a** the employment of specialist staff
- **b** selling products in many different markets
- **c** purchase of expensive technical equipment
- **d** the dividing up of a work into many different tasks
- **e** the ability to borrow money more cheaply

Extension material

Costs and revenues

Table 2.6.4 Costs and revenues

Output	Total cost	Average cost	Total revenue	Average revenue
0	100	–	0	0
1	150		120	
2	240			110
3		90	300	
4	280		360	90
5		60	350	

1 Copy Table 2.6.4 and complete the data.

2 Draw a diagram with costs and revenue on the vertical axis and quantity on the horizontal axis. Plot the average cost and average revenue lines on the diagram. At what quantity is profit maximised? Explain why this is.

3 Draw a diagram with costs and revenue on the vertical axis and quantity on the horizontal axis. Plot the total cost and total revenue lines on it. At what quantity is profit maximised? Explain why this is.

Economies of scale

1 Research all the economies of scale that your school may be benefiting from. Do you think your school could gain greater economies of scale?

2 Either discuss this in a group and then prepare a presentation to give to your head teacher, or write an article for the school newspaper or intranet site explaining how the school could gain greater economies of scale.

Progress check

Now you have finished this topic, you should be able to:

- explain the role of producers
- understand what is meant by production
- understand what is meant by productivity
- know the difference between production and productivity
- evaluate the importance of production for the economy
- evaluate the importance of productivity for the economy
- calculate and explain total cost
- calculate and explain average cost
- calculate and explain total revenue
- calculate and explain average revenue
- calculate and explain profit and loss
- evaluate the importance of cost for producers
- evaluate the importance of revenue for producers
- evaluate the importance of profit and loss for producers
- understand how costs and revenues affect profit and supply
- explain economies of scale

Topic 2.7
The labour market

Learning outcomes

After studying this topic, you should be able to:

- explain the role and operation of the labour market, including the interaction between workers and employers
- analyse the determination of wages through supply and demand, including factors affecting the supply and demand of labour
- explain and calculate gross and net pay, including deductions through income tax, national insurance and pension contributions

Study tip

Revisit Topic 1.1 to remind yourself about labour as a factor of production.

Key term

Labour market Where workers sell their labour and employers buy the labour: it consists of households' supply of labour and firms' demand for labour.

Wages are determined by the forces of supply and demand in free competitive markets

The role and operation of the labour market

The **labour market** consists of the supply of labour by households and the demand for labour by firms. The interaction of these two gives the price of labour, usually called wages (see Topic 1.1), and the quantity supplied and demanded.

Wages provide an income to households but represent a cost to firms. In a free competitive market economy, the forces of supply and demand solely determine wages. In most economies, however, both governments and trade unions will exert influence over the level of wages. A trade union is an organisation of workers that is active on behalf of its members: for example, increasing wages and salaries and improving working conditions.

The role of the labour market is to enable workers who are willing and able to sell their labour to meet employers who are willing and able to offer them a job, and to determine the wage rate or salary for this work. In theory, employers signal to individuals which jobs are in short supply and have higher pay, and thus they attract more people into these areas.

It is worth noting that a salary is a yearly wage divided equally into 12 (monthly) parts. Pay, on the other hand, can be used in place of both wages (wage rate) and salary, as it stands for the amount of money you earn. In this topic, the terms 'wage' and 'wage rate' will be used to cover all of these.

As shown in Table 2.7.1 there are a number of labour markets. These depend on the nature of the work and the willingness of workers to move and to have the right skills.

Table 2.7.1 Labour markets

Type of labour market	Geographical range
Local	Within a short commuting distance of the worker's home
National	This covers the whole of the UK
International	This sees the labour market as covering the whole world (see globalisation in Topic 4.4) or covering a large part of it, e.g. the labour market in the EU involves all member countries

Activity

Write down some of the types of jobs/areas of work that you would like to do. Will you be able to gain the necessary qualifications/skills? Find out what you would need and then cross out any jobs that you might not be able to do. Besides needing the right qualifications/skills, is there anything else that might prevent you taking up these jobs? In small groups, exchange your findings.

In turn, labour markets consist of smaller, interacting labour markets for different:

- qualifications, i.e. some jobs have specific qualification requirements
- skills, i.e. others may require specific skills in place of, or in addition to, qualifications
- geographical locations

Furthermore, they depend on the exchange of information between employers and potential workers about:

- wage rates
- conditions of employment
- level of competition
- location of the job etc.

The operation of the labour market lacks perfect mobility. In other words, labour cannot move freely from one job to another. Workers may not be able to move between jobs because:

- They lack the skills required – for example, a train driver cannot easily become a teacher.
- They are unwilling to relocate to another part of the country or even to a different country. This can be linked to a lack of skills – for example, a lack of a suitable foreign language will restrict UK citizens to English-speaking countries.
- They have personal factors such as family ties that restrict moving between jobs or a preference for certain types of jobs, location etc.
- They may lack the information about the jobs available due to information failure (see Topic 3.8).

Overall, the labour market acts more like a free market in times of low unemployment (see Topic 3.2) than during periods when the economy is doing badly (falling gross domestic product) (see Topic 3.1).

Activity

Find out what information your school sends out to potential teachers. Do you think there is enough information? Discuss as a class whether you think anything else should be included and why. You might wish to write a report of your findings to your head teacher.

Extension material

1 In 2016, the European Working Time Directive set the maximum hours someone in employment might work. Find out what this is about: **www.gov.uk/maximum-weekly-working-hours/overview**.

2 Discuss in groups whether you think this directive is a good idea. Should the UK continue to have a similar directive?

Now test yourself

1 Which of the following statements are true and which are false?

- **a** The labour market is the supply of labour by households and the demand for labour by firms.
- **b** The operation of the labour market is one of perfect mobility.
- **c** In the UK, all wages are determined by unions and firms.
- **d** Labour markets depend on the exchange of information between firms and potential workers about pay, job location and employment conditions.

What is meant by the interaction of workers and employers?

The interaction of workers and employers takes place in a variety of ways. In many jobs, individual workers deal directly with their employer to establish wages, working conditions etc. In this situation, if a worker wants a pay rise, they discuss it with their employer.

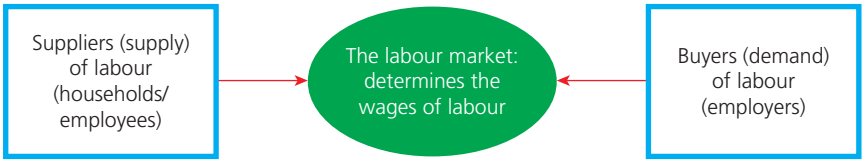


Figure 2.7.1 The interaction of workers and employers

Figure 2.7.1 shows how, by employees and employers interacting, the wages of labour are set. The same would apply to other aspects of work, such as the number of hours.

Many workers belong to trade unions. A major function of a trade union is to negotiate with employers on behalf of its members to set the wage rate, working conditions etc. This is called collective bargaining. In this case, the wage rate may apply not just to the firm the individual works for, but to all who work in that occupation.

Activity

1 Find out how the pay and conditions for teachers in your school are set.

2 If you have had the opportunity for work experience: in groups decide what are the best and worst aspects of work. Each group could then write these on the board. Discuss as a class the results shown. Alternatively, invite someone who has done work experience to talk about it.

3 Either invite a trade union official to talk about the role of trade unions or research trade unions online and find out about their work.

You could start with Unite (**www.unitetheunion.org**) or Unison (**www.unison.org.uk**).

Analysing the determination of wages through supply and demand

Figure 2.7.2 shows that where supply (*S*) equals demand (*D*), this is the equilibrium wage (*W*).

As you progress through this topic, you may wish to consider what leads to differences in pay. For instance, is it mainly due to supply and demand factors (see below), to discrimination or to both equally?

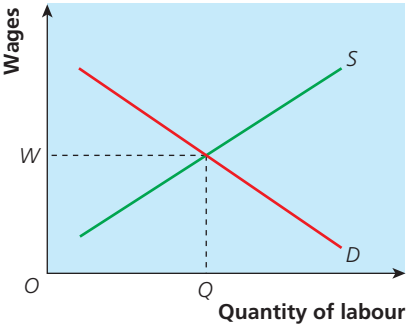


Figure 2.7.2 Supply and demand in the labour market

What are the factors affecting the supply and demand of labour?

The demand for labour depends on the demand for the product that labour helps to produce. This type of demand is often called derived demand (Topic 2.1). This means that if consumers want more of a good or service, more firms will want the workers who make the product. Demand for labour therefore increases. For example, during the run-up to Christmas, shops take on additional workers, as they know many more customers will be coming to buy gifts.

The **supply of labour** (Table 2.7.2) is usually thought of as those who are both willing and able to supply their labour, including the unemployed (sometimes called the working population). There is, however, a potential additional supply of people who, for one reason or another, are currently inactive.

A wide range of factors can affect the demand and supply of labour. The main factors are given below.

Activity

In 2020 the chief executives of the largest companies were paid roughly 24 times the earnings of the prime minister and 119 times the median average earnings, although both were slightly less than the previous year.

1. In groups, or as a class, discuss why there are these large differences in pay. At this stage, do not look further into the topic to gain answers.
2. Revisit this activity once you have read more of the topic. Have group or class opinions changed? (There is an opportunity in the extension material to analyse large differences in pay more fully.)

Table 2.7.2 The supply of labour

Active labour supply	Inactive labour supply
Employed consisting of:	**People who are:**
employees	looking after family
self-employed	short-term sick
those on government schemes	long-term sick
unpaid workers	discouraged workers
unemployed but available for work	students
	retired

Study tip

Remember that the price of labour is wages. Wages, not price, therefore, should be used on labour market diagrams.

Key term

Supply of labour The total number of people who are willing and eligible to supply their labour, including the unemployed.

Retailers often employ temporary workers at busy periods of the year, such as Christmas, to cater for the increase in demand

Factors affecting demand for labour

The points below refer to an increase in demand for labour. The reverse would be true for a decrease.

- The state of the economy: if the economy is growing, more labour is likely to be demanded, as existing firms are expanding and new firms are entering the market.
- Increased demand for a product: if particular markets in the economy are growing fast then demand for labour in these areas will rise sharply, for example app programmers to meet the quantity demand for apps for tablets and smartphones.
- Wage rates: the downward slope of the demand curve shows that there is an inverse relationship between the quantity demand for labour and the wage rate.
- Real wages: a fall in real wage rates may persuade employers to employ more people and/or to use labour instead of capital.
- Productivity of labour (see Topic 2.6): if the productivity of labour rises, labour may become cheaper (more cost-efficient) than capital, leading to more people being employed.
- Profitability of firms: firms that are making large profits are likely to expand and therefore hire more labour.

Activity

If the size of the economy declines, explain:

a What will happen to the demand for labour?

b Why will this happen?

Share your ideas with the rest of the class.

Factors affecting supply of labour

As with demand, all the points below refer to an increase in supply of labour. The reverse would be true for a decrease.

- Wage rate: the higher the wages on offer, the more labour is likely to be supplied.
- Other money payments: if there are opportunities to boost earnings through overtime payments or productivity-related pay schemes etc., this is likely to increase the supply.
- Size of the working population: this is affected by retirement and school leaving ages, migration, and numbers going to further education/university. The gradual rise of the retirement age means that there are more people available to work. In addition, most migrants who enter the UK are of working age.
- Non-monetary factors: these include working conditions, opportunities for promotion, job security etc.
- Barriers to entry: these may consist of necessary qualifications as in the cases of doctors, lawyers and veterinarians, where the nature of

the qualifications needed to work and the length of time of training restrict the supply. They may also take the form of trade unions and agreements with employers, and discrimination, the reduction of which has seen more females enter the workforce.

- Education and training: this will increase the number of skilled workers available.

How do we analyse the determination of wages through supply and demand?

As can be seen in Figure 2.7.3, an increase in demand for labour caused by, for example, a growth in the economy will cause the demand curve to shift outwards from D to D^1. This in turn leads to an increase in wages from W to W^1 and a rise in the quantity supplied and demanded from Q to Q^1, giving a new equilibrium position of W^1Q^1.

In Figure 2.7.4, an increase in supply of labour caused by, for example, more crèche and nursery facilities for young children will cause the supply curve to shift outwards from S to S^1. This in turn leads to a fall in wages from W to W^1, but a rise in quantity supplied and demanded from Q to Q^1. This gives a new equilibrium position of W^1Q^1.

As you can see, these effects are the same in the labour market as they were in the goods and services market analysed in Topic 2.4.

The size of any change will depend on the *PED* of, and *PES* for, labour.

If the demand for labour is high, while the supply of this labour is low and inelastic, the wage or salary will be high. This is the situation where firms are seeking an effective new chief executive officer (CEO). The opposite is where the demand is low and elastic and the supply is high and elastic. In this case the wage will be low (for example, shop assistants).

Study tip

Before reading further you may find it helpful to revisit Topic 2.4 to remind yourself how prices are determined.

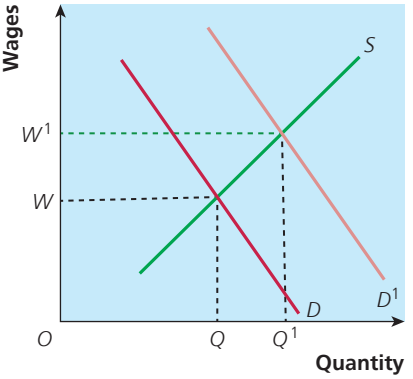


Figure 2.7.3 The effect of an increase in the demand for labour

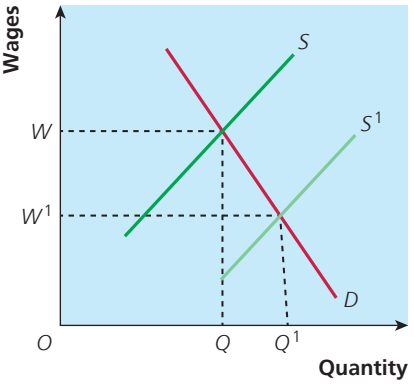


Figure 2.7.4 The effect of an increase in the supply of labour

Case study

The gender gap

Around the world, finding a job can be far more challenging for women than it is for men. When women are employed, they often tend to work in low-quality jobs. In the UK, while just over 68% of men participate in the workforce, for women the participation rate is only between 56 and 57%. The International Labour Organisation (ILO) suggests that if the gender gap were closed, this would lead to an increase in national income of 2% above expected growth.

A government report, published in 2020, found that the mean gender pay gap is 6.5% and the median gender pay gap is 15.9%. In monetary terms, the mean hourly difference in ordinary pay is £1.65 and the median hourly difference is £4.04.

Overall, more women than men are in higher education. Nevertheless, at the end of 2019 only 3.2% of women held CEO roles in the top 250 companies on the UK Stock Exchange.

Follow-up questions

1. Give three reasons why fewer women are employed than men.
2. Using a supply and demand diagram, explain why women are on average paid less than men.
3. Explain three reasons why, although there are more women in higher education, only 3.2% of CEO roles are held by women.

Extension material

Discuss the claim that by 2030 nearly half the top positions in UK firms will be held by women.

Carolyn McCall, CEO of ITV since 2018

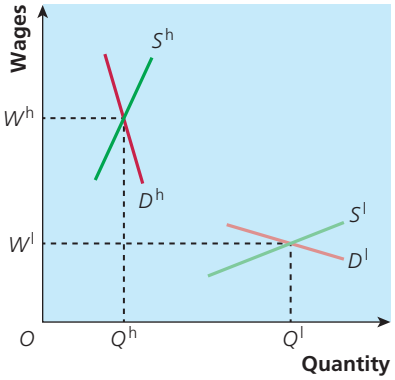


Figure 2.7.5 Market for CEOs and shop assistants

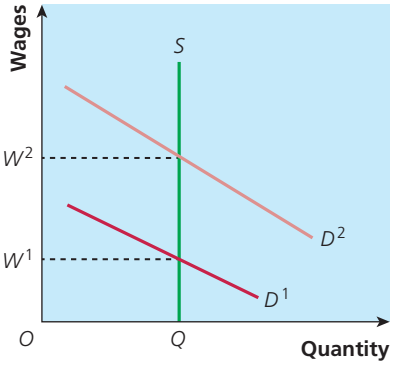


Figure 2.7.6 Wages when supply is totally inelastic

These situations are shown in Figure 2.7.5. The supply of CEOs is inelastic as there are only a few people with the right qualifications and experience. The demand is also inelastic as the employers are willing to pay a high price to get the right person. The result is a wage of W^h, with a quantity of Q^h. For the shop assistants, the supply is elastic as a very large number of people would be able to fulfil this role. The demand is also elastic as employers would not want to employ as many employees if the wage rose. The result is a wage of W^l and a quantity of Q^l.

In some cases, the supply may be perfectly inelastic, leading to potentially very high wages. This will be the case if employers see the person as having a unique talent, as in the case of the footballer Cristiano Ronaldo.

In Figure 2.7.6 supply is perfectly inelastic. The wage depends solely on the demand. If the demand is high (D^2), the wage will be very high (W^2). However, if the talent is not required or goes unrecognised then the wage will be low (W^1).

Another factor affecting wages rates is the minimum wage. Up until 2016, the UK had only a national minimum wage (NMW). However, this has now been replaced by a national living wage (NLW) for over-23-year-olds.

Activity

Find out what is meant by the national living wage and how much it pays. One source is: **www.gov.uk/national-minimum-wage-rates**

Case study

The effect of changes in supply and demand on two labour markets

Brianne and Alex own two different businesses. Brianne runs an IT company while Alex owns a fruit farm. Both wish to employ an extra person. In Brianne's case this is a computer analyst, while Alex is looking for another fruit picker.

This is a very different situation from 5 years ago when both businesses were faced with the effects of a decline in the economy.

Follow-up questions

1 Explain two factors that would influence the supply of computer analysts.

2 Using supply and demand diagram(s), analyse why Brianne is likely to need to pay a higher wage for her employee than Alex will.

3 Using supply and demand diagram(s), analyse the effect that the decline in the economy would have had on the labour markets for computer analysts and fruit pickers.

Now test yourself

2 Other than wages or wage rates:
- a State two factors that affect the demand for labour.
- b State two factors that affect the supply of labour.

3 Draw a diagram to show the effect of an increase in supply of labour on the wage rate.

4 If the *PES* and *PED* of Sunaina's job are both more inelastic than for Ivan's job, would you expect Sunaina to be paid more or less than Ivan?

Extension material

The supply of labour

In 2021 as countries started to come out of lockdown, post pandemic, it was reported that businesses were increasingly worried about labour shortages, even as millions of people remain out of work. These shortages may lead to inflation. In addition, with around 30 million fewer people in developed countries working than before the pandemic, there is a large cost for individuals not only in terms of lost wages and wasted talent, but also in terms of aspects such as poorer health.

On the positive side, the demand for labour shows that worries about robots replacing humans may be greatly exaggerated. Firms, therefore, have to work harder to attract staff. Methods used include getting rid of qualifications for some jobs; paying people just to show up for an interview; or even increasing wages, as in the case of McDonald's.

1 Investigate what has happened in your area to the demand and supply of labour and the level of wages. You might wish to make a report to the class.

Key terms

Gross pay The amount of money that an employee earns before any deductions are made.

Income tax A tax levied directly on personal income, i.e. a tax on a person's wages.

National insurance A contribution paid by workers, and their employers, towards the cost of state benefits.

Net pay The amount of money that an employee is left with after deductions are made from the gross income.

Pension contributions Payments made to a pension fund. If you are employed, contributions are usually from three sources – the employee, the employer and the government.

What is meant by gross and net pay?

Gross pay is the amount of money that an employee earns before any deductions are made. It includes overtime payments, bonuses and allowances. Gross pay is that which is normally quoted when jobs are advertised.

Net pay is sometimes called 'take-home pay'. It is the actual amount of money that an employee has to spend or save after all deductions have been made. These deductions consist of **income tax**, **national insurance** and **pension contributions**. Pension contributions are the money that a worker pays into a workplace pension scheme, to which the employer also contributes.

If you go to university, then another deduction may be the repayment of your student loan.

Net pay = gross pay – deductions

How do we calculate gross and net pay?

Gross pay is calculated by taking your base pay (that which your contract states) and adding to it any extra payments. Your base pay may be in the form of the wage rate and the number of hours, for example £15 per hour for a 40-hour week, or a fixed salary. An example is given below.

Table 2.7.3 Calculation of gross pay

Payment per month	£
Wage	2,000
Bonus	200
Total	2,200

In the situation shown in Table 2.7.3, the total monthly gross pay consisted of the wage of £2,000 and the bonus of £200, giving a total of £2,200.

Calculating net pay depends on which deductions are made. Table 2.7.4 shows a straightforward calculation.

Table 2.7.4 Calculation of net pay

Gross pay and deductions per year	£
Gross pay	24,000
Income tax	2,512
National insurance	1,925
Pension contribution	1,440
Net pay	18,123

In the situation shown in Table 2.7.4, the total annual net pay consisted of the gross pay of £24,000 minus tax, national insurance and pension contributions, amounting to £5,877, giving net pay of £18,123.

Activity

Find out the gross pay of a range of jobs. If your local paper has job adverts, you could use the internet to access this. Alternatively, you could ask an accountant or a human resources specialist to come and talk to the class. One source for average salaries is the article 'The average salary (UK) for 115 different jobs' (www.cosmopolitan.co.uk).

Activity

Table 2.7.5 Calculation of gross and net pay

	£		£
Salary	30,000	Overtime payments	3,000
Bonus	1,800	Income tax	4,600
National insurance	3,221	Student loan repayments	810
Pension contribution	1,800		

Sophie has just started working. She is paid a wage of £30,000 a year, but has opportunities for overtime and to earn performance bonuses. Using the data in Table 2.7.5, calculate Sophie's:

a gross pay

b deductions

c net pay per year

Extension material

1 Using the internet, or another source, undertake research to find an employer–employee relationship that has broken down. Find out the reasons for this and the arguments both sides are making. As a group, you could then discuss the situation.

2 In 2020, the chief executives of the leading UK firms were paid a median average of £3.61 million per year, while the prime minister was paid £161,401 and the median average wage for all workers in Britain was £30,353. Analyse why this was the situation.

3 Divide the class, if small, into two groups, or if large, into an even number of groups. One group is to prepare a presentation on the positive economic effects of immigration, while the other is to do the same for the negative economic effects. The groups should then give their presentations. A list of the positives and negatives could then be drawn up.

4 Table 2.7.5 shows some items that can be part of gross pay and net pay. Find out what other items could be included.

Progress check

Now you have finished this topic, you should be able to:

- explain the role and operation of the labour market
- explain the interaction between workers and employers
- analyse the factors affecting the supply of labour
- analyse the factors affecting the demand for labour
- analyse the determination of wages through supply and demand
- explain and calculate gross pay
- explain and calculate net pay
- explain deductions involved in moving from gross to net pay, including income tax, national insurance and pension contributions

Now test yourself

5 What is meant by national insurance?

6 How is net pay calculated?

7 Gross pay consists not only of wages, but also of ..... and ..... .

8 What is meant by the national living wage?

Topic 2.8
The role of money and financial markets

Learning outcomes

After studying this topic, you should be able to:

- explain the role of money as a medium of exchange
- explain the role of the financial sector for the economy, including financial institutions such as banks, building societies and insurance companies
- evaluate the importance of the financial sector for consumers, producers and the government
- analyse how different interest rates affect the levels of saving, borrowing and investment
- calculate the effect on savings and borrowings of changes in the rate of interest

Key term

Money Anything that is generally accepted as a means of payment for goods and services.

Activity

In groups, discuss how you might exchange goods and services if money did not exist. Then share your ideas with the rest of the class. Did you all come up with the same ideas? If not, why do you think this was?

What is the role of money as a medium of exchange?

Money is anything that is generally accepted as a means of payment for goods and services. It consists of notes and coins, which are regarded as legal tender, and bank deposits in the form of both current and savings accounts.

It is important to realise that cheques, debit cards and credit cards are not money. Cheques and debit cards allow money, in the form of bank deposits in current accounts, to be transferred between buyers and sellers. Credit cards enable the holder to spend money now and to pay it back later (see Table 2.8.1).

Table 2.8.1 Debit and credit cards

Debit cards	Credit cards
Take money directly from your current account and transfer it to the seller. If you do not have enough money in your account, you cannot buy the product.	Enable you to buy goods whether or not you have the money in your account, i.e. a loan for up to 30 days. If you cannot pay it all back, you are charged interest on the amount outstanding.
There is no charge to the seller for accepting these cards in payment.	Retailers are charged for allowing you to use these cards in payment.

Activity

Find out what legal tender consists of for England and Wales. Good sources are www.royalmint.com/faqs/uk-currency/what-are-the-legal-tender-amounts-acceptable-for-the-united-kingdom-coins/ and www.bankofengland.co.uk/knowledgebank/what-is-legal-tender.

In the second activity, you will have found that it is not easy to exchange goods and services without money. Barter involves what is known as the 'double coincidence of wants', or the need to find someone who has products you want and is willing to exchange them for your goods or services. Money avoids the need for barter and for the other consequences of having to exchange, for example, goods for goods.

What is meant by medium of exchange?

A **medium of exchange** is anything that sets the standard of value of goods and services acceptable to all parties involved in a transaction. Money is generally widely accepted as the means of buying and selling products and is acting, therefore, as a medium of exchange.

Now test yourself

1 Complete the following sentences:

- **a** Money is anything that is …… …… as a means of payment.
- **b** Money consists of …… and …… and bank deposits.
- **c** A major difference between credit and debit cards is that the latter requires the consumer to have …… .
- **d** Money acts as a medium of exchange because it is …… to both the seller and the buyer.

Activity

In groups, discuss the advantages of money over barter as a means of exchange. Then, as a class, make an agreed list of these advantages on the board, so everyone can make a copy.

Key terms

Medium of exchange Anything that sets the standard of value of goods and services acceptable to all parties involved in a transaction.

Financial sector Consists of financial organisations and their products, and involves the flow of capital.

What is the financial sector and what is its role in the economy?

The **financial sector** consists of financial organisations and their products and involves the flow of capital (see Topic 1.1). The financial sector helps markets to function and consumers/households, firms and governments to carry out economic activities, all within a regulatory framework. This normally involves the lending and borrowing of money, in both the short and the long run. This is done through financial intermediaries, such as banks. These link consumers/households, firms and governments by allowing money to be moved from those who do not need to use it immediately (savers) to those who want to use it now (borrowers). For example, savers deposit money in a bank and receive interest; borrowers receive money from a bank and pay interest. This allows for a good use of all funds, because when the offer meets the demand, it adds to the efficient organisation of the economy. A healthy financial sector is important to maintain a stable economy.

The City of London, one of the world's biggest financial centres

Study tip

Be careful how you use the words 'saving' and '**investment**'. In economics, saving is done largely by individuals and investment mainly by firms. However, in finance, investment has another meaning (see 'Key term' box).

Key term

Investment The purchase of capital goods that are used to produce future goods and services (see Topic 3.1). It is also an asset purchased to provide an income in the future and/or to be sold at a profit.

Extension material

Find out what is meant by cryptocurrency. How many of them are there? How do they work? Prepare and deliver a presentation to the class.

Key term

Rate of interest/interest rate The cost of borrowing money, i.e. that which is paid to the lender. It is also the reward for saving.

What is the role of financial institutions?

There are a large number of different financial institutions. Those considered below are among the most important, but it is by no means an exhaustive list.

We need to distinguish between central banks and commercial banks.

The central bank

In the UK, the central bank is the Bank of England. It has several roles:

- To issue bank notes. In England and Wales, only the Bank of England can do this. Some banks in Scotland and Northern Ireland can issue bank notes under monitoring by the Bank of England. The central bank also supervises the supply of money in the economy.
- To control monetary policy by setting the bank rate, which is the interest rate set by the Bank of England from which all other interest rates are calculated.
- To provide financial stability by trying to ensure that the UK's citizens can trust financial organisations.
- To manage the country's foreign reserves (see Topic 4.2) and, if necessary, intervene in the foreign exchange market (see Topic 4.3).
- To act as the bank for the commercial banks.
- To act as the bank for the government.

It is likely that the Bank of England will launch a digital currency in the near future in order to take back control from the existing cryptocurrencies, which are all private, such as 'bitcoin'.

Activity

1. Find out which financial institution is responsible for the coins in our pockets if the Bank of England is responsible for bank notes.
2. Look at a bank note. What does it say on it? Do you know what this means? Discuss with others in your class.
3. What would be the advantages for individuals of there being official digital currencies rather than the current private ones (cryptocurrencies)? Make a list and then discuss it with the rest of your class.

Commercial banks

The basic role of commercial banks (sometimes called retail banks) is to take deposits (savings) from customers and to turn them into assets for the banks. They do this by investing, or lending, the money that customers deposit, thus gaining a higher **rate of interest/interest rate** than that which they are paying on the deposits.

Study tip

Remember that, when reading the news or looking up information on the internet, you may come across 'rate of interest' and 'interest rate'. These are basically the same.

In general, banks charge a rate of interest higher than base rate to borrowers, while offering savers a rate of interest lower than base rate. This process can be seen in Figure 2.8.1.

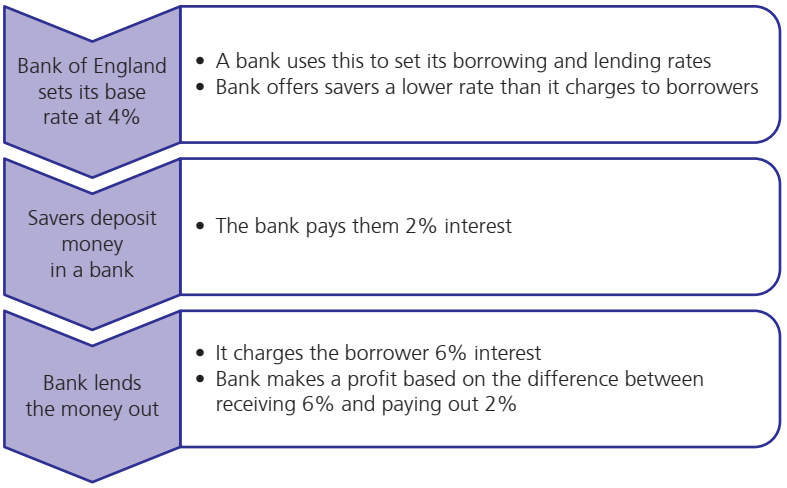


Figure 2.8.1 The relationship between base rate and the interest banks pay and charge customers

Banks, therefore, do the following:

- They accept deposits and, in many cases, pay interest on them. They also keep the savings safe. If banks did not do this, individuals would have to try to protect their own savings.
- They make payments on behalf of their customers either by accepting their cheques or through card payments, mobile phone payments, bank transfers etc. This role has become more important as fewer notes and coins are used for purchases.
- They issue loans to individuals and firms, and provide overdraft facilities. Loans are amounts of money that a bank gives a customer for a set period of time, on which interest is charged. Overdrafts are when a bank allows a current account holder to use money even though it is not in their account. This should be agreed beforehand, and interest is charged on the amount owing on a daily basis.
- They offer safe deposit boxes for very expensive items, like jewellery and important documents, as well as providing foreign currencies for firms trading overseas and for people's holidays.

Retail banks provide a variety of services to customers

Activity

Invite someone from a local bank to talk about what the bank does. If this is not possible, investigate one of the main banks online to discover all the services it offers.

Activity

In groups, find out the names of commercial banks, other than the 'Big Five', offering similar services. Make a class list.

Study tip

Be careful not to say that commercial banks issue notes and coins. The Bank of England, in England and Wales, issues them through the commercial banks.

Key terms

Building society A mutual financial institution that is owned by its members. Its primary objectives are to receive deposits from its members and to lend money for members to purchase property.

Mortgage An agreement with a financial institution to borrow money to purchase a property.

In recent years, there has been a big increase in the number of banks offering these services to customers. This has increased the competition for the so-called 'Big Five': HSBC, Barclays, NatWest, Lloyds and Santander.

In addition to the commercial banks there are also investment banks. Although some commercial banks, such as Barclays, also have a division that operates like an investment bank, there are a number of specialist investment banks. They help firms with more specialist needs, such as aiding mergers and takeovers and foreign trade, underwriting the issuing of shares (guaranteeing that they will all be sold), and providing specialist knowledge of financial conditions in new markets.

Extension material

Find out more on what investment banks do: there are a range of websites, many from the main investment banks. A good and accessible source is 'What is the role of an investment bank?' (**investopedia.com**).

Building societies

Building societies are not companies, but mutual institutions, which means that their members – the people who save money with them – own them. These members have rights to attend and speak at meetings and vote on issues, and each member has one vote, regardless of how much money they have invested or borrowed. Building societies provide savings products and mortgages for their members. A **mortgage** is a financial agreement to borrow money in order to purchase a house.

Building societies differ from banks, as banks are normally public limited companies, listed on the stock market, and owned by shareholders who have voting power in line with the number of shares they own. Building societies are also limited as to the amount of money they can borrow from the money market.

Due to changes in the law, during the 1990s and into the twenty-first century many building societies merged and/or converted to become banks. One example was the then-largest building society, Halifax. First it became Halifax Bank, then the Bank of Scotland took it over, and then the Bank of Scotland was taken over by Lloyds Bank.

Activity

1. In groups, find out more about building societies and the latest data for mortgage lending, saving etc. A useful source is: **www.bsa.org.uk**.
2. In addition, make a list of all the banks and building societies you know of. When you have done this, check your list against the article 'Institutions in the UK banking sector' (**www.bankofengland.co.uk**).
   How many on your list were correct?
3. What percentage of banks and building societies did you know?
4. Either invite a building society employee to speak to you or try to visit both a building society and a bank to observe the differences.

Case study

The Penrith Building Society

The Penrith Building Society is the smallest in the country, with assets of around £110 million. In contrast, Nationwide is the largest building society, with assets of about £248 million.

In 2021, Tim Bowen, Penrith CEO, said in a statement that the Society was meeting the unique needs of its members wherever they lived and supported those who were underserved by the mainstream lenders. One way in which this is done is by personal service rather than self-service machines in the banks.

Follow-up questions

1 Calculate how much greater the assets of Nationwide are than those of the Penrith Building Society.
2 How might a small building society be better able to support consumers than a large bank?
3 What roles do banks play for businesses in the economy?
4 What roles do building societies play for individuals in the economy?

Insurance companies

Insurance companies are financial institutions that guarantee compensation for specified loss, damage, illness or death in return for an agreed payment (called a premium by the insurance companies). Their functions are usually divided into two groups: life insurance and general insurance.

Life insurance aims to pay out money to the surviving family if the person insured dies. Policies can either be 'whole-of-life', which will pay out when the person dies so long as the premiums have been paid, or 'term life insurance', which will cover the person for a specific period only. These policies are intended to help replace the loss of income due to the death of the person insured.

In addition, life insurance also covers areas such as long-term savings, and pensions and annuities that are aimed at providing income during retirement.

General insurance covers all non-life policies and includes property, contents, motor, health, pets etc. It helps individuals and firms deal with unexpected events such as a burglary (property contents) or a car crash (motor). It also spreads the risk of loss across all insurance holders.

Key term

Insurance company Financial institution that guarantees compensation for specified loss, damage, illness or death in return for an agreed premium.

Activity

Find out what types of insurance your parents, relations and other adults (e.g. your teachers) have. Ask them why they have these insurance policies.

Now test yourself

2 State two roles of the Bank of England.
3 State two roles of commercial banks.
4 What is meant by a mortgage?
5 What are the two types of insurance?

Buying a house usually requires a large mortgage

Evaluating the importance of the financial sector for consumers, producers and the government

Although the financial sector may play varying roles for consumers, producers and the government, nevertheless the three main roles (credit provision, liquidity provision and risk management) apply to all three groups.

Credit provision

Without credit the level of economic activity in an economy would be greatly limited. While it is true that the development of credit cards has encouraged some people to live beyond their means and run up very large debts, it is equally true that they provide a valuable way for consumers to buy now and pay later, and thus to increase consumption. On a larger scale, the provision of mortgages where consumers only have to find a small percentage of the cost of housing has given far more consumers the ability to buy their own home.

This is also the case for producers. They can borrow money from a variety of financial institutions (see above) to enable them to grow, without having first to save all the necessary money.

Both of the above permit the exchange of money for goods and services to flow freely, allowing the economy to function efficiently. Equally, governments use credit to enable them to spend money even when tax revenue has not yet been collected, or when they wish to spend more than they intend to raise in taxes (see Topic 3.5).

Liquidity provision

Liquidity refers to how easy it is to turn an asset into cash. Banks are the main providers of liquidity to households and businesses, and this allows them to continue to function when faced with unexpected demands for cash. Banks do this by offering, for example, overdraft facilities.

Risk management

Financial institutions allow both individuals and businesses to pool their risks from exposure to financial markets. For example, a professional finance manager will take savings from a range of customers and invest the money in a range of different companies, so that if one does less well, the savers do not lose all their money, as the others may be doing much better. This contrasts with a saver putting their money into just one firm on the stock exchange, which then fails. (You can explore this further in the 'Extension material' box at the end of this topic.)

Summary

The financial sector enables individuals and firms to use their savings productively. It also provides an efficient payment system that reduces the costs and risks of producing goods and services and of purchasing them. It does this by allowing consumers, producers and the government to overcome economic uncertainties associated with imbalances between income and expenditure.

Evaluate this

Using the information in this topic and your own knowledge, evaluate how important the financial sector is for consumers.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Now test yourself

6 What are the three main roles of the financial sector?
7 Give two reasons why governments use credit.
8 Who are the main providers of liquidity?
9 Give two advantages to individuals and firms of the financial sector.

Analysing how different interest rates affect the levels of saving, borrowing and investment

Earlier in this topic we discussed the idea of interest rates and that the Bank of England sets the bank rate. The bank rate in turn affects the rates of interest that financial institutions such as banks and building societies offer savers and borrowers.

In this section we will consider not only the fact that changes in the rate of interest affect savings, borrowing and investment, but also that there are many different rates of interest in the financial market.

Activity

If possible, form a group of four and divide into two pairs. One pair should visit your local town and as many banks and building societies as possible to gather information about different interest rates available for savers and borrowers. The other pair should go online to discover the rates available for investors, as well as savers and borrowers.

If it is not possible to visit a local town, form three groups: one should investigate interest rates for saving, one borrowing and one investing.

Whichever method you use, exchange information and create a group report. All groups should then report to the class as a whole so that a class report can be compiled.

Key term

Saving(s) The part of a person's (disposable) income which is not spent on consumption. Savings are done by savers.

How do interest rates affect the level of saving?

The basic rule is that a rise in interest rates offered to savers will encourage people to increase their level of **savings**. Equally, a fall in interest rates available to savers will result in people reducing their level of savings. If you think of opportunity cost (see Topic 1.2), the compensation offered to individuals for not spending their money is the interest they will gain from saving.

In Figure 2.8.2, if the rate of interest rises from R to R^1 this results in an increase in demand for savings from D to D^1, resulting in an increase in the amount of money saved from Q to Q^1. On the other hand, if the rate of interest falls (R^1 to R), then demand for savings falls (D^1 to D) and the level of saving decreases from Q^1 to Q.

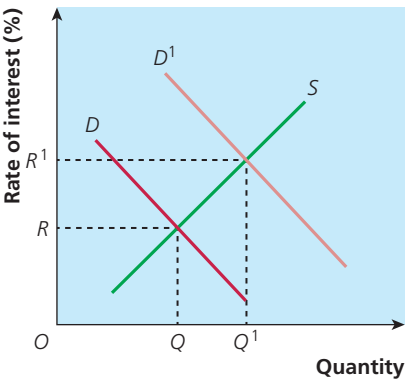


Figure 2.8.2 The effect of a change in the rate of interest on savings

Activity

Using information from the previous activity on rates of interest, discuss whether this information supports the following statement: 'The basic rule is that the greater the risk a saver is willing to take or the longer a saver is willing to lend for (while being unable to access their money easily), the higher the rate of interest is likely to be.'

Extension material

Interest rates and savings

Unfortunately, the relationship between interest rates and savings is more complicated than the above analysis shows. For example, a fall in interest rates may not cause a fall in the level of saving for the following reasons:

- The economic situation: in 2009, household savings rose from 0.5% to 8% even though the rate of interest fell from 5% to 0.5%. This is mainly because people feared they might become unemployed as the economy entered a recession (see Topic 3.1) and increased their savings as a result.
- A fall in income: anyone relying on interest payments, for example retired people, may decide that they need to save more in order to get the same level of income.
- Alternative sources of savings: a lower interest rate could lead many people to find other ways of saving than in banks and building societies. Since the steep fall in interest rates, there has been an increase in people buying stocks and shares and opening Individual Savings Accounts (ISAs).

The basic rule is that the greater the risk a saver is willing to take or the longer a saver is willing to lend for (while being unable to access their money easily), the higher the rate of interest is likely to be.

How do interest rates affect the level of borrowing?

Higher interest rates increase the cost of **borrowing**. This higher cost means that both individuals and firms tend to borrow less. This is because not only is new borrowing more expensive, but also people are having to pay more on money they have already borrowed.

In addition, a rise in interest rates might encourage individuals to save rather than spend. As a result, they will purchase fewer goods and services. This can deter firms from borrowing, as their revenue will fall.

Moreover, a rise in interest rates is likely to lead to an increase in the foreign exchange value of the pound (see Topic 4.3). If the pound rises, exports are less competitive, so firms will sell less and once more reduce borrowing.

Figure 2.8.3 shows that as the rate of interest rises from R to R^1 the quantity of money borrowed falls from Q to Q^1.

Key term

Borrowing To receive money from another party with the agreement that the money will be repaid.

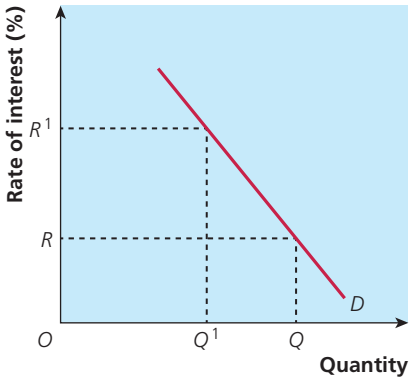


Figure 2.8.3 Demand for money

Case study

Interest rates and savings

Over the period 2016–20, banks and building societies wrote to their savers, in some cases on several occasions, to inform them that the rate of interest paid on their savings would be reduced.

At about the same time, a number of investment firms announced new ISAs paying higher interest.

This left many savers confused as to whether to go for higher interest accounts, but no assurance as to the value of their savings, or to opt for low interest, but certainty in terms of the value of their savings.

Follow-up questions

1 How could the fall in interest rates on savings accounts at banks and building societies affect the level of savings by households?

2 How might the increase in interest rates on ISAs affect the level of savings by households in these accounts?

3 Discuss whether individuals and firms should go for high risk and high returns or low risk and low returns on their savings and investments.

How do interest rates affect the level of investment?

The level of investment is inversely related to the rate of interest. This means that if the rate of interest falls from R to R^1, the level of investment should increase from Q to Q^1 (see Figure 2.8.4).

A fall in the rate of interest rate means not only that the cost of borrowing has gone down, so it is cheaper to borrow for investment, but also that there is a lower opportunity cost involved in sacrificing saving. In addition, lower interest rates will encourage consumers to spend and, therefore, firms will want to expand in order to meet this expected rise in demand.

However, the relationship is not always straightforward. If firms and consumers lack confidence in the economy, the firms might not increase investment, as they do not expect more demand.

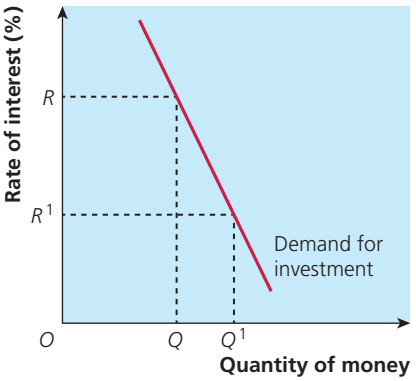


Figure 2.8.4 Level of investment inversely related to the rate of interest

Now test yourself

10 What is the difference between investment and savings?

11 Use a diagram to show how a fall in the rate of interest affects the level of savings.

12 Use a diagram to show how a fall in the rate of interest would affect the level of borrowing.

13 Why might a fall in the rate of interest **not** increase investment?

Extension material

The last financial crisis took place in 2008. In early summer 2021, the question is: will 2021–22 see another financial crisis? Earlier this year the International Monetary Fund and the World Bank took an optimistic view, especially for western industrial countries. The outlook for developing countries was more pessimistic.

Research: a) what happened in 2008; b) what happened in the second half of 2021; c) what has happened since 2021. If there is time, prepare a report for the class.

Calculating the effect on savings and borrowings of changes in the rate of interest

Earlier in this topic we saw the diagrammatic effect of changes in the rate of interest on saving and borrowing. In this section, we are going to calculate these effects. Below there is an example of the effect of an increase in the rate of interest on someone who has borrowed money to buy a house.

Niki has borrowed £100,000 for one year, and is paying an interest rate of 5%. How much is the interest payment?

$$5\% \text{ per year of } £100{,}000 \text{ is } \frac{£100{,}000}{100} \times 5 = £5{,}000$$

If the interest rate Niki had to pay was 5.5%, how much more would she end up paying?

$$5.5\% \text{ per year of } £100{,}000 \text{ is } \frac{£100{,}000}{100} \times 5.5 = £5{,}500$$

Niki would have to pay £500 more in interest.

Activity

1. If the rate of interest rose from 4% to 5%, how much more interest per year would a person have to pay if they wanted to borrow £15,000 for one year to buy a car?
2. How much more each month would this person have to pay?

In the same way, we can calculate the effect on the interest earned on savings of a change in the rate of interest. Below there is an example of the effect of a fall in the rate of interest on someone who has savings of £20,000 in their local building society.

Alima has savings of £20,000 and has been offered 3% interest for a year. How much interest will Alima receive at the end of the year?

$$3\% \text{ per year of } £20{,}000 \text{ is } £20{,}000 \times \frac{3}{100} = £600$$

The following year Alima wants to save £20,000 again, but is only offered 2% interest for the year. How much less interest would Alima get in the second year?

$$2\% \text{ per year of } £20{,}000 \text{ is } £20{,}000 \times \frac{2}{100} = £400$$

Alima receives £200 less interest.

Activity

1. If a saver puts £12,000 into a bank that pays 1% interest for a year, how much will that saver receive at the end of the year?
2. If in a second year the saver again wants to put £12,000 into a bank, but now the rate of interest is only 0.75%, how much less interest will the saver receive in the second year compared with the first year?
3. If the interest is paid quarterly, how much less each quarter will this saver receive?

Extension material

1 Under the heading 'Central banks' there was a list of a number of roles that the Bank of England fulfils. These included:
   - **a** providing financial stability by trying to ensure that UK citizens can trust financial organisations, by supervising the transfer of money between banks, acting as lender of last resort, buying and selling assets, and intervening to manage failing financial firms
   - **b** acting as the bank for the commercial banks, which must keep a deposit with the Bank of England

   Either individually or in pairs, investigate these roles (including what is meant by 'lender of last resort') and then exchange your findings with the class. A good starting point is **www.bankofengland.co.uk**.
2 Invite someone from a local insurance company and/or a financial adviser to come and talk to you about the roles of insurance companies, and/or investment trusts, and/or unit trusts, and/or other financial institutions.
3 Banks were heavily criticised for their role in the financial crash of 2007–08. Using the internet and other sources, find out why they were criticised.
4 In pairs or small groups, find out about one of the following: investment trusts, unit trusts, open-ended investment companies (OEICs), ISAs, venture capital trusts and credit unions. Present your findings to the class.
5 If you have £15,000 that you wish to invest/save, what should you do with the money? Investigate the different possibilities and then produce a presentation for the class.

Evaluate this

Using the information in this topic and your own knowledge, evaluate how important the financial sector is for the government.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by money
- explain the role of money as a medium of exchange
- explain what is meant by the financial sector
- explain the role of banks
- explain the role of building societies
- explain the role of insurance companies
- explain the role of the financial sector for the economy
- evaluate the importance of the financial sector for consumers
- evaluate the importance of the financial sector for producers
- evaluate the importance of the financial sector for the government
- analyse how different interest rates affect the levels of saving
- analyse how different interest rates affect the levels of borrowing
- analyse how different interest rates affect the levels of investment
- calculate the effects on savings of changes in the rate of interest
- calculate the effects on borrowings of changes in the rate of interest

Practice questions: Paper 1

Multiple-choice questions

Answer all the questions in this section.

1 A factory is an example of which of the following factors of production? [1]

A Capital C Labour
B Enterprise D Land

2 Harry has told Joan that he is a wifi consumer. Which of the following explains this statement? [1]

A He may wish to buy wifi to use in his work.
B He wants to make a choice between wifi and cable connections.
C He is the end-user of the service given by wifi.
D He is an agent for individual consumers.

3 Which of the following statements is correct? Unlimited wants: [1]

A are something that consumers must have
B do not take into account the ability to purchase
C involve the production of goods and services
D take account of the problem of opportunity cost

4 Which of the following is an example of an environmentally sustainable resource? [1]

A Coal C Oil
B Natural gas D Timber

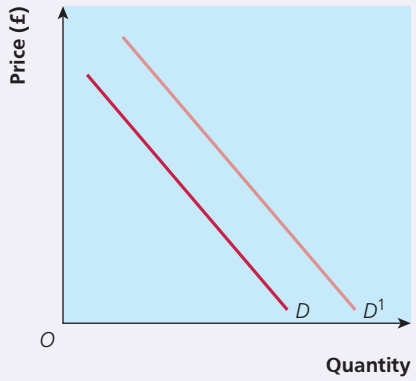
5 Which of the following activities would be classified as being in the tertiary sector of an economy? [1]

A Building new houses
B Drilling for gas
C Selling ice cream
D Working with wood

6 In a factor market: [1]

A the attributes and skills of the factors of production are bought and sold
B the factors of production are exchanged for scarce resources
C the goods and services produced by the factors of production are offered to consumers
D the specialisation of the factors of production can be exchanged for payment

7



An increase in demand for a product from D to D^1 could be caused by: [1]

A a fall in the price of the product

B a fall in the price of a substitute

C a rise in costs of raw materials

D a rise in expenditure on marketing

8 The price elasticity of demand for tickets to a music concert has been found to have a value of –0.8. This means that the demand is: [1]

A elastic **C** negative

B inelastic **D** unitary

9 Supply is defined as: [1]

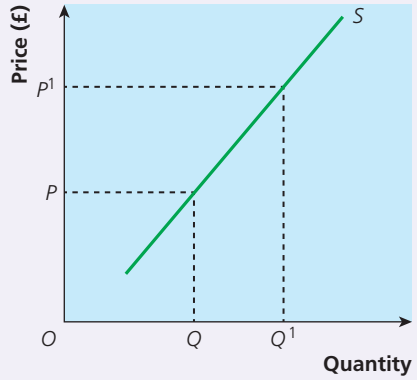
A the ability and willingness of firms to provide goods and services at each price in a given time period

B the ability and willingness of consumers to pay a higher price to obtain a larger quantity of goods and services

C where any movement outwards along the supply curve leads to an increase in both price and quantity

D where production costs are likely to rise as output expands, so a higher price is needed to cover these extra costs

10



A movement along the supply line from PQ to P^1Q^1 could be caused by: [1]

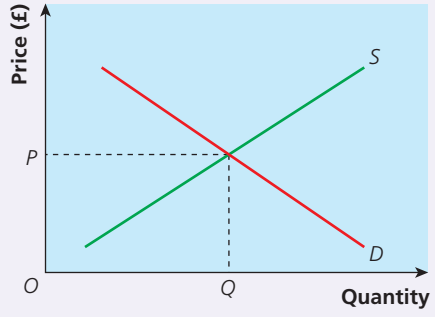
A a fall in the amount of subsidies available

B a fall in the size of the firms in the market

C a rise in the costs of production

D a rise in the price of the product

11 The diagram shows that the market for smartphones is in equilibrium. What does this mean? [1]



A The price offered by consumers is equal to the quantity supplied.

B The output of the firm is at its greatest in terms of demand.

C There is neither an excess of supply nor a shortage of supply.

D There is optimal production in terms of consumer demand.

12 What would be the result in terms of changes in price and quantity if cars had an elasticity of +4 and there was an increase in demand? [1]

A Both price and quantity would increase by the same percentages.
B Price would increase by a larger percentage than the increase in quantity.
C Quantity would increase by a larger percentage than the increase in price.
D Quantity would increase by a large percentage, but price would not change.

13 Which of the following statements about competition is correct? [1]

A Competition allows firms to lower total costs.
B Competition can result in higher prices.
C Competition destroys consumer loyalty.
D Competition leads to less choice for consumers.

14 Which of the following is a necessary condition for an oligopoly to exist? [1]

A At least one firm must have 25% per cent or more of the market.
B Barriers to entry will always prevent new firms entering the market.
C Firms must produce at the lowest point of the average cost curve.
D The actions of one firm must have a significant effect on the other firms.

15 Henryk has asked Aleksy to explain what is meant by productivity compared to production. Which of the following should Aleksy choose to explain productivity? Productivity is: [1]

A the bringing together of the factors of production
B the quantity of goods and services produced per unit of input
C the total output of goods and services by a firm
D the way in which average costs fall and economies of scale increase

16 The table below shows the change in productivity achieved by a firm between 2017 and 2021.

Year	Change in productivity (%)
2017	2.5
2018	3.5
2019	4.0
2020	1.5
2021	2.0

Which of the following is correct? The output of each worker: [1]

A declined in 2020
B increased from 2017 to 2021
C increased most in 2018
D was lower in 2021 than in 2019

17 Nathan is a car mechanic. He wishes to change jobs and become a computer programmer. Which of the following will be a barrier to this job change? [1]

A He lacks the skills required.
B He lacks the necessary productivity level.
C He is inelastic in his supply of labour.
D He belongs to a trade union.

18 Which of the following is a factor affecting the supply of labour? [1]

A Effort made by of the workforce
B Increase in the productivity of labour
C Speed of growth of markets
D The size of the working population

19 The financial sector is the interaction of markets and their components within a regulatory framework. This allows: [1]

- **A** the government to increase the output of the Bank of England
- **B** the lending of money in the short run but not in the long run
- **C** the operation of money as a medium of exchange
- **D** the saving of money by individuals and the investment of money by firms

20 Honorio and Sonya both want to borrow £10,000 over a year each to buy a car. The bank will charge Honorio 8% interest, but Sonya only 5%. How much more interest will Honorio pay than Sonya? [1]

- **A** £1,300
- **B** £800
- **C** £500
- **D** £300

Data-response questions

Question 1

Extract 1

Plumthwaite Solutions

Plumthwaite Solutions is a firm that offers services to both businesses and individual customers. At present it occupies a shop in the local high street. It wants to expand and has been offered new premises on a local business park. The opportunity cost of moving would be the loss of passing trade. This is because it will only be reachable by car, so will not have customers walking past the front door.

Sheila, one of the owners, has calculated that the price elasticity of demand for the company's services is inelastic.

The main advantage of moving is that more space would enable Plumthwaite to gain greater economies of scale. Sheila is worried, however, about the impact it may have on the individual customer. The main advantage for her is that there will be less competition from other nearby retailers. She realises, however, that there are both costs and benefits involved in the choice that Plumthwaite Solutions has to make. Tony, another owner, has commented to her that 'this is the whole economic problem'.

a Explain what is meant by price elasticity of demand. [2]

b On the diagram below, draw and label an inelastic demand curve. [2]

c Analyse how 'less competition from other nearby retailers' is likely to affect the prices that Sheila can charge her customers. [6]

d **i** Explain what Tony means by 'this is the whole economic problem'. [2]

ii Explain the opportunity cost to Plumthwaite Solutions of moving premises. [2]

iii Evaluate the benefits and costs of the economic choice that Plumthwaite Solutions has to make. Use the information given in Extract 1 and your own knowledge. [6]

Question 2

Extract 2

Hyderabad Huzaar

Hyderabad Huzaar is an Indian restaurant. Aditya, the owner, specialises in food from Hyderabad and its surrounding area. In addition to himself, he employs two chefs and two waiters.

He has identified the following costs and revenues for the previous week during which he served 180 customers.

	£
Total revenue	5,400
Total costs	2,160
Average revenue	30
Average costs	12
Profit	

Aditya knows that new Indian and new Thai restaurants are opening in a few weeks' time. He is concerned that this will lead to increased competition, affecting both the demand for meals and the prices he can charge his customers.

a Identify two factors of production involved in the Hyderabad Huzaar. [2]

b Explain how the demand for meals at the Hyderabad Huzaar could be affected by the opening of new restaurants. [2]

c Analyse how the increased competition could affect the price of a meal at the Hyderabad Huzaar. [6]

d **i** Explain one reason why profit is important for a business. [2]

ii Using the information in the table, calculate the profit that Aditya made in the previous week. [2]

iii Evaluate whether the benefits of specialisation are likely to outweigh the costs for a producer such as Aditya. Use the information given in Extract 2 and your own knowledge. [6]

Question 3

Extract 3

Interest rates and the financial sector

Alex and Sam have borrowed £200,000 from a bank to buy their first house. They have a variable interest rate loan and, although they were able to get this at a favourable rate of 4%, they are worried that interest rates might rise. An interest rate of over 5% might be difficult for them on their current pay.

Alex is going to see the manager of the local building society, with which he has saved since childhood, to see if it could offer a fixed rate loan which would protect them until they can both gain promotion in their work.

Sam, who works as an assistant manager in a pharmacy (chemist shop), is carefully studying what the Bank of England has been saying about the likely movement in its base rate. She is concerned not only about herself and Alex, but also about the effect of change on her customers. She knows that the financial sector plays an important role for all customers.

a Explain how a loan to buy a house is a form of borrowing. [2]

b Explain why Alex thinks he might be able to get a fixed-term loan from the local building society. [2]

c Analyse how different interest rates can affect the amount of money people like Alex and Sam can afford to borrow. [6]

d **i** Explain how the Bank of England's base rate is likely to affect other interest rates. [2]

ii Calculate the change in interest payment per year for the first year of the loan for Alex and Sam if the interest rate rises from 4% to 5%. Show your workings. [2]

iii Evaluate the importance of the financial sector for consumers such as Alex and Sam. Use the information given in Extract 3 and your own knowledge. [6]

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Part 3

Economic objectives and the role of government

Topic 3.1
Economic growth

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by economic growth
- calculate and explain how economic growth is measured with reference to gross domestic product (GDP) and GDP per capita
- analyse recent and historical GDP data
- analyse the determinants of economic growth, including investment, changes in technology, size of workforce, education and training, availability of natural resources and government policies
- evaluate the costs and benefits of economic growth, including the impact on economic, social and environmental sustainability

Key terms

Economic growth Growth in GDP (value of output) over time.

Gross domestic product (GDP) The total value added of goods and services produced in the country in a year.

What is economic growth?

Economic growth is the increase in the **gross domestic product (GDP)** of a country over time. GDP is the value added of all the goods and services produced within a country in a year. Therefore, economic growth is the increase in the value of output of a country.

The total value of output becomes incomes for those who produce it. These incomes are in the form of wages, profits, interest and rent. Therefore, the value of the output of the country in a year is the same as the total incomes of the people who produced it. When there is economic growth, both output and incomes are rising.

Economic growth can lead to a rise in welfare, such as spending on hospitals

How is economic growth measured with reference to gross domestic product (GDP) and GDP per capita?

Achieving economic growth is one of the main aims of government policy, so it is important to measure the rate of growth accurately. The government measures the value of the output of the country and calculates the rate at which it has risen. To calculate this, it needs to use the formula:

$$\text{Rate of growth} = \frac{\text{change in GDP}}{\text{original GDP}} \times 100$$

Here is a simple example. If a country has a GDP in the original year of £500 billion and the next year it has risen to £510 billion, then the rate of growth is:

$$\frac{\text{£10 billion}}{\text{£500 billion}} \times 100 = 2\%$$

Now test yourself

1 Calculate the economic growth rate from Year 1 to Year 2 in each of the following cases. Use the equation:

$$\text{Rate of growth} = \frac{\text{change in GDP}}{\text{original GDP}} \times 100$$

Show your workings.

Example: GDP in Year 1 = £60 billion, GDP in Year 2 = £63 billion

Therefore the growth rate is:

$$\frac{\text{£3 billion}}{\text{£60 billion}} \times 100 = 300/60 = 5\%$$

a GDP in Year 1 = £100 billion, GDP in Year 2 = £102 billion

b GDP in Year 1 = £200 billion, GDP in Year 2 = £202 billion

c GDP in Year 1 = £250 billion, GDP in Year 2 = £262.5 billion

What is GDP per capita?

GDP per capita is GDP divided by the population. It is therefore output per head of population, and it is also the average income of each person in the country. In the UK, GDP per capita grew by 0.8% between 2018 and 2019, but then fell by 10.3% in 2020. It is important to stress that GDP per capita is only an average figure and the actual GDP will be distributed unevenly (see Topic 3.3).

The standard of living is a term that refers to how well-off people are (see Topic 2.1). The most common way of measuring standard of living – for example, to compare over time or to compare between countries – is to use the GDP per capita figures.

Key term

GDP per capita GDP divided by the population.

Study tip

Don't confuse GDP and GDP per capita. While GDP is the value of the output and incomes of the whole economy, GDP per capita is the average income of each person.

Now test yourself

2 Calculate GDP per capita in the following cases (£1 billion = £1,000 million = £1,000,000,000). Show your workings.

Example: GDP £300 billion, population 30 million

$$\frac{\text{£300 billion}}{\text{£30 million}} = \text{£10,000}$$

a GDP £200 billion, population 40 million

b GDP £500 billion, population 50 million

c GDP £1,200 billion, population 60 million

Key terms

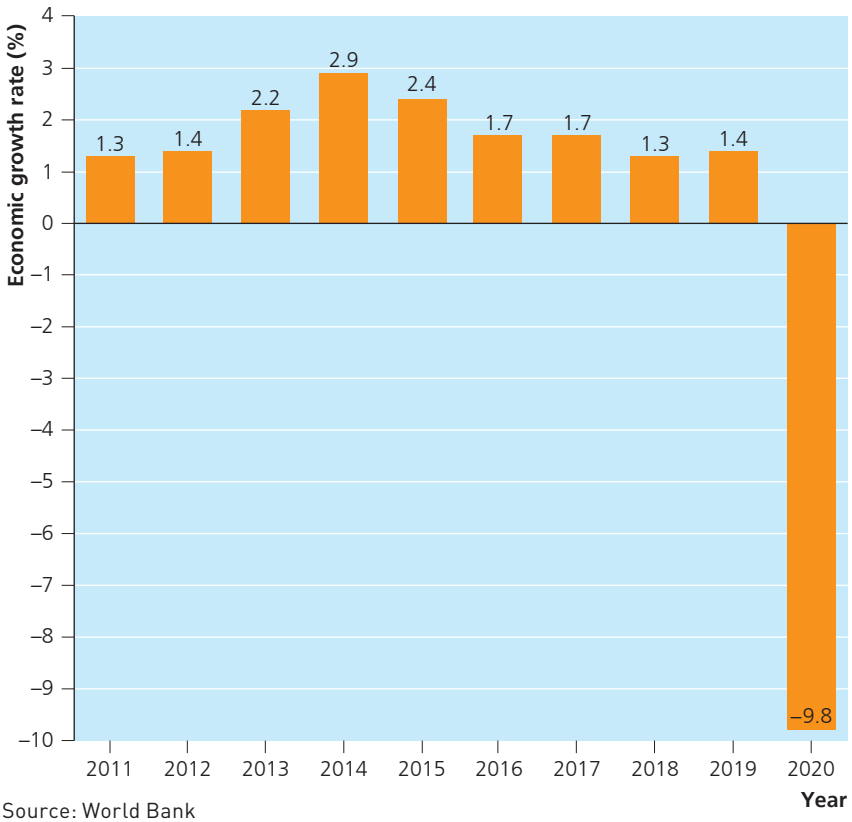
Boom A period of high economic activity and high levels of employment.

Recession A period of time when the country's GDP falls for two (or more) consecutive quarters.

Analysing recent and historical GDP data

You can see from Figure 3.1.1 that economic growth rates are not the same, year on year. For the period shown, growth rates in most years were positive but in 2020 was negative.

Economists sometimes use the terms **boom** and **recession**. A boom occurs when an economy has high rates of economic growth over a considerable period of time. It is a period of high economic activity and high levels of employment.



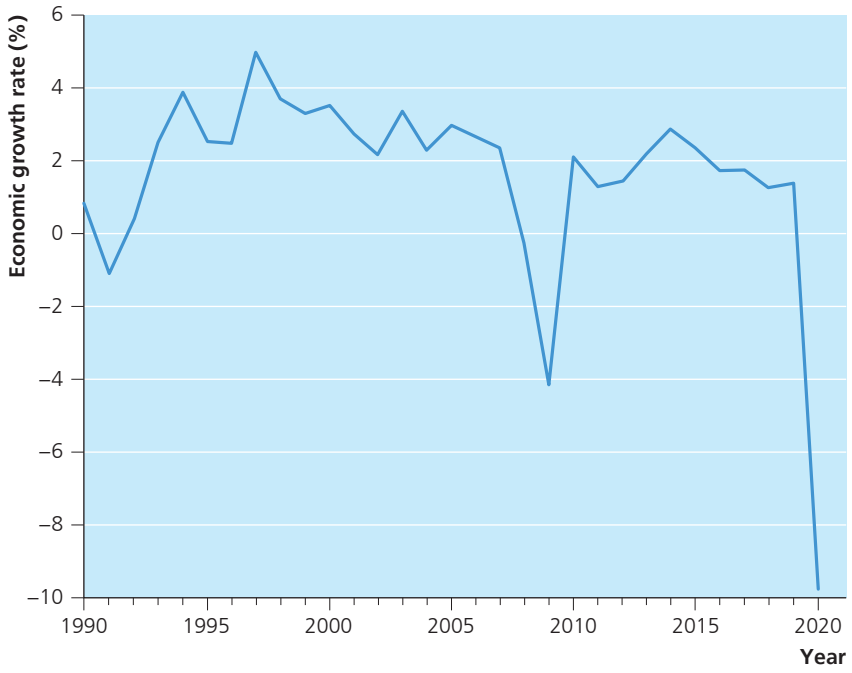
Source: World Bank

Figure 3.1.1 UK annual economic growth rates, 2011–20

Figure 3.1.1 shows that the UK's growth rate was not always positive. A period of negative economic growth is known as a recession. During such times, GDP falls and so the economy is producing less than it was previously. Economists say that a recession is technically when GDP falls for two or more consecutive quarters (i.e. falls for 6 months) of a year.

We can use Figure 3.1.2 to help us analyse what has been happening in the UK economy. For instance, when the UK economy entered recession in 2008, output fell. Less labour was needed to produce fewer goods and services, so unemployment rose. This means that incomes fell, leading to a further fall in demand from the consumers whose incomes had fallen. This in turn led to a deeper recession in 2009.

However, the graph shows that by 2010 the economy had come out of recession. Output was rising, so more workers were required to produce more goods and services, and employment rose. This in turn led to higher incomes and more demand, until 2020, when the impact of the Covid-19 pandemic can be seen most recently as output has fallen, partly due to businesses being closed during lockdown.



Source: World Bank

Figure 3.1.2 UK annual growth rates, 1991–2020

Study tip

Notice that Figure 3.1.1 does not show GDP itself. It simply shows by what percentage GDP has changed each year. Always look carefully at axes labels – they might not be what you expect!

Activity

In small groups, practise analysing the data in Figure 3.1.2. Look for:

- directions of change, including positive and negative
- rates of change
- highest and lowest points, adding any technical terms that fit the data

Research reasons for the earlier negative growth rates.

Analysing the determinants of economic growth

Economic growth can come about because the economy is able to supply more goods and services. There are various ways in which the economy's ability to produce output can increase and these are known as supply side factors (see Topic 3.7).

Factors of production are needed to produce goods and services. These factors of production are land (including natural resources), labour, capital and enterprise (see Topic 1.1). Therefore, the quantity and quality of factors of production are very important in affecting the rate of economic growth.

The determinants of economic growth are analysed below.

Investment

This is spending on capital goods. Capital goods include business premises, machinery and equipment. More investment means that the economy can produce more goods and services in the future.

Changes in technology

Technological progress means the quality of capital goods improves, and a given quantity of capital can now produce more output than before.

Education and training

This affects the quality and quantity of the work done. The more literate, educated, trained and skilled the workers, the higher the output of the country is likely to be.

Labour productivity

This can be measured as the output per worker over a period of time. For example, it could be the number of electric cars produced per worker per year. Higher productivity will encourage economic growth.

Labour productivity is in fact largely determined by the three factors above: investment in capital, technological progress, and education and training.

Extension material

The Venezuelan economy

In 2017, the Venezuelan economy came close to collapse. It is estimated that GDP contracted by 12% and inflation was greater than 2,000%. Venezuela should be a rich country. It has the largest oil reserves in the world (more oil than the USA or Saudi Arabia), and yet has introduced drastic power cuts, which in some areas have lasted for days. Many economists believe that this has happened due to the government's mismanagement of the country's state-owned oil industry. The government spent some of the oil revenues to help redistribute incomes in the country, to reduce poverty. However, the government spent more than it received, and when oil prices fell, matters became worse.

1 Research the Venezuelan economy to find out more. Find out when it has been in recession.

2 From your research, analyse why Venezuela has lacked economic growth in recent times.

The size of the workforce

The economy can produce more if it has more of the factor of production known as labour. The population of people who work (the **labour force**) may grow, for example, because there are more school leavers. In recent years, before the UK left the European Union, the UK's labour force had grown significantly due to the immigration of workers from other European countries, such as Poland and Bulgaria.

Key term

Labour force (or workforce) The number of people who work in a country.

Immigration of workers can lead to an increase in demand for specialist shops

Natural resources

If a country discovers or develops natural resources, this can be a stimulus to economic growth. Large supplies of oil and natural gas were discovered under the North Sea and this has contributed significantly to the UK's growth rate. Some countries rely heavily on natural resources for their development, such as Saudi Arabia's reliance on oil and Zambia's reliance on copper.

Government policies

Government spending, such as on infrastructure, can encourage economic growth. Infrastructure is the basic systems and services that an economy uses in order to work effectively. It includes transport networks, such as road and rail, and power supplies.

The governments of mixed economies, such as the UK, take responsibility for the macroeconomic management of the economy. The UK government can affect both the demand side and the supply side of the economy in order to encourage economic growth using various policies and measures. This will be considered in more detail in Topics 3.5, 3.6 and 3.7.

Now test yourself

3 In each of the following scenarios, is economic growth more likely to fall or to rise?

- **a** Climate change leads to loss of land suitable for farming.
- **b** Apprenticeship and training schemes are suspended.
- **c** A faster broadband infrastructure is completed, connecting the whole country.
- **d** There is a fall in immigration of medical staff to the UK.
- **e** Government spending on primary schools increases.

Evaluating the benefits of economic growth

Economic growth is one of the major aims of government policy, as it can bring a number of benefits.

A rise in material living standards

When GDP rises at a faster rate than the population, GDP per capita rises. This means everyone, on average, has more output available to consume than before. It also means the average income of the population rises. The population as a whole is materially better off. For example, between 1992 and 2008, there were 16 years of uninterrupted economic growth in the UK and British citizens were able to take more holidays abroad, eat out at restaurants more often and buy better consumer durable goods, such as new cars, laptops and smartphones.

A reduction in poverty

As output and incomes rise, the government will receive a greater tax revenue. This revenue will come from both greater incomes and more spending. The government can use the extra revenue to raise the living standards of those with lower incomes. It is able to ensure that all citizens have a basic minimum standard of living by providing social protection benefits, thus reducing poverty (see Topic 3.5).

A rise in the welfare of the population

As you have seen, economic growth means that the government is able to collect more taxes both from incomes and from spending. This means it has more revenue, which it can spend on services such as health and education. This in turn will improve the general welfare of the population. In less developed countries, enabling citizens to have greater access to health and education services can be very beneficial. It increases the quality of life. Infant mortality rates will fall (a smaller proportion of babies will die) and life expectancy will increase (people on average will live longer) due to better healthcare, while improved education will lead to a greater rate of literacy and help people to find employment. In turn, as the population becomes more educated and healthy, this can help the economy to achieve more economic growth in the future.

A rise in employment and a fall in unemployment

More workers may be required to produce the extra output brought about by economic growth. Therefore, there will be a rise in employment and the unemployment rate will fall. This is considered a major benefit of economic growth, as achieving a high rate of employment is one of the major aims of government policy (see Topic 3.2).

Evaluating the costs of economic growth

There are a number of costs of economic growth, several of which are environmental.

Environmental costs

Pollution

The production and consumption of goods and services can lead to more pollution of the land, air, sea and fresh water, and can also cause noise pollution. For example, oil spills from sea transport can do great damage to the marine environment. The consumption of cars leads to more air and noise pollution.

China has had very rapid growth in recent times, one consequence of which has been a lot of air pollution. India has also been experiencing high rates of economic growth, but its reliance on coal for some of its energy needs is also leading to a high level of air pollution, which can damage health.

Economic growth can be linked to increased pollution

Global warming

The greater output achieved worldwide has led to increased global warming. Many people believe this will have very bad effects on the environment, including a rise in sea levels that could put many communities at risk of flooding. Negative externalities, including environmental costs, will be considered in Topic 3.8.

Congestion

Economic growth is often concentrated in certain areas or regions of a country. These are usually urban areas such as inner cities, which can become very congested and overcrowded. The traffic congestion means people spend more time travelling to and from work, which, it can be argued, lowers their quality of life. In addition, in these urban areas there may be pressures on services such as hospitals, schools and public transport. People may have to wait longer for hospital treatment, or parents may not be able to send their children to their first-choice school. Buses and trains may become very overcrowded.

Loss of non-renewable resources

Economic growth uses natural resources that cannot be replaced. Oil, natural gas, metals and other minerals have a limited supply. If they are used in achieving economic growth now, they cannot be used in the future. Natural environments such as rainforests also have a limited supply. Rainforests cover a much smaller area than they did previously, as they have been cut down to increase the output of timber, grow palm oil or graze cattle. Damage to the natural environment has serious consequences for the people, animals and

Activity

More economic growth means more energy is needed to produce more output. The UK needs non-fossil fuel energy to enable economic growth in the future.

In groups, consider alternative sources of energy for the UK and research arguments for and against using more of that type of energy.

plants that lived there, including the most serious consequence of all, which is extinction.

A lower quality of life

Growth makes people materially better off, but it can also change their lifestyles for the worse. For example, people may move from the countryside to cities where life is busier and more stressful. They may move to better-paid but boring and repetitive jobs. People may exercise much less in their everyday lives than in the past. They may even become unhealthy as they exercise less, consume more food and drink, and eat fewer natural foods and more 'junk' foods. Obesity and diseases such as diabetes have become much more common in countries like the UK, which have achieved development through economic growth. This will be considered further in Topic 3.8.

Inequalities of income and wealth

Not everyone benefits to the same extent from economic growth. The benefits can be very unevenly spread, so while some people become better off, others remain poor and may indeed become relatively poorer. This means that the gap between rich and poor may become wider with economic growth. This will be considered further in Topic 3.3.

Inflation

A period of economic growth may lead to the price level rising. This happens when total demand is rising but total supply is rising at a slower rate than demand, and so leads to demand-pull inflation. You will find out more about this in Topic 3.4.

Summary

Table 3.1.1 summarises some of the benefits and costs of economic growth and then prioritises a type of sustainability that you might link the consequence to most easily. In reality, the consequences of economic growth could all be linked to every type of sustainability.

Table 3.1.1 A summary of consequences of economic growth and their key links to either economic, social or environmental sustainability

Consequences of economic growth	Key link to sustainability
Rise in living standards	Economic
Reduction in poverty	Economic
Rise in welfare	Social
Fall in unemployment	Economic
Pollution	Environmental
Global warming	Environmental
Congestion	Economic
Loss of non-renewable resources	Economic
Lower quality of life	Social
Income and wealth inequalities	Social
Inflation	Economic

Now test yourself

4 Which of the following statements are true and which are false?

a Economic growth may not lead to a fall in unemployment if machines produce the extra output.

b Economic growth is likely to lead to a fall in congestion on the roads if lorries are used to transport the extra output.

c Economic growth may lead to a rise in living standards if more workers are employed to increase output.

d Economic growth may lead to environmental damage due to increased pollution from increased production.

e Economic growth may lead to a higher quality of life if workers have to work more hours to produce the extra output.

Case study

Growth in China

China is the world's largest country by population. Since 1992 it has achieved remarkable rates of economic growth. The growth rate has never been below 2% in the past 20 years or so, and it has been as high as 15% per year. Factors that have increased output have been investment in capital, such as new factories and transport infrastructure, improved education and increased workforce productivity.

Follow-up questions

1 Research economic growth data for China further. Think how you would describe its trends for growth. The World Bank is a useful resource.

2 Consider how you might explain different factors that led to economic growth in China.

3 What do you think the costs and benefits of economic growth are for the citizens of China?

Activity

1 Huge factory fishing vessels catch anything in their path, including dolphins that are thrown back dead into the sea. Is this fishing at sea sustainable? In other words, can this practice carry on indefinitely or will the marine environment be so damaged that fish stocks will disappear? To answer these questions, do a little research online. The website www.greenpeace.org.uk outlines some of the problems the oceans face.

2 Two possible methods of helping to conserve fish stocks are fishing quotas and marine protected areas. Type these terms into a search engine and research further to find out to what extent they can help to sustain fish stocks.

Evaluate this

Evaluate whether the benefits of economic growth outweigh the costs.

Using the information in this topic and your own knowledge, use chains of reasoning (see Topic 1.2) to explain potential benefits and costs of economic growth before evaluating the likelihood of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Extension material

Economic growth means you and your family now have material possessions that your family did not have 25 or 50 years ago. However, does this mean you are happier now than they were then?

Are people in countries with a high GDP per capita happier than people in countries with a lower GDP per capita? For example, are the citizens of the USA, a developed country that has had a lot of economic growth, happier than the citizens of Jamaica, a less developed country?

Research online the arguments for whether economic growth makes people happier.

Evaluate this

Evaluate whether economic growth is not environmentally sustainable.

Using the information in this topic and your own knowledge, use chains of reasoning to explain how economic growth may not be environmentally sustainable before evaluating their likelihood and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Extension material

Human Development Index

The Human Development Index (HDI) is a tool developed by the United Nations (UN) to measure and rank countries' levels of social and economic development based on four criteria: life expectancy at birth, mean years of schooling, expected years of schooling and gross national income per capita. A country scores higher HDI when the life expectancy at birth is longer, the education period is longer and the income per capita is higher. It can be used to distinguish whether the country is a developed or a less developed country. The higher the figure, the higher the level of development.

For example, in 2019, the most developed country, Norway, had an HDI of 0.957 while the least developed (of the 188 countries for which HDI is calculated), Niger, had an HDI of just 0.394.

Table 3.1.2 shows the HDI and GDP per capita incomes of five countries for 2019, together with their rankings.

Table 3.1.2 HDI and GDP per capita incomes of five countries, 2019

Country	Qatar	Norway	UK	Cuba	Ethiopia
GDP per capita ($US PPP)	90,044	63,633	46,659	12,300	2,221
Ranking	6th	14th	35th	131st	210th
HDI	0.848	0.957	0.932	0.783	0.485
Ranking	45th	1st	13th	70th	173rd

Sources: *CIA Factbook* and UN Development Programme

Use information from Table 3.1.2 and your own research to evaluate the relationship between GDP per capita and the HDI.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by economic growth
- calculate how economic growth is measured with reference to gross domestic product (GDP) and GDP per capita
- analyse recent and historical GDP data
- analyse the determinants of economic growth
- analyse how investment can determine economic growth
- analyse how changes in technology can determine economic growth
- analyse how education and training can determine economic growth
- analyse how the availability of natural resources can determine economic growth
- analyse how government policies can determine economic growth
- evaluate the costs of economic growth, including the impact on economic, social and environmental sustainability
- evaluate the benefits of economic growth, including the impact on economic, social and environmental sustainability

Topic 3.2
Low unemployment

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by employment and unemployment
- explain how unemployment is measured using the Claimant Count
- calculate the unemployment rate
- analyse recent and historical unemployment figures
- explain the types of unemployment, including cyclical, frictional, seasonal and structural unemployment
- evaluate the causes and consequences of unemployment for individuals, regions and the government

Key terms

Employment The use of labour in the economy to produce goods and services.

Unemployment Occurs when workers able and willing to work at the current wage rates are unable to find employment.

Workers at theme or holiday parks may face seasonal unemployment

What are employment and unemployment?

Employment refers to the use of labour in the economy to produce goods and services. Labour is one of the four factors of production needed to produce goods and services (see Topic 1.1). The reward for labour is wages, and most households rely on these wages from employment for much of their income.

Full employment occurs when an economy is using most of its workers to produce output. In practice, this does not mean every single worker is in employment, because there will always be some who are between jobs (see 'Frictional unemployment' below). Therefore, it can be defined as the level of employment where there is no cyclical unemployment. An example of why there may still be people unemployed is that some workers may want to find different jobs for their own personal reasons. Another reason is that as demand for different goods and services fluctuates in an economy, so will demand for workers in those areas. This can lead to a time lag as workers move from one employer to another.

Unemployment occurs when people of working age are both able and willing to work at the current wage rates but cannot find employment. The unemployed are the part of the labour force that is not currently in work. It is important to realise that people such as pensioners, full-time students and those who choose to stay at home to look after children are not unemployed, as they are not counted as part of the labour force. They are said to be inactive rather than unemployed.

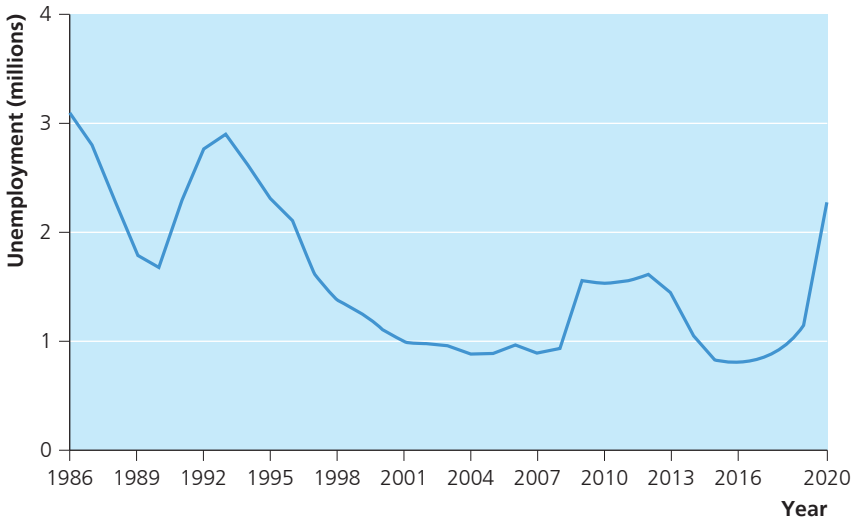
As most households in the UK receive most of their income in the form of wages, it means that they rely on employment for their incomes. For this reason, maintaining a high level of employment and achieving low unemployment is a major aim of government policy.

How is unemployment measured?

Key term

Claimant Count The method of measuring unemployment according to the number of people who are claiming unemployment-related benefits.

There are different methods of measuring unemployment. However, for GCSE Economics we use the **Claimant Count** method, which is the main way the UK government measures unemployment (see Figure 3.2.1). This measures unemployment according to the number of people who are claiming unemployment-related benefits (such as jobseeker's allowance).



Source: ONS

Figure 3.2.1 UK unemployment by Claimant Count, 1986–2020

Extension material

Labour Force Survey

The Labour Force Survey (LFS) is a survey of a sample of households and counts people as unemployed if they are willing to work, are actively seeking work and could soon start work, but do not currently have a job. The LFS uses standard International Labour Organisation methods of measuring unemployment. As other countries also use this method of measuring unemployment, it is very useful for comparing unemployment rates between countries.

Research the Labour Force Survey to see how figures compare to the Claimant Count and why they differ.

How can we calculate and analyse unemployment figures?

Key terms

Level of unemployment The number of people in the working population who are unemployed.

Rate of unemployment The percentage of the country's workforce that is unemployed.

Unemployment is expressed in two ways:

- the level of unemployment
- the rate of unemployment

The **level of unemployment** refers to the number of people in the working population who are unemployed.

The **rate of unemployment** (or unemployment rate) shows the percentage of the country's workforce that is unemployed.

This can be calculated as follows:

$$\text{Unemployment rate} = \frac{\text{the number of unemployed}}{\text{workforce}} \times 100$$

Study tip

If you are asked to identify the level of unemployment from some data, your answer must be a number, e.g. 1.4 million. On the other hand, if you are asked to identify the rate of unemployment from some data, your answer must be a percentage, e.g. 6.4%.

Now test yourself

1 Calculate the unemployment rate in each of the following cases. Show your workings.

Example: Workforce = 10 million, number unemployed = 0.5 million

Therefore:

$$\text{Unemployment rate} = \frac{0.5 \text{ million}}{10 \text{ million}} \times 100 = 5\%$$

a Workforce = 1 million, number unemployed = 50,000

b Workforce = 20 million, number unemployed = 1.5 million

c Workforce = 32 million, number unemployed = 4 million

We can analyse unemployment figures over time, but we must be careful not to assume that the rate and the level of unemployment always move in the same direction. They may not, as shown in the second example below.

If a country has a working population of 30 million people and 3 million are unemployed, then the unemployment rate is:

$$\frac{3 \text{ million}}{30 \text{ million}} \times 100 = 10\%$$

If the unemployment level falls to 2 million, the unemployment rate becomes:

$$\frac{2 \text{ million}}{30 \text{ million}} \times 100 = 6.67\%$$

Both the level and rate of unemployment have fallen.

The above example assumed the working population stayed at 30 million. However, the size of the working population is likely to change over time. Let us assume a country's unemployment rate fell from 10% to 9% over 10 years. It would be incorrect to assume that this means unemployment levels are lower. This is illustrated in the next example.

Year 2007 working population = 50 million

Level of unemployment = 5 million; rate of unemployment = 10%

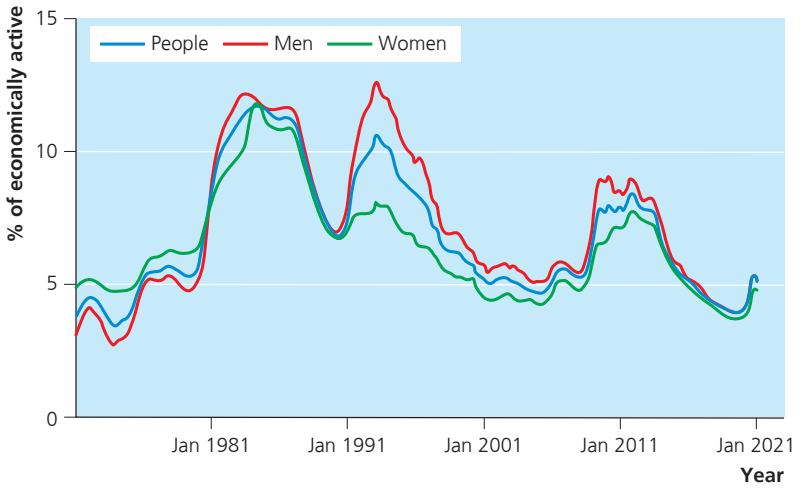
Year 2017 working population = 60 million

Level of unemployment = 5.4 million; rate of unemployment = 9%

In this case, although the rate of unemployment has fallen, the level of unemployment has risen by 0.4 million people.

When we see data that show the rate of unemployment rising significantly over time, it is very likely that the economy is experiencing a slowdown in economic growth. It may even indicate a recession, where economic growth is negative. On the other hand, where data show significantly falling rates of unemployment over time, this could indicate that the economy is in a boom period with a healthy rate of economic growth.

Activity



Source: The National Archives, ONS. Contains public sector information licensed under the Open Government Licence v3.0

Figure 3.2.2 UK unemployment rates, 1975–2021

In small groups, practise analysing the data in Figure 3.2.2. Think how you would explain the patterns of change and look for the highest and lowest points. Research and explain possible reasons for these changes.

What are the causes and types of unemployment?

Economists often identify four different categories when trying to explain why there is unemployment: seasonal, frictional, structural and cyclical unemployment.

Seasonal unemployment

Seasonal unemployment is caused by seasonal workers not being employed outside of a particular time of year. One of the best examples in the UK is the tourist industry. Coastal resorts tend to employ many workers in the summer months only. For example, UK holiday parks employ receptionists, cleaners, entertainers, catering, bar staff and so on. Many of these parks close in the winter season and the workers may be seasonally unemployed.

Frictional unemployment

Frictional unemployment comes about when workers leave their jobs but do not start new jobs straight away. This means there are time lags between employments. There will always be frictional unemployment because it takes time for the labour market to match job vacancies to those who are looking for work. Frictional unemployment is short-term unemployment and is necessary rather than a problem in the economy.

Key terms

Seasonal unemployment
Lack of employment caused by a fall in demand during a particular season.

Frictional unemployment
Lack of employment caused by time lags when workers move between jobs.

Jobcentre Plus offices try to help the unemployed

Structural unemployment

Structural unemployment is caused by decline in an industry. The demand for the products of some industries may fall permanently, so the industry contracts or closes entirely and leaves behind unemployed workers. This is a long-term type of unemployment, which can cause problems within the economy. The workers are often occupationally immobile, which means they find it difficult to move to a different occupation. This is because job vacancies often require different skills from the workers' old jobs, so it takes time for the workers to obtain the necessary abilities for the new jobs, for example by retraining.

Often the industries that have declined are located in particular locations where new jobs are scarce. The workers are often geographically immobile, which means they find it difficult to move areas to gain new jobs.

Cyclical unemployment

A fall in total demand in the economy leads to **cyclical unemployment**. This is sometimes called demand-deficient unemployment because there is not enough demand to keep all workers in jobs. As the demand for goods and services falls, fewer workers are required to produce the output. To make matters worse, these unemployed now have lower incomes themselves, so they in turn will spend less. Therefore, producers cut back on their production, so will need fewer workers.

This could become a vicious circle, with demand, output, employment and incomes continuing to fall. It could lead to very high levels of unemployment, sometimes known as mass unemployment.

Other types of unemployment

There are other types of unemployment not included in the GCSE specification. For instance, voluntary unemployment is caused by people choosing not to work. Another increasingly mentioned type of unemployment is technological unemployment, which occurs when modern technology means that fewer workers are required to produce a given amount of output.

Key terms

Structural unemployment
Unemployment caused by a permanent decline of an industry or industries.

Cyclical unemployment
Lack of employment caused by a lack of demand in the economy.

The types of unemployment with examples are listed in Table 3.2.1.

Table 3.2.1 Types of unemployment and examples of their causes

Type of unemployment	Examples of causes
Seasonal	Seaside hotels close for the winter period. Agricultural workers may not be required outside the planting and harvesting seasons.
Frictional	A national chain of shops closes down. The unemployed workers will be able to find work elsewhere such as other shops, but it takes time for them to do so.
Structural	A coal mine closes down. The workers have specific skills which are not required in other industries, so they find it very difficult to gain employment elsewhere.
Cyclical	The economy enters a period of lower economic growth, or even a period of negative economic growth, known as a recession. Total demand for goods and services falls, so fewer workers are required to produce output.

Evaluating the causes of unemployment

It can be difficult to pinpoint a single cause or type of unemployment. It is useful to remember this when you are asked to evaluate the causes of unemployment. So, for example, the cause of workers' unemployment might be that they have skills that are no longer needed – a case of structural unemployment. However, the situation might be made worse when the economy is in a recession and producing less, and this would qualify as cyclical unemployment. It may be that different causes have a more significant impact on workers, such as the likely duration of their unemployment. This is particularly important when you learn about possible government policies aimed at unemployment in Topics 3.5, 3.6 and 3.7. Understanding the causes is vital when evaluating policies to improve the economic situation.

When you are faced with a particular unemployment case study, you should be able to recognise which types of unemployment are relevant, and analyse and evaluate the causes.

Now test yourself

2 Which of the following statements are true and which are false?

- **a** Seasonal unemployment is due to a fall in demand for particular goods and services at different times of the year.
- **b** Frictional unemployment includes where school leavers take time to find their first job.
- **c** Cyclical unemployment is where there is a lack of demand during a particular season.
- **d** Structural unemployment is due to a fall in demand for a specific industry, resulting in its permanent decline.
- **e** Technological unemployment includes where workers are replaced by machines in the production process.

Evaluate this

Evaluate the causes of unemployment.

Using the information in this topic and your own knowledge, use chains of reasoning to explain potential causes of unemployment before evaluating their likelihood or importance and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Activity

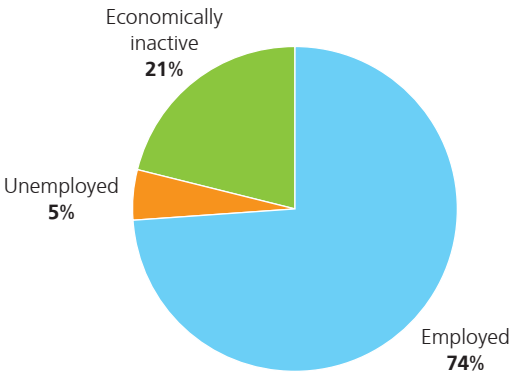


Figure 3.2.3 Employment, unemployment and economic inactivity of 16–64-year-olds in the UK, May 2021

Split into small groups to complete the following:

1. Practise explaining the meaning of the three groups mentioned in Figure 3.2.3.
2. Why do you think the age range of 16–64-year-olds has been used?
3. Explain to each other how people may become discouraged workers.
4. It is often thought that employment leads to a higher standard of living than unemployment. Think of reasons why this may not be true.

Evaluating the consequences of unemployment

Unemployment has many effects on the economy and the people within it, which are considered below.

The benefits of unemployment

Are there any benefits of unemployment? Generally, unemployment is thought to be very harmful to an economy, but there can be some benefits:

- You have seen above that an economy needs to have some frictional unemployment as workers move between jobs. This includes workers who quit their jobs to seek other jobs that they might prefer, possibly with better pay. It can show that workers are positive about the state of the economy if they choose to give up their existing job with some confidence they will find another. Each worker is unemployed only for a short period of time as there are time lags between finishing one job and starting another. It can be a positive as it means workers are available to fill vacancies in other areas, which means an economy can be more flexible at matching what it produces to fluctuating demand for goods and services.

- If there is a lot of unemployment, this keeps wage rates down. This may be a disadvantage to the workers, but for firms it can be seen as a benefit. As the unemployed workers are competing for the jobs, the firms do not have to raise the wage rate to attract them (see Topic 2.7).
- As wage rates are kept down, this makes costs lower and firms are more internationally competitive. This may help them to compete with firms producing in other countries. For example, if UK firms become more competitive, it can help their sales in both the UK and overseas markets.

The costs of unemployment

The consequences of unemployment are mostly unfavourable and can bring great costs to the economy.

Costs to individuals

Costs to individuals may include the following:

- Lower living standards: when workers lose their jobs, they lose the wages that go with them. In the UK there is a system of state benefits that provides an income for the unemployed (see Topic 3.5). However, the income from benefits may be much less than the previous wage. This can cause hardship for the individual workers and their families. Their standard of living falls as they can buy fewer goods and services than before.
- Other problems for individuals: as well as lower living standards, the unemployed individual may also suffer from a loss of status and self-esteem, and this can lead to relationship breakdowns within families.
- Excluded workers: it is possible that some workers are unemployed for such a long time that they become unemployable. Employers are reluctant to give these people employment, as they have no recent experience of work, so become excluded from the workforce. As they cannot find a business willing to employ them, they eventually give up looking for work altogether.
- Costs to taxpayers: the unemployed are entitled to state benefits such as universal credit. As the level of unemployment increases, more unemployment-related benefits will have to be paid out, so one way the government may raise the revenue to support this is by increasing direct taxes for those still in work (see Topic 3.5).

Costs to the government

Government costs may include the following:

- Labour resources are wasted: the economy is at full capacity when it is using all its factors of production, so there are no idle resources. When labour is unemployed this means that the economy could produce more goods and services than it is producing. This is a waste of labour resources.
- Unemployment leads to more unemployment: this is cyclical unemployment. This can be a major problem for an economy and is associated with a recession (see Topic 3.1). As total spending in the economy falls, the demand for workers falls and unemployment continues to rise. The government will have to introduce policies to try to break this cycle (see Topic 3.5). It leads to increasing costs of unemployment-related benefits.

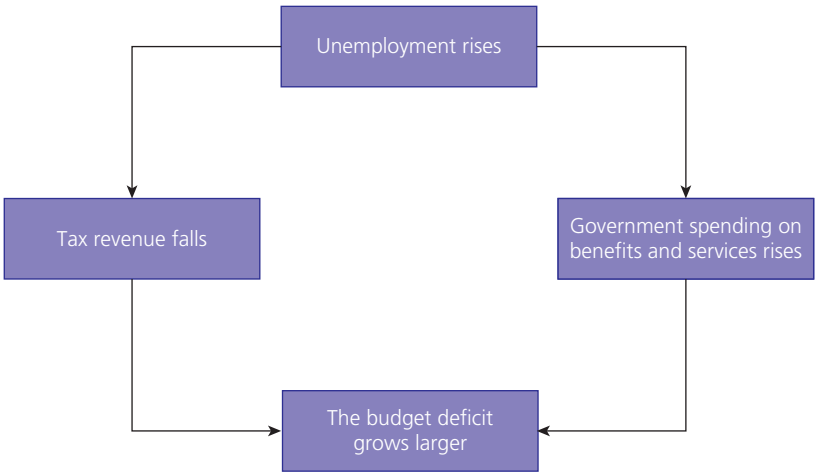


Figure 3.2.4 Consequences of unemployment on the budget deficit

- A budget deficit (see Figure 3.2.4): this is a situation in which the government spends more than it receives in tax revenue (see Topic 3.5). As unemployment increases, a government has to spend more on unemployment-related benefits and loses tax revenue from workers. When workers become unemployed, they pay less income tax and national insurance contributions. As benefits are likely to be lower than wages, the unemployed also have less to spend than before, so total consumer spending in the economy falls, and the government receives even less tax revenue, for example in the form of VAT (see Topic 3.5). Therefore, with more government spending and less tax revenue, the government's budget is likely to become a larger deficit or smaller surplus than before.

Costs to the regions

Empty or boarded-up retailers are often a consequence of unemployment in depressed regions

Costs to the regions may include the following:

- Unemployment is often spread unevenly throughout the country; some areas tend to suffer much higher rates of unemployment than others. For example, some parts of the country were hit particularly hard when the steel industry declined. These may

become 'depressed areas', where unemployment is well above the national average and the lack of demand leads to even more unemployment.

- The situation may encourage people to move away from that area and it becomes even more 'depressed' as the local population declines. Homeowners may find that the value of their properties fall and more local shops and services close as demand falls.

Case study

What is the future for jobs in the UK car industry?

In July 2021, the Honda factory in Swindon closed after 35 years of manufacturing. This meant unemployment for the 3,000 people who worked there. It also led to other local producers who supplied Honda making cuts of around 1,800 jobs. Over time, the closure is expected to have major adverse effects on the local region.

Since the Honda factory's opening and the decision to use the UK as a base to access European sales, the car market has changed significantly. Sales growth for Honda has slowed across Europe, while it has continued in the USA and Japan. It has also been necessary to reconsider sites as significant investment is needed to build production facilities that can make electric cars. At the point of making the decision to close the Honda plant, there was still uncertainty over how easy it would be to trade with the European Union after the UK's departure.

Follow-up questions

1. Using the information here and your own research, find reasons for the problems for car manufacturing in the UK.
2. Explain ways that this closure could have 'major adverse effects on the local region'.
3. Research the car manufacturing industry online and consider if there are new possible opportunities for jobs over time and how this might impact individuals and the government in the UK.

Evaluate this

Evaluate the consequences of unemployment for the government.

Using the information in this topic and your own knowledge, use chains of reasoning to explain how unemployment may impact government before evaluating their likelihood and coming to a judgement. The type of unemployment or the state of the economy may be useful additional points to consider.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification. Questions may also apply to individuals and regions.

How is a high level of employment achieved?

As unemployment causes serious problems for the economy and its citizens, achieving a high level of employment and a low level of unemployment are major aims of government policies. How the government attempts to achieve these aims is considered in Topics 3.5, 3.6 and 3.7.

Extension material

Trouble on the UK's high streets

Since the first lockdown in March 2020, many stores have closed on the UK's high streets. Significantly, the Arcadia Group collapsed in November 2020. It sold many parts of its business to online retailers, such as Asos, but was unable to find anyone to take on its stores, which had employed more than 13,000 workers. Although some of these brands can now be bought on the internet, this has marked the end of many well-known names on the high street, such as Topshop, Miss Selfridge, Dorothy Perkins and Burton.

1 Suggest possible reasons for brands such as Topshop and Miss Selfridge failing as high street businesses in the UK.

2 Discuss the consequences of the Arcadia Group collapsing for the workers themselves and the UK economy as a whole.

3 What do you think the future is for the UK's high streets?

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by employment
- explain what is meant by unemployment
- explain how unemployment is measured using the Claimant Count
- calculate the unemployment rate
- analyse recent and historical unemployment figures
- explain the types of unemployment
- explain cyclical unemployment
- explain frictional unemployment
- explain seasonal unemployment
- explain structural unemployment
- evaluate the causes of unemployment for individuals, regions and the government
- evaluate the consequences of unemployment for individuals, regions and the government

Topic 3.3
Fair distribution of income

Learning outcomes

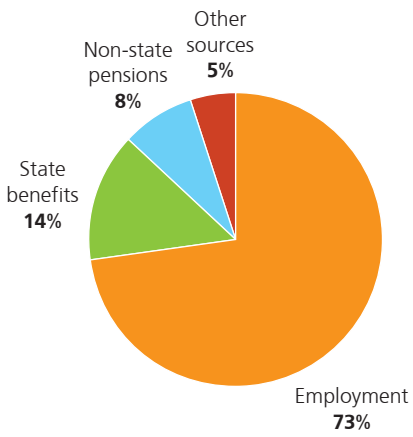
After studying this topic, you should be able to:

- explain what is meant by the distribution of income, including different types of income and the difference between income and wealth
- calculate income and wealth
- evaluate the causes of differences in the distribution of income and wealth and the consequences for an economy

Key terms

Distribution of income How incomes are shared out between individuals and households.

Income The reward for the service provided by a factor of production, including labour.



Source: Department for Work and Pensions, *Family Resources Survey 2018/19*

Figure 3.3.1 The different types of income in the UK, 2018/19

What is the distribution of income?

The **distribution of income** refers to how the total incomes of the economy are shared out among its people. As it is not shared out equally, there is an uneven distribution of income. Some individuals and households have low incomes while others have much higher incomes. This is called inequality of income.

Different types of income

There is a range of sources of **income** for an individual in the UK (see Figure 3.3.1).

Wages

Most households receive income in the form of wages. Therefore, the reason why many people have different incomes is that they have different jobs that pay different wages. You have seen in Topic 2.7 that occupations with a relatively low supply of workers together with a high demand for those workers will pay a high wage. On the other hand, you saw that those workers in occupations with a low demand and a high supply will only receive a low wage.

Workers in a very skilled job will tend to have a high wage because there is a limited supply of people with those skills. This applies to occupations such as airline pilots and surgeons. Meanwhile, those in unskilled jobs, for which there is a high supply of workers, tend to receive low pay as many people could do these jobs. This is the case for supermarket and catering workers. Some of these jobs may pay the national minimum wage (NMW) or the national living wage (NLW).

Rent

The owners of land and property can gain an income from rent. This is the reward for letting others live or work in the owner's property. In the UK there are many buy-to-let landlords. They have bought houses, flats and other accommodation in order to let them out and receive rent as an income. Farming land is often rented from large landowners.

Interest

Interest is often defined as the reward for saving. It can also be considered the reward for lending. People who hold the liquid asset known as money can earn an income from it – for example, by putting it into an account at a financial institution, such as a bank or building society. The institution will in turn lend out this money (see Topic 2.8).

Profit

Profit is the reward for enterprise. As you saw in Topic 1.1, enterprise is the factor of production that organises the other factors of production and takes the risks in order to make a profit. A share in a company is a share in the company's ownership. This entitles the shareholder to a share of the profits, and these shares of the company profits are known as dividends.

State benefits

Some people may have no job at all and rely on state benefits for their income. This may be true of some unemployed people who receive benefits through the government's universal credit system. There are many pensioners who rely on the state pension for their income. Other state benefits include child benefit, housing benefit and disability living allowance. These are incomes for those who receive them, but they do not represent any output produced. They are called transfer payments because the government has transferred money received in taxes to provide incomes to the benefit recipients.

Now test yourself

1 Consider Table 3.3.1 and answer the questions that follow.

- **a** Calculate the difference between the average gross weekly pay of an aircraft pilot and that of a hairdresser. Show your workings.
- **b** Calculate the length of time a bar worker would have to work to receive the same income as Lewis Hamilton earns in one week. Show your workings.
- **c** Calculate how long Raheem Sterling would have to work to earn £1 million. Show your workings.
- **d** Explain why Lewis Hamilton can earn such a high wage.

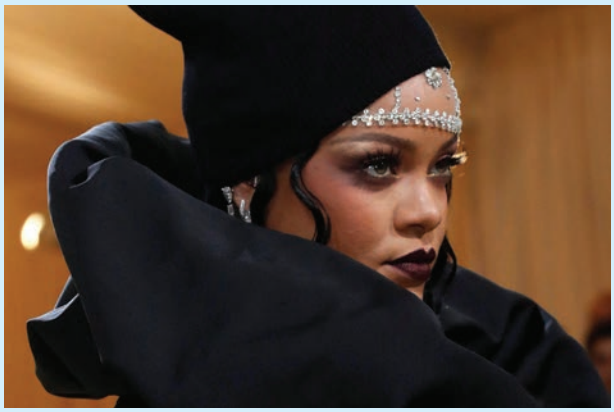
Table 3.3.1 The average wage in selected occupations in the UK, 2019

Occupation	Average gross weekly pay (£)
Lewis Hamilton, Formula 1 driver	770,000 (approx.)
Raheem Sterling, footballer	300,000 (approx.)
Sam Smith, musician	154,000 (approx.)
Company chief executives	1,876
Aircraft pilots	1,594
Doctors	1,250
Solicitors	920
Secondary school teachers	691
Nurses	584
Nursery nurses and assistants	285
Hairdressers	209
Checkout operators	197
Cleaners	196
Bar workers	173

Source: ONS

Case study

Rihanna



Rihanna, the world's richest female musician

In 2020, Rihanna became the richest female singer in the UK. The *Sunday Times* Rich List calculated her wealth at £468 million. At this valuation, she was also the richest female musician in the world!

Since her first single at the age of 17, Rihanna has sold over 250 million records, making her one of the bestselling recording artists of all time. Rihanna continues to receive royalties from her music, but she has had a significant gap in both recording and touring since releasing her 2016 album.

Some of her wealth is in the form of houses that she owns in Los Angeles, Barbados, Hollywood and Beverly Hills. However, since 2017, Rihanna has significantly added to her income and wealth by building a fashion empire. She has successfully worked with the luxury brand Louis Vuitton Moet Henessey (LVMH), launching a cosmetics brand and various fashion lines. Her products are often promoted through social media, where the celebrity has over 80 million Instagram followers.

Follow-up questions

1. Make two separate lists of examples of Rihanna's income and wealth.
2. Do you think it was a good idea for Rihanna to diversify into fashion? Justify your answer.
3. Suggest reasons why Rihanna may have chosen to hold some of her wealth in the form of houses.

Key term

Wealth The market value of all the assets owned by a person, group or country at a specific point in time. Wealth is a stock of assets, e.g. money, houses and land, whereas income is a flow over time.

Study tip

It is important to use the terms 'income' and 'wealth' correctly. Note that wealth is a stock of assets that can generate income for their owners. You have seen that assets in the form of property, money and company shares in turn generate the incomes of rent, interest and dividends for their owners. Therefore, people with a lot of wealth do tend also to have high incomes.

What is the difference between income and wealth?

Income is a flow over time. For example, workers might receive a weekly wage or a monthly salary. They are receiving their income over time in return for the labour services they perform. Often, jobs are advertised as offering a given wage rate per hour. The NMW and NLW are both expressed as a rate per hour. As a student, your income may come in the form of a parental allowance or wage from a part-time job.

Wealth, on the other hand, can be measured at a point in time. Wealth is a stock of assets, and these assets can be given a monetary value. Therefore, we can calculate how wealthy an individual person or household is. In the UK, about half of all households own the home that they live in. This may be the main part of their wealth. Other material possessions, such as a car, furniture, appliances and electrical goods, are also part of their wealth, as well as savings, for example in a bank or a pension scheme.

Some people have wealth in the form of assets that can earn them incomes, for example rent, interest and/or dividends.

How do we calculate income and wealth?

The Now test yourself calculations below will test whether you can successfully distinguish between income and wealth.

Now test yourself

2 Anya and Jay live in a two-person household. Table 3.3.2 shows the values of their income and wealth, but it does not tell us which items are income and which are wealth.

a Calculate the value of the household income. Show your workings.

b Calculate the value of the household wealth. Show your workings.

Table 3.3.2 Income or wealth?

	Value (£)
Anya's salary	25,000
Anya's jewellery	3,000
Jay's wage	18,000
Jay's car	7,500
Their furniture, furnishings and appliances	10,000
Their joint bank account	4,250
Interest on their savings	50
Anya's pension fund	30,000
Profits from a book that Jay wrote	750

How is income distributed in the UK?

The distribution of income refers to how income is shared out between individuals and households. The UK has a high level of inequality of income. In fact, inequality is higher in the UK than in many other developed countries.

We need to distinguish between **gross income** and **net income**. Gross income is that which is received before any taxes are taken or benefits given. Net income is the income available after the effect of direct taxes and benefits.

Inequality in household incomes in the UK has stayed at a similar level since the early 1990s but is higher than during the 1960s and 1970s. In 2018/19, 42% of all net household income in the UK went to the 20% of richest people, while 7% went to the poorest 20%.

Key terms

Gross income Income received before any taxes are taken or benefits given.

Net income Income available after the effect of direct taxes and benefits, often called disposable income.

Activity

Figure 3.3.2 shows inequalities of incomes in the UK, with the population divided into fifths. Use the data to explain how incomes are distributed among households in the UK.

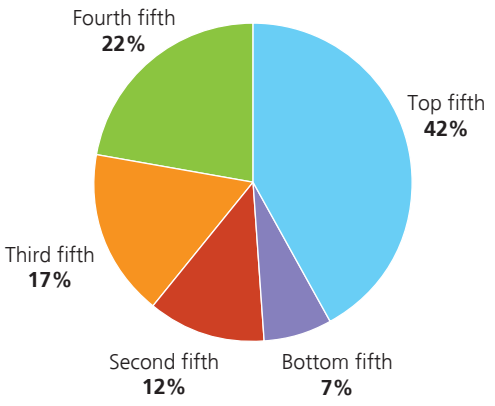


Figure 3.3.2 The distribution of net income in the UK by fifths of population, 2019

Source: ONS

Evaluating why income is unevenly distributed in the UK

There are several reasons why income is distributed unevenly in the UK.

Income-earning assets are distributed unevenly

You have seen above that there are four types of factor incomes:

- wages
- rent
- interest
- profit

One of the reasons why incomes are distributed unevenly in the UK is that not all people and households receive all these incomes. In fact, many households receive little or no rent, interest or profit at all because they do not have any land, capital or enterprise.

Assets are not income. They are the part of the wealth (see below) of their owners, which can generate income for them. Assets in the form of property, money and company shares generate the incomes of rent, interest and dividends for their owners. Therefore, people with a lot of assets tend to have high incomes.

Differences in wages

Most households in the UK receive income in the form of wages. People are workers, and they sell their labour services in return for a wage. However, there are great differences in the wages different households receive. In Topic 2.7 you saw that the wage rate in labour markets is determined by the demand for and supply of labour in each market. In the UK many workers may just be paid the NMW or NLW, while people in other occupations receive many times more than this.

Reliance on benefits

Some households receive no income from wages, interest, rent or profits. These are the poorest households in the UK. They include:

- pensioners who receive only a state pension
- households that rely on other state benefits (such as universal credit or jobseeker's allowance)
- those with disabilities who rely on disability-related allowances

Unemployment can be considered a cause of unequal income distribution. Instead of earning an income in the form of wages, unemployed workers have to rely on state benefits, which are lower than the average wage.

Age

The younger and older age groups have lower average incomes than those in the middle. Young adults have not had time to work their way up the pay scale, while those in the older age groups have often retired from working.

Equal pay demonstration

Gender

The average income of females is lower than that of males. In the UK, there is equal pay for equal work by law, but still the average income of females is lower. A reason given for this is that many women take time out from their careers to have and raise children, although it may also be due in part to (illegal) gender discrimination.

In 2020, the gender pay gap was 7.4% for full-time employees.

Activity

Table 3.3.3 shows six countries and the percentage of income held by the richest and poorest 20% of the population in each country.

Table 3.3.3 The percentage of income held by the richest and poorest 20% in six countries

Country	% of income held by richest 20%	% of income held by poorest 20%
Argentina	48	5
Brazil	58	3
Russia	45	7
South Africa	68	2
UK	42	7
USA	47	5

Source: World Bank

1 Rank the six countries according to inequality of income, from the most unequal to the least unequal distribution.

2 Consider how you might explain differences between the lifestyles of the richest 20% of the population in Brazil and the poorest 20%.

What is the distribution of wealth?

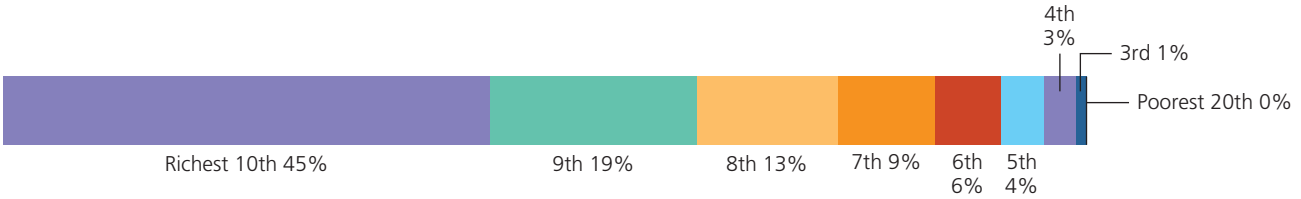
The **distribution of wealth** is how the total wealth of the country is shared out among the people of the country. It is not shared out equally, so there is an uneven distribution of wealth. Some individuals and households have more wealth than others. This is also called inequality of wealth.

Key term

Distribution of wealth How wealth is shared out between individuals and households.

How is wealth distributed in the UK?

Wealth in the UK is in fact more unequally divided than income. Figure 3.3.3 shows that the poorest 20% are recorded as having almost no wealth at all. This means that any assets they own have little or no value. On the other hand, the richest tenth of the population have 45% of all the wealth. The richest 20% have 64% and the richest 30% have 76% of the wealth. This leaves the bulk of the population, 70%, with just 24% of the country's wealth.



Note: figures are rounded to the nearest 1%.

Source: ONS

Figure 3.3.3 How wealth was shared in the UK by tenths of population, 2016–18

Evaluating why wealth is unevenly distributed in the UK

Let us assume for a moment that everyone received the same income for a period of time, such as 5 years. At the end of that period it is fairly certain that some people will be richer than others.

Let us assume four groups of people as follows:

- People in Group 1 spend all their income each month over the 5 years, on consumer goods such as televisions and cars, and services such as holidays. At the end of the period they have a little wealth in the form of their car, television etc.
- People in Group 2 spend some of their income on consumer goods and services but also save a proportion in the bank each year. At the end of the period they are wealthier than Group 1, as they have some savings.
- People in Group 3 also spend some of their income on consumer goods and services but use some of their income as a deposit to buy a house. The house is an asset, which may rise considerably in value over time, making them wealthier than Groups 1 and 2.
- People in Group 4 also spend some of their income on consumer goods and services but decide to invest some of their income into businesses. They might start their own business. If successful, this business could become a significantly valuable asset, which increases their wealth.

This example assumes everyone started off equally, but at the end of the period you can see that there was inequality of wealth. The longer the period of time, the greater the inequalities are likely to become.

The main reasons why wealth is distributed unevenly are summarised below.

Inheritance

In the UK, some individuals and families have considerable assets. Indeed, as you have seen, the richest 10% have 45% of all the wealth. This inequality can continue through inheritance. The wealthy can pass down their assets through the generations. Meanwhile, the poor have no assets to pass on.

The stately home Chatsworth House, Derbyshire, has been an asset of the Cavendish family since 1549

Study tip

Look carefully at any question on this topic to see if it is asking about the distribution of income or wealth. You must not confuse the two. Wealth in certain forms can generate income (such as a piece of land earning rent), but remember that wealth and income are different concepts: income is a flow over time, while wealth is a stock of assets at any one time.

Savings

You saw in the example above that by saving over time people can build up their wealth. Savings can earn interest, which can in turn be added to the savings and help to build up wealth. On the other hand, some people may have no savings at all. For low-income households, once all the necessities have been bought, there is no money left for saving.

Purchase of property

All forms of property are considered wealth. Some property will earn income for its owners, and this income could be used to buy more property and build further wealth. Some people own houses that they rent out to others (buy-to-let landlords). These houses are their holding of wealth. Other property may be in the form of commercial premises and agricultural land.

Another type of property is company shares. A share is a part of the ownership of a company. People may buy shares in a company that later rise in price, so their wealth increases.

Many households own their own home, which gives them a certain amount of wealth. Other households, however, do not own their own home and have very little wealth.

Enterprise

Some people may have built up wealth through their own enterprise. They have put an idea into practice and it has proved very successful. They may have built up a business from scratch, which over time becomes worth millions of pounds. This was the case, for example, for Richard Branson, who started with one Virgin record shop and is now the head of an enormous multinational business. His wealth in 2021 was estimated to be over £3.79 billion.

Activity

Produce a simple table to summarise the causes of differences in the distribution of income and wealth.

Now test yourself

3 Identify whether these examples link primarily to a potential cause of an income gap or a wealth gap between each pair of individuals.

- **a** Ibrahim owns a holiday home in Spain, whereas Tom owns no property.
- **b** The interest rate on Arthur's savings account rises, whereas Toby's interest rate stays the same.
- **c** Dua's wage rate increases for driving a delivery vehicle, whereas Emily's falls for her work in an airport.
- **d** Aisha inherits a house from her grandmother, whereas Harper's grandparents rented their house.
- **e** Oliver is 40 and has worked for the same business for 20 years. John has just started and is on a lower salary than Oliver.

Evaluate this

Evaluate the causes of differences in the distribution of wealth.

Using the information in this topic and your own knowledge, use chains of reasoning to explain how potential causes link to differences in the distribution of wealth before evaluating the likelihood of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Case study

Sri and Gopi Hinduja

The two Hinduja brothers were valued as the third richest men in the UK in 2021 by the *Sunday Times*. They live in a luxury house with more than 30 bedrooms near Buckingham Palace in London. The purchase price of the house was £58 million and, after restoration, it is now worth over £250 million. The brothers own a large share of the Hinduja Group, which is a huge multinational business. They also have stakes in other businesses, including banking and cable television. They have bought the former War Office in Whitehall, London, for £300 million to convert it into a grand hotel.

Follow-up questions

1. Identify different assets that form the wealth of the Hinduja brothers.
2. Think of ways that the Hinduja brothers may be able to earn income from their assets and how you might explain this.
3. Think of any negatives linked to having this level and these types of wealth that could have a financial impact on the brothers.

Evaluating the consequences of differences in income and wealth for an economy

You have seen above that there are large differences in the distribution of both income and wealth in the UK. Other countries have even larger differences. These differences have consequences for the economy, some of which will be considered here.

Poverty and deprivation

Some people may be very poor indeed. In the UK, they may be homeless and not claiming benefits, so they are not guaranteed a minimum standard of living. Such absolute poverty can be much more widespread in less developed countries, where the governments cannot afford to have a comprehensive system of social protection benefits.

Relative poverty is where people's standard of living is considerably lower than the typical living standards in that society. The poverty line is an agreed international measure whereby those with less than 60% of average income are classified as poor. With regard to material possessions, poor families are not able to afford certain things that most people in the UK do possess, or are unable to replace worn-out items.

In less developed countries, the poorest people often suffer from deprivation. They have very few possessions at all. They may not have

access to the clean water, toilets, electricity and other services that people in developed countries such as the UK take for granted.

Poor housing

In the UK, some people live in mansions worth millions of pounds. Middle-income households can often afford to buy their own homes. Low-income households may have to rent accommodation. In some cases, rented accommodation may be of a poor standard.

In less developed countries, the poorest people often live in shanty towns, which can lack basic services such as sanitation and electricity.

Poor conditions for poor people, a consequence of inequality

Poor health

There is a relationship between inequality and health. The poorest in society are more likely to suffer ill health, and their life expectancy on average is lower than the general population. Reasons include a less healthy diet and lifestyle.

Poor people in less developed countries have a much lower life expectancy than the average person in a developed country such as the UK. Also, infant mortality rates are much higher in less developed countries, which means a lower proportion of young children survive.

Inequality of opportunity

Often the poorest in society live in areas where the standard of services such as education is lower than the national average. If poor families receive a substandard education, they are likely to remain poor. There is not equality of opportunity among the population, so it is very difficult for families to lift themselves out of poverty.

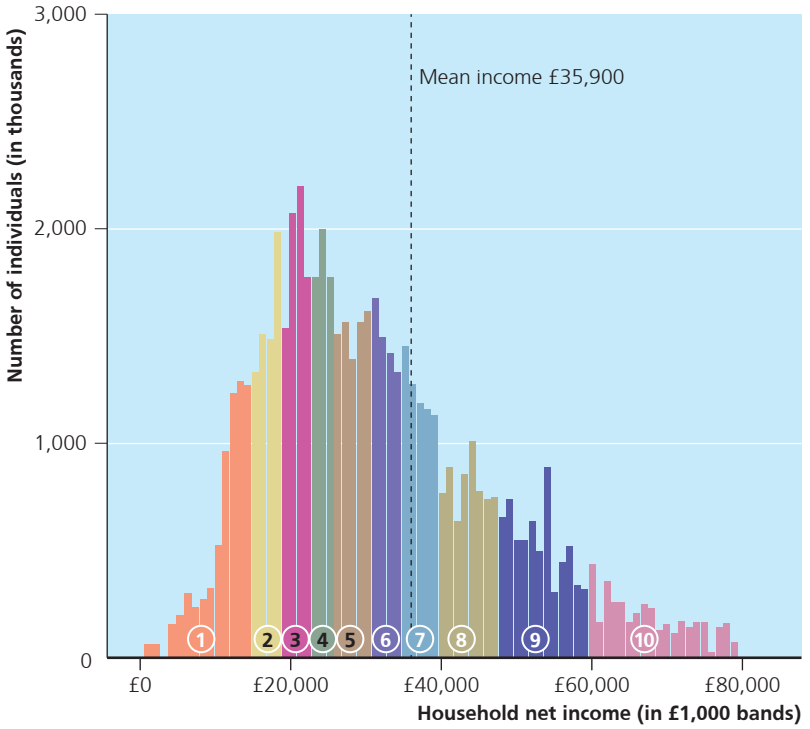
In less developed countries, the state provision of education may be particularly poor due to a lack of resources. Those families who can afford to pay for private education are likely to maintain greater incomes in the future, while the poor remain poor.

Activity

Consider the jobs advertised in your local newspaper. Make a list of a selection of 10 jobs with the wage rate (or annual pay) if available.

From your research, would you conclude that there are many opportunities for a well-paid job in your local area?

Activity



Source: ONS

Figure 3.3.4 How household net income is shared between UK households by tenths of the population, 2019

Figure 3.3.4 shows how net income is distributed between households in the UK. Net income is income available for spending after direct taxes have been deducted and government benefits added.

In groups, discuss the consequences for the economy of the distribution of net income shown in Figure 3.3.4.

Evaluate this

Evaluate the consequences for the economy of differences in the distribution of income.

Using the information in this topic and your own knowledge, use chains of reasoning to explain the likely consequences of differences in the distribution of income before evaluating the likelihood of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Extension material

To find out more about the distribution of income and wealth:

1 Research online and read the latest Family Resources Survey from the Department for Work and Pensions. This is a rich resource with data that can both cause and come from differences in distribution of income. The data are presented in lots of different ways, which is useful for developing your quantitative skills.

2 Research online the Gini coefficient – this is a measure that is used internationally to compare income inequality.

3 Go to **www.oecd.org** and search for 'Income inequality' data to compare figures over time for different countries.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by different types of income
- explain what is meant by the distribution of income
- explain the difference between income and wealth
- calculate income and wealth
- evaluate the causes of differences in the distribution of income and wealth
- evaluate the consequences for an economy of differences in the distribution of income and wealth

Topic 3.4
Price stability

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by price stability and inflation, including the difference between real and nominal values
- explain how inflation is measured using the Consumer Price Index (CPI)
- calculate the effect of inflation on prices
- analyse recent and historical inflation figures
- evaluate the causes of inflation and the consequences for consumers, producers, savers and the government

Key terms

Price stability When the general level of prices stays constant over time, or grows at an acceptably low rate.

Inflation A sustained rise in the general price level over time.

Cost of living The price level of goods and services bought (by the average family).

A typical trolley of goods may cost considerably more after a few years of inflation

What are price stability and inflation?

To understand **price stability** and **inflation**, we first need to familiarise ourselves with the general price level. The general price level is the measure of overall prices of goods and services in an economy at a particular point of time. It is often expressed as an index (see later in this topic).

Price stability occurs when the general price level stays constant over time. For example, if an economy has a general price level index of 100 on 1 January 2022 and still has an index of 100 on 1 January 2023, then over the year that economy has experienced price stability. In practice, if the price level grows at an acceptably low rate over time, this is also considered as price stability.

Inflation is a sustained rise in the general price level in an economy over time. This means that prices as a whole, on average, rise over time. Note that it is possible during a period of inflation that the prices of some individual items fall. For example, in the UK, while inflation was positive, the prices of some goods such as flat-screen televisions and DVD players were falling.

When the price level of goods and services that consumers buy rises, this means that their money will not purchase as much as before. Therefore, inflation could also be defined as a fall in the purchasing power of money. It now costs consumers more to buy the same goods and services as before, so that the **cost of living** has gone up. For example, £100 buys a certain quantity of goods and services on 1 January 2022. If £103 is required to buy the same products on 1 January 2023, then the purchasing power of the £100 has fallen: it can no longer buy all the products.

Activity

Table 3.4.1 Prices of a selection of items in two consecutive years

Item	Price (£)	
	Year 1	Year 2
Pringles, tube	2.50	2.70
Own-brand hummus crisps	1.00	1.10
Bus ride to town	2.00	2.50
Mars bar × 2	1.00	1.20
Own-brand chocolate bar × 5	1.00	1.00
Tropicana orange juice, small	1.00	1.20
Own-brand fresh orange, large bottle	1.00	1.00
Magazine	2.00	2.50
Takeaway taco	2.50	3.00
Fresh fruit	1.00	1.10

1 Assume you have a fixed budget of £10 a week in both years.
   a Choose what you would buy with £10 in Year 1.
   b Choose what you would buy with £10 in Year 2.
2 Discuss in small groups how your standard of living would have changed.

What is the rate of inflation?

The **rate of inflation** is the percentage rise in the general level of prices over time. It is usually expressed as an annual rate of inflation. For example, if an economy has had a 4% increase in the general level of prices over time, the rate of inflation is 4%.

Can the rate of inflation be negative?

Inflation can be negative. In this situation, the general price level falls over time. This has happened in some economies at various times. One example is Japan, which saw the price level falling for most of the years between 1998 and 2013.

Negative inflation is unusual in the UK economy but has occurred in recent times, including September and October 2015.

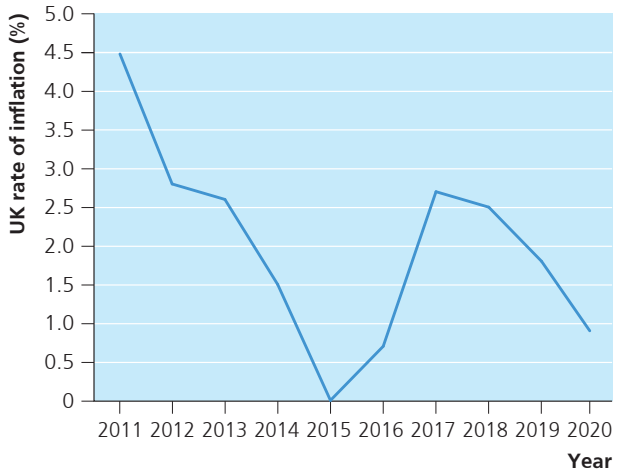
Key term

Rate of inflation The percentage rise in the general price level over time.

Study tip

Inflation always refers to the general price level rising. If the price of a specific good or service rises (e.g. the price of a new electric car, a chocolate bar or a holiday), this in itself is not referred to as inflation.

Now test yourself



Source: ONS

Figure 3.4.1 The UK's rate of inflation, 2011–20 (percentage change over 12 months)

1 Use Figure 3.4.1 to answer the following questions:
   - a Which year had the highest rate of inflation?
   - b Which year had the lowest rate of inflation?
   - c Explain what happened to the general price level between 2011 and 2020.
   - d Explain what happened to the general price level between 2015 and 2017.

What are real and nominal values?

It is important for economists to distinguish between real and nominal values. A nominal value is the value of something in money terms. For example, a worker's nominal wage is the wage expressed as a monetary amount, such as £400 a week.

A real value takes inflation into account. So the real value of a worker's wage refers to the goods and services that can be bought with that wage.

Assume that a worker has a wage of £400 on 1 January 2021, and is able to buy £400 worth of goods and services. One year later, assume that this worker still has a wage of £400, but would need £420 to buy the same goods and services. The price level of the goods and services has risen by £20, which is 5%. In other words, there has been an inflation rate of 5%, so the worker's real wage has fallen and they are not able to buy as many goods and services as before. In other words, our worker would need a 5% rise in the money wage for the real wage to remain the same.

Now let us assume that our worker was given a pay rise during the period, so the money wage rose to £410 a week. While the nominal wage has risen, the real wage has still fallen, as the new wage would still not buy all the goods and services that the worker was able to buy before.

Economists therefore distinguish between real income and nominal income. This could be with regard to wages, as in the above example, or in relation to other incomes such as state benefits.

The real rate of interest therefore also takes inflation into account. If you have £100 savings for a year and earn 2% rate of interest, you receive £2 in nominal interest. However, if the inflation rate that year was 2%, you would need £102 just to buy the same goods and services as before, so your real rate of interest is zero.

You can see, therefore, that it is possible for the real rate of interest to be negative. If you earn 2% on your savings for a single year during which the inflation rate is 5%, your real rate of interest is (approximately) 2% – 5% = –3%.

Activity

Table 3.4.2 Prices of a selection of UK products

Item (UK average)	Price in 1970	Price now
Loaf of bread	9p	
Mars bar	2p	
Packet of crisps	2p	
Cinema ticket	45p	
Mini car	£600	
Average house	£4,975	

1. Use your own knowledge or research on the internet to find out the current average prices of the items, and complete the table.
2. The average wage in 1970 was £32 per week. Do you think people generally were better off in 1970 or now? Explain your answer.
3. Which items have risen the most in price in real terms? Suggest reasons for this.
4. Which items have risen the least in price in real terms? Suggest reasons for this.

In times of inflation, some goods and services will be increasing in price at a greater rate than the general price level. On the other hand, some other goods and services will rise in price at a lower rate than the average or may fall in price. This may be the case with electronic consumer goods, where improvements in technology mean that the price of these goods falls in real terms.

Extension material

Table 3.4.3 Comparing changes in nominal and real income

Original nominal income (£)	New nominal income (£)	% change in nominal income	Rate of inflation (%)	% change in real income
100	102	2	3	–1
100	105		3	
200	210		5	
300	315		4	
500	510		2	

Copy out and complete Table 3.4.3. With these examples, explain why the percentage change in real income is less than the percentage change in nominal income.

How is inflation measured?

We have referred to index numbers in the examples above. There are a number of indices that can be used to measure the rate of inflation, but we will look in particular at the **Consumer Price Index (CPI)**. Both the UK government and governments of other EU countries use the CPI as their official measure of the rate of inflation.

The government undertakes a survey to determine the goods and services that average UK families spend their money on. This is known as a 'basket' of goods and services. It records the prices of all the goods and services in this basket every month. This recording of prices is done

Key term

Consumer Price Index (CPI) Method used to calculate the rate of inflation.

at hundreds of different retail outlets in which families buy their goods and services, such as supermarkets, convenience stores, petrol stations, hairdressers, on the internet etc. These figures are recorded in the CPI. The CPI is given the number 100 at the start of the period and if prices rise in the next month this will be reflected in the index. For example, if the price of the goods and services in the 'basket' bought by the average family has risen by 2% overall, then the index rises to 102.

To make the CPI accurate, the government has to use a system called weighting. Each item in the 'basket' of goods and services is given a weight, which represents its importance in the total spending of the average family.

Case study

Negative inflation in the UK

In April 2015, the UK rate of inflation was –0.1%. This was the first time that inflation had been negative in the UK since 1960. Although inflation was negative in April 2015 compared with that month in 2014, earnings increased by 1.9%, while the prices of services also rose.

Later in 2015, inflation was also negative in both September and October. However, for the year as a whole, due to rises in some months, inflation averaged at 0%.

Follow-up questions

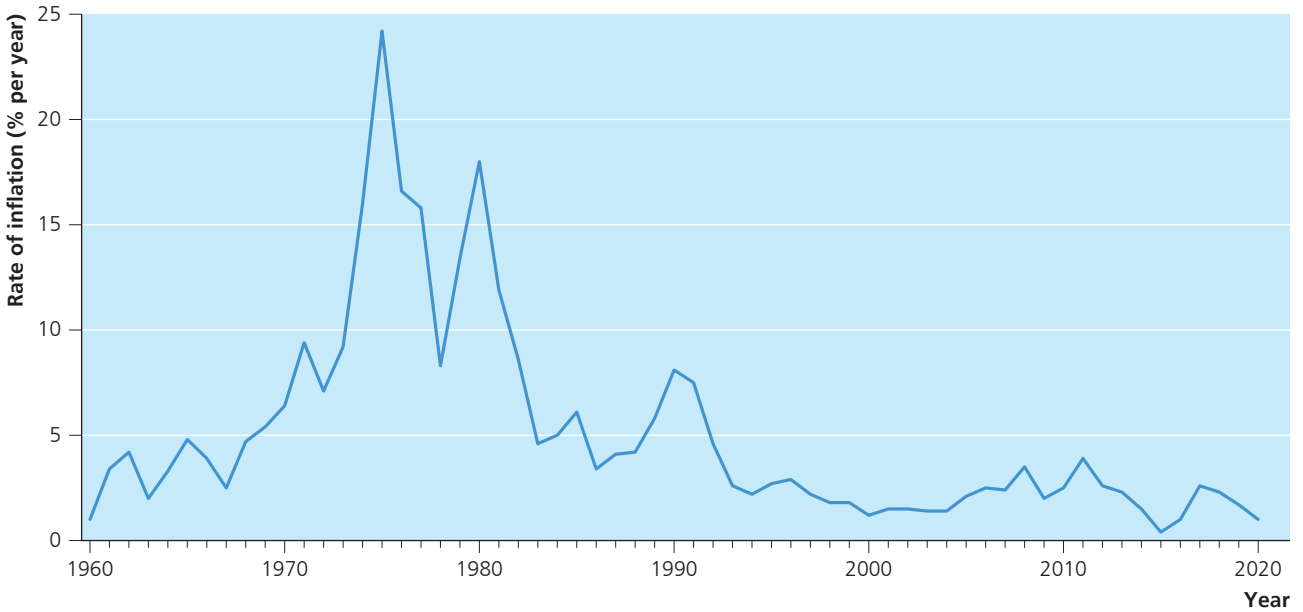
1 Explain what happened to real earnings in the year to April 2015.

2 In the year to April 2015, inflation was negative while the prices of services rose. How do you think this is possible?

Analysing inflation figures

We can compare inflation rates over time and between countries.

Comparisons over time



Source: International Monetary Fund

Figure 3.4.2 UK inflation rates, 1960–2020

Figure 3.4.2 shows that the UK's inflation rate has fluctuated over time, although it has tended to be more stable in the last 20 years or so. One reason for this may be that the government has been more successful in keeping to its target of 2% inflation (see Topic 3.6).

If the rate of inflation is positive, the price level is rising. For example, if an economy's inflation rate is 5% in Year 1 and 2% in Year 2, there is a 3% fall in the rate of inflation. Nevertheless, the price level has still risen in the second year – it is 2% higher than the year before.

It is only when the inflation rate falls below zero that the price level actually falls (see Table 3.4.4). You can see in Figure 3.4.2 that the annual inflation rate has not turned negative during this period in the UK economy.

Study tip

When the rate of inflation falls, the price level is still rising so long as the inflation rate is positive. Don't make the error of stating that prices fall when inflation falls unless the inflation rate is negative.

Table 3.4.4 Changes in the inflation rate and price level

Year	Rate of inflation (%)	Did the rate of inflation rise or fall?	Did the price level rise or fall?
1	3	–	Rose
2	5	Rose	Rose
3	2	Fell	Rose
4	–1	Fell	Fell

Activity

Inflation rates can change quite rapidly. Research online the current inflation rate and its causes.

Extension material

Let us consider how the CPI will be affected by inflation over time.

If the rate of inflation is 10% each year for 3 years, the index will rise from 100 to 133.1. This is because:

- In Year 1 the 10% inflation will raise the index from 100 to 110.
- In the second year the 10% rise in the price level means that the new index is 110 + 11 (10% of 110) = 121.
- After 3 years, the index is 121 + 12.1 = 133.1.

You can see from this example that, with 10% inflation every year, it would take less than 10 years for the price level to double.

Use a calculator to work out how many years it will take the price level to double if the inflation rate is 20% each year.

Now test yourself

2 Table 3.4.5 shows the UK CPI for 2010 to 2019, with the base year being 2010 for the index number of 100.

Table 3.4.5 UK CPI, 2010–19

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
100	103.9	106.5	109.0	110.6	111.0	112.1	114.9	117.6	119.6

Source: World Bank

Using the data in Table 3.4.5, answer questions **a** to **d**.

Note: percentage changes can be calculated using:

$$\% \text{ change} = \frac{\text{difference}}{\text{original}} \times 100$$

a Calculate the percentage rise in the general price level between 2010 and 2015.

b Calculate the percentage rise in the general price level between 2013 and 2015.

c Explain what happened to the cost of living in the UK between 2010 and 2019.

d Explain what happened to the purchasing power of money in the UK between 2010 and 2019.

Comparisons between countries

We can compare rates of inflation between countries (Table 3.4.6).

Table 3.4.6 Estimated inflation rates of selected countries, 2019

Country	Estimated rate of inflation (%)
Burkina Faso	–3.2
France	1.1
Greece	0.3
Iran	39.9
Kenya	5.2
Pakistan	10.6
Saudi Arabia	–2.1
United Kingdom	1.7

Source: World Bank

It is important to realise that inflation rates do not tell us about the absolute general price level. Just because, for example, Iran had a much higher inflation rate in 2019 than the UK does not mean that prices are higher in Iran. There is only limited information here, and it is quite possible that prices overall are lower in Iran than in the UK.

Now test yourself

3 Use Table 3.4.6 to answer the following questions:

- a Name the countries in which the price level was falling.
- b Which country had the most price stability?
- c By what percentage would the UK's inflation rate have to increase to reach the level of Kenya's inflation rate of 5.2%?

Evaluating the causes of inflation

Economists usually identify two main causes of inflation: too much demand and a rise in costs.

Too much demand

This is often called demand-pull inflation. It is caused when the total demand in the economy rises and the supply of goods and services does not increase to match, so the price level is pulled up. This extra demand often comes from consumers, especially in times of a boom in the economy (see Topic 3.1). There are high levels of employment and high per capita incomes, so the total consumer demand rises.

The rise in demand can also come from firms that demand capital goods for investment, consumers in foreign countries who buy exported goods and services, and the government spending more, for example, on health and education.

Demand-pull inflation is more likely to happen when the economy is near to full employment. The available factors of production, including labour, are being fully used, so the economy cannot produce any more output in the short run. Consequently, the price level rises.

Economists sometimes refer to monetary inflation. This is a rise in the money supply which enables consumers to demand more goods and services, which, in turn, pulls the price level up.

A rise in costs

This is often called cost-push inflation and is caused by higher costs of production, which then lead to a rise in the price level.

Costs of production include wages and salaries, materials and components, fuel, rent and business rates, and interest on loans. If these costs rise, then in order to try to maintain their profits, firms will raise the prices of their goods and services. This then leads to cost-push inflation.

The main cost of production for most firms is wages and wage costs such as national insurance. This is especially the case in service industries, which account for the greatest proportion of output in the UK economy. Put simply, if wage rates rise then costs rise and the price level rises.

However, we should also consider the productivity of labour (see Topic 2.6). It is when wages rise faster than productivity that the cost per unit of output will rise. Productivity is output per worker per period of time. So if productivity goes up by 3% and each worker is given a 3% wage rise, then the cost per unit has not risen and the wage rise is not inflationary. However, if productivity rises by 3% while each worker gets a 5% wage rise, then costs per unit do rise (by about 2%) and this is inflationary. Trade unions are organisations that represent their workers (see Topic 2.7), and one of their main aims is to achieve wage rises. Some economists believe that the stronger the power of the trade unions in the economy, the more likely it is that cost-push inflation will take place.

The world oil price can have an important influence on cost-push inflation

A rise in costs may be caused by higher import prices. Imported inflation is a term that is often used for inflation caused by higher import costs. When the cost of imported fuels, materials, components, capital and so on rise, this increases the costs of production, thus causing cost-push inflation.

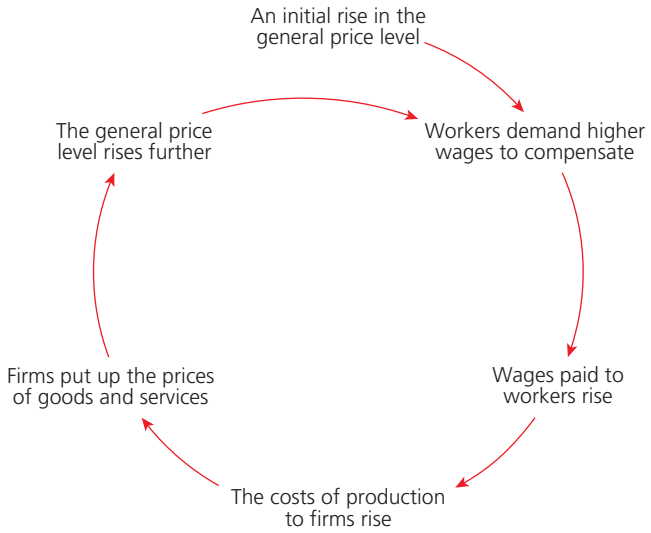


Figure 3.4.3 The wage–price spiral

A wage–price spiral is likely to occur, however inflation is caused to start with. As the price level rises, the purchasing power of wages will fall, so workers will want their money wages to rise. Through their trade unions, workers will push for wage rises, and if successful, this pushes costs of production up further. Therefore, there is more cost-push inflation. To make matters worse, workers and their trade unions may not take just past inflation into account but future inflation, too, when making their wage claims. In this case, the wage–price spiral will lead to ever-higher rates of inflation.

Now test yourself

4 Which of the following statements are true and which are false?

- **a** A real value is the actual ticket price paid for a good in a shop.
- **b** A fall in the price of oil is likely to lead to inflation.
- **c** When the rate of inflation falls, the general price level also always falls.
- **d** Price stability is where the general price level stays constant.
- **e** An example of negative inflation is where CPI falls from 5% to 3%.

Extension material

1 Ask a member of your family, who has bought a house, if they can remember how much they paid and when they bought it.

2 Use the Bank of England inflation calculator to calculate what the price of the house would be today with the impact of inflation: **www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator**.

3 Now research online the estimated current price of the house by searching 'How much is this property worth'. You will need a full address to get a calculation.

4 Explain any difference between the figures calculated.

Evaluating the consequences of inflation

This section considers the consequences of inflation for different groups in the economy.

What are the consequences for consumers?

Loss of consumer confidence

Consumers use money as a medium of exchange to buy goods and services. When prices are stable, consumers know the relative prices of goods and services. This information helps consumers to decide whether

a purchase is worthwhile, which enables them to plan their spending. They can work out what they can afford. They can also save up for future purchases, knowing how much needs to be saved. Price stability therefore helps consumer confidence.

If there is inflation, the value of that money itself is changing, and this makes life more difficult for consumers. They are not sure what they can and cannot afford. It is more difficult to assess whether a purchase is worth its price. Consumers do not know how much needs to be saved because the prices will be higher in the future. Inflation can therefore reduce consumer confidence.

Shoe leather costs

As prices change more often, consumers and firms spend more time shopping around, as they are now less sure as to the prices in different parts of the market. This means extra time and effort is spent by consumers looking to purchase goods (known as shoe leather costs).

Real incomes may fall

Consumers have a limited income. Inflation can affect this income. If their nominal income stays the same while there is inflation in the economy, their real income will fall. This means that they are unable to afford the same goods and services as before. Their cost of living has gone up, and their standard of living has fallen.

Whether an individual consumer suffers a fall in living standards depends on what happens to the income of the consumer in times of inflation. If the person has an index-linked income, their income keeps up with inflation and their standard of living remains the same.

If the consumer is a worker whose wage rises by more than the rate of inflation, in this case their standard of living rises. Some consumers, however, may have incomes that do not keep up with inflation. This may be the case for pensioners if they have a private pension that is not index-linked. Their real income and standard of living will fall.

Consumers who are debtors gain

Some consumers are also debtors, which means that they owe money to others. They may have borrowed money from a bank in order to make a purchase, such as a car. Debtors gain in times of inflation because the real value of their original debt goes down. However, interest rates also impact the amount owed.

Many households borrow money in the form of a mortgage in order to buy a home. This mortgage may be paid back over a long period of time, such as 25 years. Over this period, the real value of the loan falls because of inflation. Meanwhile, the asset that was purchased with the loan (the house) may rise more in value. If a consumer used a mortgage loan to buy a house in 1991, the price of the average house would have been £53,635. In 2016, this average house was worth £198,564. The value of the asset nearly quadrupled, while the real value of the mortgage debt fell significantly over the 25 years.

Houses are assets that can rise in value in times of inflation

Income redistribution problems

Some consumers such as debtors may gain from inflation, while others are losers, including savers (see below). Workers in strong trade unions may be able to achieve wage rises that keep up with inflation. They are

therefore able to consume more goods and services. However, workers in low-paid occupations with weak bargaining power may suffer a fall in their real wages and become losers in times of inflation.

It may be the case that those on low, fixed incomes face hardship if their money incomes fail to keep up with inflation, so that their real incomes fall and they are able to consume less than before.

What are the consequences for producers?

More flexibility

Some inflation in a growing economy allows greater flexibility for firms than zero inflation because it is easier for relative prices to adjust. This is especially true of wages, which are the price of labour. It is possible that, while workers and their trade unions would not accept a cut in money wages when there is zero inflation, they might accept a wage rise that does not keep up with a low inflation rate.

For example, workers may accept a 2% pay rise during 3% inflation (which is a real wage cut), but would not accept any cut in nominal wages when inflation is 0%. This helps producers remain competitive, especially in sectors where their sales are falling.

In times of a low rate of inflation, it may be easier for businesses to increase their prices because consumers are less likely to notice this when prices in general are rising. This could help the businesses to increase profits if their costs stay the same or rise at a slower rate. It may in turn increase the willingness of businesses to invest in capital equipment and expand, as their activity has become more profitable.

Menu costs

Firms have to adjust their price lists more often when there is inflation – for example, restaurants increasing the prices on their menus. The greater the rate of inflation, the more often this will be necessary, leading to additional costs for firms. Some capital equipment may have to be changed more often, such as vending machines, which also increases costs.

Labour market conflicts

Workers and their trade unions will be aware that inflation is reducing the purchasing power of their money wages. They will want money wage rises to keep up with inflation so that their real wage does not fall.

Assume inflation was 4% over the past year – the workers will need a 4% money wage rise just to keep their real wage as it was. They will need more than 4% to get a real wage rise. Furthermore, if they are expecting more inflation in the future, they may ask for a pay rise that also takes this future inflation into account. They may, for example, push for an 8% rise to cover both past and future inflation.

The employers, meanwhile, are facing rising costs and possibly falling sales, and so may be unable or unwilling to give such a wage rise. Thus inflation can mean that conflict between workers and employers is more likely and this may lead to industrial action, such as strikes.

Unemployment

As inflation makes the UK economy less internationally competitive, this will lead to unemployment. If UK producers are selling less both

abroad and in the UK home market, they will produce less output and need fewer workers, and will start to make workers redundant. This could be the start of cyclical unemployment (see Topic 3.2).

Producers lose as creditors

Creditors include firms such as banks that are owed money. They have given loans in the past, and when the debtors repay those loans, the real value is lower than when the loan was taken out. Therefore creditors are also losers in times of inflation.

Producers lack business confidence

High rates of inflation can seriously reduce business confidence. Businesses are much less likely to invest if they have great uncertainty about the future. For this reason, high rates of inflation can have very adverse effects on economic growth.

What are the consequences for savers?

Inflation makes the purchasing power of money fall over time. Therefore, if money is kept as savings, those savings will lose value in real terms in times of inflation.

Assume someone saves up to a buy a particular car with a price of £9,000. After 2 years of saving, the person has £9,000 in the bank but the car price has risen to £10,000. Inflation has meant that the savings are no longer enough to buy the car. The same person also finds that petrol, insurance, servicing and parking fees have all risen in price over the 2 years.

The greater the rate of inflation, the more the savings will lose their value.

The value of savings may be impacted by inflation

Now test yourself

5 Table 3.4.7 shows the rate of interest paid on five savings accounts. Calculate the real rate of interest on each account when the inflation rate is 2.5%. Account A has been calculated for you. Show your workings.

Table 3.4.7 Rate of interest paid on five savings accounts

Account	Nominal rate of interest (%)	Real rate of interest (%)
A	3.0	3.0 – 2.5 = 0.5%
B	0.25	
C	2.0	
D	2.5	
E	3.2	

Activity

Table 3.4.8 Inflation rates in Countries A and B

Country	Estimated rate of inflation (%)
A	0.2
B	180.9

Using the data in Table 3.4.8, make a comparison of how consumers and savers in Country B are likely to be affected by inflation compared with consumers and savers in Country A.

What are the consequences for the government?

The government gains as a debtor

The government is usually a net borrower, so it is a debtor. This means that it owes money to individuals and institutions that have lent it money. You have seen that debtors gain in times of inflation, so from this point of view inflation is an advantage to the government.

The government spends more as a provider of benefits

The government operates a social protection system of benefits. These benefits include the state pension, jobseeker's allowance, universal credit, child benefit and so on. The benefits are index-linked, which means that they rise in line with inflation.

The government spends more as a major employer

The government is a major employer of workers. For example, the National Health Service (NHS) and state education system employ hundreds of thousands of people. Therefore, the government faces demand for wage rises in times of inflation and will need to raise the finance in order to pay for these.

The government receives more in tax

The government will automatically collect more revenue in money terms in times of inflation. When prices and money wages are rising, the government will automatically receive higher revenue from, for example, value-added tax (VAT) (as the tax is now a percentage of higher prices) and income tax (as the tax is now a percentage of higher wages) (see Topic 3.5). This will help to finance the extra spending on benefits and employment that inflation requires. (Note, this is true for as long as consumers continue to buy as many goods and services and for as long as employers employ the same number of workers.)

It is worth noting that some taxes do not rise automatically with inflation. This is true of specific excise duties, which are a specific amount on the price of a product (such as tobacco and alcoholic drinks). If the government does nothing in times of inflation, this amount will become a smaller percentage of the price and its revenue will fall in real terms.

Government policy needs to combat inflation

You have seen above that inflation, and especially high rates of inflation, can have drastic consequences for an economy. Therefore, it is essential that government policy includes the aim of controlling inflation and the means with which to do this. You will find out more about government policies to control inflation and maintain price stability in Topics 3.5, 3.6 and 3.7.

The consequences of inflation for consumers, producers and the government are summarised in Table 3.4.9.

Table 3.4.9 The consequences of inflation: a summary chart

Group	Consequences
Consumers	Loss of confidence Shoe leather costs Fall in real incomes Consumer debtors gain Income redistribution
Producers	Greater flexibility in setting wages Greater flexibility in setting prices Menu costs Labour market conflicts Unemployment Producer creditors lose Reduced business confidence
Savers	Value of savings falls
Government	Gains as a debtor More spending on benefits More spending on employing labour More tax revenues Policies required to combat inflation

Case study

Zimbabwe and hyperinflation

Zimbabwe had inflation over 500% in 2020. This is known as hyperinflation and meant that prices in the country had spiralled out of control.

A recurring problem has been falling output. For instance, production, especially agricultural production, has been hit by extreme weather and an ongoing drought. This has reduced the supply of domestic goods and services, leading to an increase in their prices.

Another contributory cause is that the government created new money so it could spend more than it raised in taxation. This resulted in Zimbabwe's currency falling in value (see Topic 4.3). This meant prices of imported goods increased, which exacerbated shortages of everyday essentials, such as food and fuel. This pushed up the general price level further, which led to a need for more government spending. So the cycle continued…

At times, hyperinflation has meant prices of products have doubled from one day to another. Prices rising so wildly made it almost impossible for the economy to function. Consumers could no longer use prices to work out whether a good was value for money and producers did not know where to set prices. This uncertainty brought the economy almost to a standstill.

Follow-up question

Consider the consequences of hyperinflation in Zimbabwe. Explain a consequence for each of the following groups:

a Consumers

b Producers

c Savers

d Government

Evaluate this

Between 2006 and 2014, the price level in the UK rose by 25%. Evaluate the consequences of this inflation for consumers and savers.

Using the information in this topic and your own knowledge, use chains of reasoning to explain potential causes for both consumers and savers before evaluating the likelihood/importance of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Extension material

Use a search engine to find out the most recent rates of inflation for the following countries:

- China
- Germany
- Qatar
- Turkey

Rank the four countries by inflation rates, from lowest to highest.

1. Do any of these countries have deflation?
2. Which country will most lose its competitiveness? Why do you think this is the case?
3. Suggest reasons for the differences in the inflation rates of Germany and Turkey.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by price stability
- explain what is meant by inflation
- explain the difference between real and nominal values
- explain how inflation is measured using the Consumer Price Index (CPI)
- calculate the effect of inflation on prices
- analyse historical inflation figures
- analyse recent inflation figures
- evaluate the causes of inflation
- evaluate the consequences of inflation for consumers
- evaluate the consequences of inflation for producers
- evaluate the consequences of inflation for savers
- evaluate the consequences of inflation for the government

Topic 3.5
Fiscal policy

Learning outcomes

After studying this topic, you should be able to:

- explain purposes of government spending and sources of government revenue, including direct taxes and indirect taxes
- explain what is meant by a balanced government budget, budget surplus and budget deficit
- explain what is meant by fiscal policy and how it can be used to achieve economic objectives
- calculate and analyse how taxes and government spending can affect markets as well as the overall economy
- evaluate the costs, including opportunity cost, and the benefits of fiscal policy for the economy when used to achieve economic objectives
- evaluate economic consequences of measures to redistribute income and wealth, including progressive taxes

What is the purpose of government spending?

Activity

Before reading further, make a list of:

a items that you believe the UK government spends money on

b services that you and your family consume but do not have to pay for directly

Key term

Government spending The total amount of money spent by the government in a given period of time.

In the financial year 2019/20, the UK government spent about £851 billion. This represents over £12,526 for every man, woman and child in the country.

Figure 3.5.1 shows that the following areas of **government spending** account for about 63% of the total:

- Social protection (pensions and welfare): the system of social security benefits. These benefits include the state pension, child benefit, jobseeker's allowance, universal credit, disability living allowance and others. The purpose of social protection is twofold. First, it aims to provide everyone with a basic minimum standard of living. Second, it aims to reduce inequality in the distribution of incomes. The significance of benefits in the redistribution of incomes will be considered later in this topic.

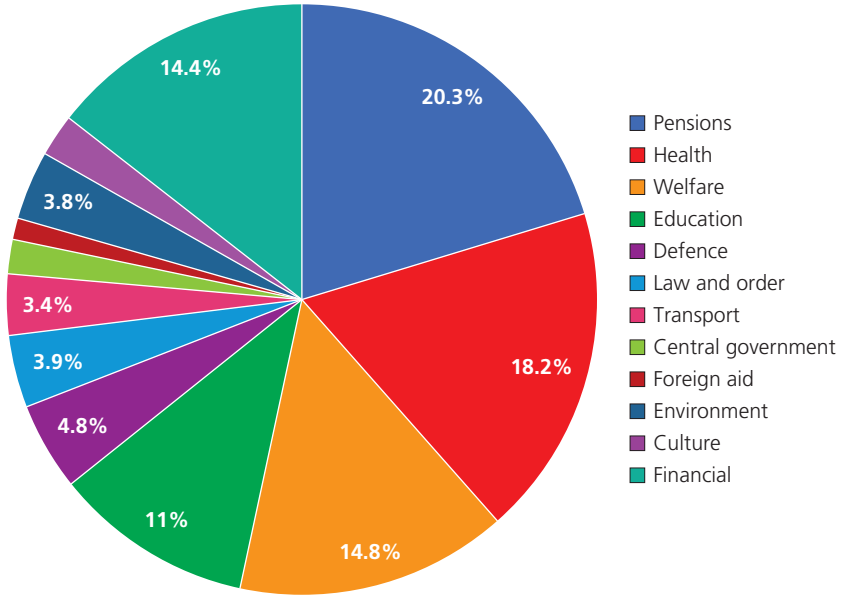


Figure 3.5.1 UK government spending, 2019/20 (total £851 billion)

- Health: the National Health Service (NHS) provides a wide range of healthcare and protection for the population. The purpose of spending on health is to increase the welfare of the population. For example, health spending helps stop the spread of disease through prevention (e.g. vaccinations) and treatment of individuals with disease. The government ensures that everyone has access to health services, regardless of income.
- Education: as with health spending, the purpose of spending on education is to increase the welfare of the population. Most children in the UK are educated in the public (government) sector from the ages of 4 to 16 and beyond. This ensures everyone is literate and numerate. The government ensures that everyone has access to education regardless of income, which helps to increase equality of opportunity.

Every child in the UK has access to education

Other important areas of spending shown in Figure 3.5.1 are:

- Defence: spending on the armed forces, which includes the army, air force and navy.
- Law and order: spending on the police, courts and prison service.
- Debt interest (shown under 'Financial'): the government has borrowed money in the past. The amount outstanding (which it still owes) is called the national debt, and interest has to be paid on this.

What are the sources of government revenue?

Most **government revenue** comes from various types of taxes, as you can see in Figure 3.5.2. We can classify these taxes as direct and indirect.

Key term

Government revenue The source of finance for government spending.

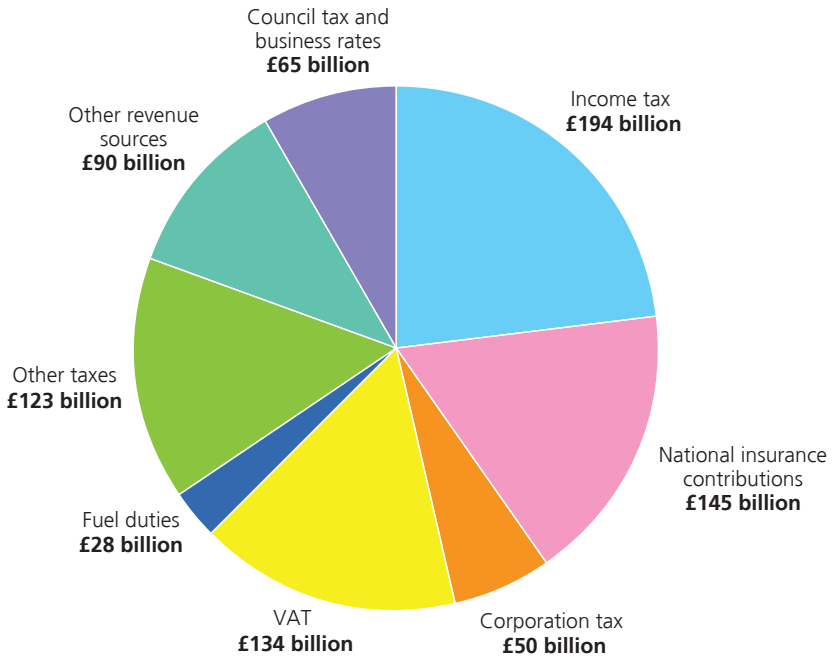


Figure 3.5.2 UK government revenue, 2019/20 (total £829 billion)

Activity

Discuss as a class whether you find the way the figures are presented in Figure 3.5.1 more or less helpful than the way they are used in Figure 3.5.2.

Direct taxes

A **direct tax** is defined as a tax on income or wealth. In fact, most direct taxes in the UK are taxes on incomes. Direct taxes in the UK include the following:

- Income tax: as Figure 3.5.2 shows, income tax collects more revenue than any other tax. It is paid by millions of people on their wages and salaries. It is also paid on other types of income, including pensions,

Key term

Direct tax A tax on income or wealth.

interest (received by high earners), profits of non-corporate businesses and dividends from shares. Each person has an income tax allowance, which is the amount of income on which no tax is paid. Once the allowance is used up, income tax must be paid at a rate dependent on the level of income. (UK income tax allowances and rates are considered later in this topic, in connection with how income tax helps to redistribute incomes.)

- National insurance contributions (NICs): paid by both employees and employers. For employees, the effect is similar to income tax, being a deduction from their wages. For employees, it is basically a tax on employing labour.
- Corporation tax: a tax on the profits of companies.

Other direct taxes include:

- Inheritance tax: a tax on the transfer of wealth at the time of death.
- Capital gains tax: a tax on the profit when an asset is sold for more than it was bought.

Indirect taxes

Key term

Indirect tax A tax on spending, often defined as a tax on goods and services.

An **indirect tax** is a tax on spending. Indirect taxes are often thought of as taxes on goods and services. Indirect taxes in the UK include:

- Value-added tax (VAT): a tax on a wide range of goods and services. Figure 3.5.2 shows that VAT collects more revenue than any other tax except for income tax and national insurance. The VAT rates in 2019/20 were:
  - 20% standard rate on a wide range of goods and services
  - 5% reduced rate on some items, including fuel in the home and children's car seats
  - zero on most food and children's clothes
- Excise duties: taxes on a specific range of goods. In particular, there are excise duties on tobacco products, alcoholic drinks, petrol and diesel.
- Insurance premium tax.
- Air passenger duty.
- Gambling duties.

Activity

Using a website such as www.which.co.uk, find out the rate of VAT on:

- books
- printed or copied music
- chocolate bars
- caravans (depending on their size)
- water supplied to homes
- takeaway pizzas
- donated goods sold in charity shops
- burial or cremation
- medical treatment and healthcare
- postage stamps
- a bag of crisps

Activity

1 The current rates of the various taxes can be found online if you type 'current UK tax rates' into your search engine and specify which tax you are looking for. You can also find out any relevant tax allowances, exemptions etc.

2 You could work in groups with each person taking responsibility for one tax. Each group member can report back on their findings to the group so that the information is shared.

3 Discuss in your groups whether tax rates should be increased, decreased or stay the same.

Local taxes

There are two taxes in the UK from which the revenue goes to local authorities (councils). These are direct taxes.

- Council tax: a tax on the value of an occupier's home (the value of homes was set in 1991 for England). The occupier(s) receive an annual bill that can be paid monthly. How much is actually paid depends on where you live, so a band D house in Newcastle, for example, may not pay the same amount of tax as a band D house in Exeter or Colchester. The amount of tax rises with the value of the property.
- Business rates: paid on the value of property owned by business. Business rates, therefore, increase the costs of production for firms.

Activity

Table 3.5.1 Tax: direct or indirect?

Name of tax	Direct or indirect?
VAT	
Corporation tax	
National insurance contributions	
Duties on petrol and diesel	
Income tax	
Air passenger duty	
Insurance premium duty	
Vehicle excise duty (VED)	
Inheritance tax	

Copy and complete Table 3.5.1, identifying each tax as either direct or indirect.

Now test yourself

1 Complete the following sentences:

a The second largest area of government spending, in terms of money, is …… .

b The tax which brings in the most revenue for the government is …… …… .

c Indirect tax is a tax on …… .

d Council tax is a tax on the …… of an occupier's home.

Study tip

It is a good idea to keep up to date with the latest tax rates, which may vary from those given in this topic.

Case study

Tax trends

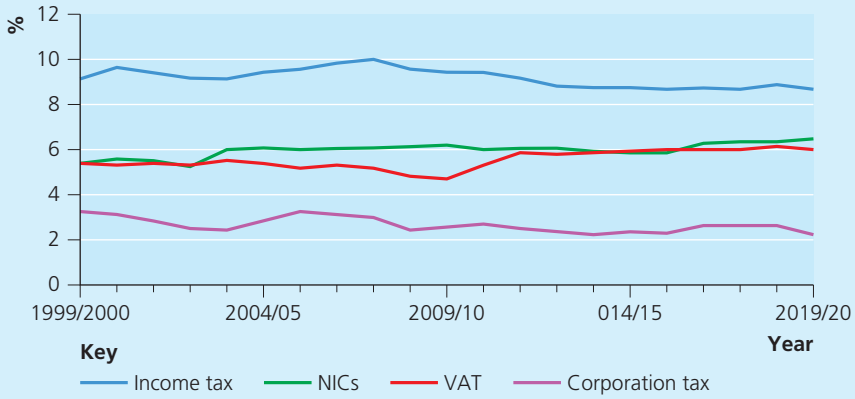


Figure 3.5.3 Trends in the four largest taxes as a percentage of GDP

Figure 3.5.3 shows the trends in the four major taxes, in terms of revenue generated, from 2000 to 2020, as a percentage of GDP.

Follow-up questions

1 Over the period shown, which two taxes have shown a decline?

2 Compare the trends in income tax and VAT.

3 Approximately what percentage of GDP did the three direct taxes total in 2019/20?

4 What has happened to these trends since 2019/20? Give reasons for any major changes.

Key terms

Balanced government budget When government's revenue is equal to its expenditure/spending.

Budget deficit When government expenditure is greater than its revenue.

Budget surplus When government's revenue is greater than its expenditure.

What is the government's budget?

A budget shows the revenue and expenditure of an individual or an organisation.

Revenue is the source of funds for expenditure or spending. For example, a GCSE student may have revenue from a part-time job and/or pocket money. This is then spent on goods and services, while some may be saved.

The government's budget works in the same way. The main source of government revenue is taxation, and you have seen above the various taxes from which this revenue is obtained. This revenue is then used to pay for government spending.

The tax revenue may or may not equal the total government expenditure. This depends on the type of budget that the government has at the time. There are three possibilities (see Figure 3.5.4):

- The government has a balanced budget when revenue is equal to its expenditure.
- The government has a budget surplus when revenue is greater than its expenditure. The extra tax revenue can be used to build up reserves or to pay off past borrowing.
- The government has a budget deficit when government expenditure is greater than revenue. The government is able to spend more than it receives in tax revenue because it can borrow the difference.

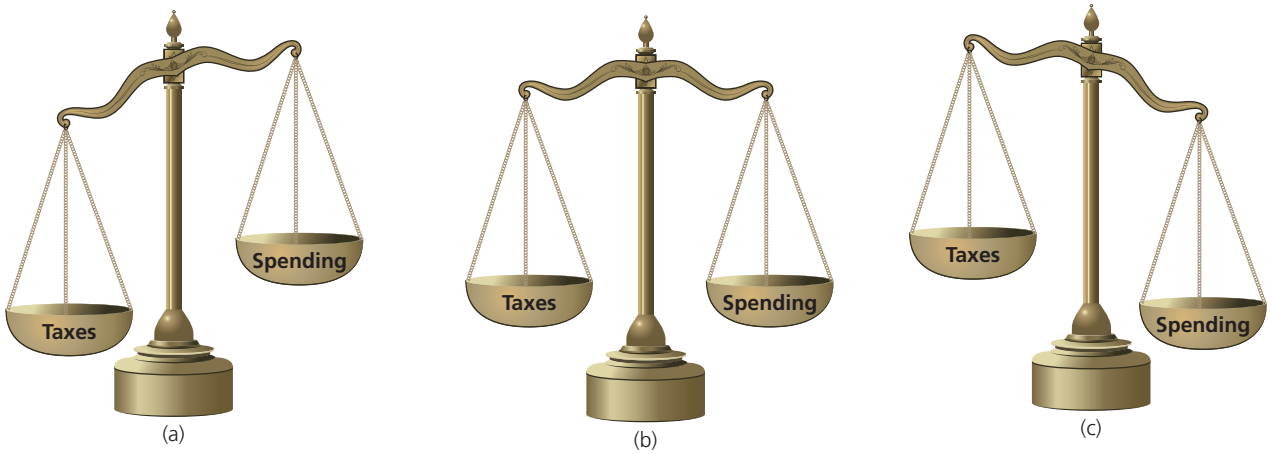


Figure 3.5.4 Balancing the UK government's budget: (a) budget surplus, (b) balanced budget, (c) budget deficit

The UK government has the aim of balancing its budget in the long term. However, in the short term it may deliberately budget for a surplus or for a deficit. This is because of fiscal policy, which uses the government's budget to affect the economy as a whole in order to meet the government's macroeconomic objectives (fiscal policy is considered in more detail below).

Study tip

It can be easy to confuse the budget balance (above) and the balance of payments (see Topic 4.2). These are very different economic concepts, so be clear in your own mind what each refers to.

Activity

Table 3.5.2 Calculating the budget balance

	Tax revenue (£bn)	Government spending (£bn)	Budget balance (£bn)
A	320	350	
B	401	403	
C	267	267	
D	207	193	

Table 3.5.3 Calculating tax revenue or government spending

	Tax revenue (£bn)	Government spending (£bn)	Budget balance (£bn)
E	250		38 (deficit)
F	444		56 (surplus)
G		195	7 (surplus)
H		372	27 (deficit)

1 In all of the cases in Table 3.5.2, calculate the budget balance. For each answer you must state whether it is a surplus or a deficit.

2 In all of the cases in Table 3.5.3, calculate the missing figure.

What is fiscal policy?

Fiscal policy is the use of taxation and government spending to influence the level of economic activity. Fiscal policy can be used in order to achieve one or more of the following objectives:

- Economic growth
- Low unemployment
- Price stability
- A balance in the balance of payments

Key term

Fiscal policy A policy that uses taxation and government spending to affect the economy as a whole.

How can a budget deficit be used to achieve economic objectives?

If there is a balanced budget initially, then a budget deficit can result from either increasing government spending or reducing taxes, or both. The government may use a budget deficit when the economy is in a recession, with high unemployment and a lack of economic growth. The budget deficit will increase economic activity, thus achieving more employment and economic growth.

An increase in government spending

Let us assume that government spending rises. The government could spend more, for example, on health and education. This extra spending provides incomes for others – if more is spent on the NHS, there may be more nurses and other staff receiving wages. As incomes rise, people are able to spend more. This spending then becomes incomes for firms in the economy that produce the extra output. They will employ more workers to meet the extra demand, and these workers will in turn have incomes to spend.

This process continues with incomes, spending, output and employment all rising. This fiscal policy has therefore helped the government to achieve its objectives of more employment and economic growth.

Another example is that the government could increase social protection benefits. Low-income families in receipt of benefits are very likely to spend most of their extra income when benefits are raised. As you saw above, extra spending becomes incomes for firms and will again lead to a rise in output and employment.

A reduction in taxes

Now let us assume that the government reduces taxes (see Figure 3.5.5). This increases the disposable incomes of taxpayers. For example, income tax may be reduced so that workers have more take-home pay. With higher disposable incomes, consumers are able to spend more, so total demand rises. This spending then becomes incomes for firms in the economy that produce the extra output. They will employ more workers to meet the extra demand, and these workers will in turn have incomes to spend.

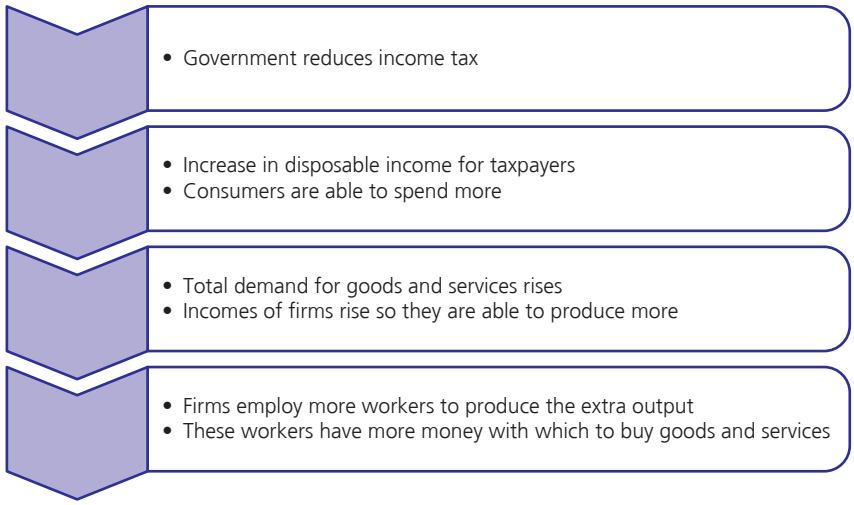


Figure 3.5.5 The effects of a reduction in income tax

This process continues with incomes, spending, output and employment all rising.

How can a budget surplus be used to achieve economic objectives?

If there is a balanced budget initially, then a budget surplus can be achieved by either reducing government spending or increasing taxes, or both. The government will use a budget surplus when there is too much inflation or a large balance of payments deficit.

A decrease in government spending

Let us assume that the government reduces its own spending (see Figure 3.5.6). It could, for example, spend less on roads and transport, or cut benefits. Both of these strategies reduce incomes in the economy. As incomes fall, consumers spend less, so there is less income for firms within the economy. The firms will react by producing less output and employing fewer workers. This means that total incomes fall further and there is a reverse effect on the economy, with incomes, output and employment all falling. As demand falls, there is less pressure on prices and the demand for imports falls.

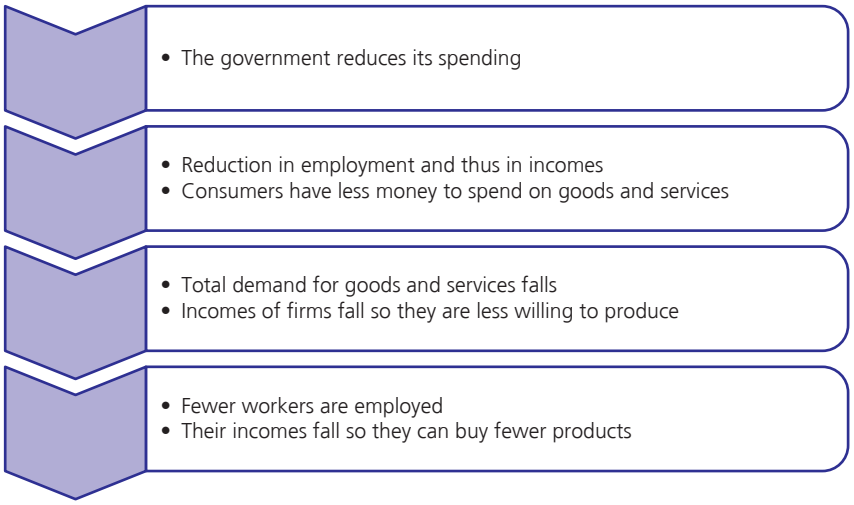


Figure 3.5.6 The effects of a reduction in government spending

An increase in taxes

Now let us assume that the government increases taxes. This reduces the disposable incomes of taxpayers. For example, income tax may be increased, so workers have less take-home pay. With lower disposable incomes consumers are unable to spend as much, so total demand falls. The firms will react by producing less output and employing fewer workers, and total incomes will fall further. As demand falls, there is less pressure on prices and the demand for imports falls.

Therefore, fiscal policy, whether through reduced government spending or increased taxation, has helped the government to achieve its objectives of less inflation and a reduced balance of payments deficit.

Now test yourself

2 Define fiscal policy.
3 What is meant by a budget deficit?
4 How could a reduction in taxes help to increase employment?
5 How can a decrease in government spending help to reduce inflation?

How can fiscal policy be used to achieve economic objectives?

Table 3.5.4 summarises how fiscal policy is used to achieve each objective.

Table 3.5.4 How fiscal policy is used to achieve each objective

Objective	Budget	Government spending	Taxation	Effect
Economic growth	Budget deficit	Increased	Reduced	Increased spending, output and employment
Low unemployment	Budget deficit	Increased	Reduced	Increased spending, output and employment
Price stability	Budget surplus	Reduced	Increased	Reduced spending so less pressure on the price level
A healthier balance of payments	Budget surplus	Reduced	Increased	Reduced spending, including spending on imports

The extent to which fiscal policy affects all four economic objectives depends very much on the state of the economy at the time. If the economy has high unemployment and low economic growth, a budget deficit in fiscal policy could be very successful in achieving more employment and growth without leading to more inflation or balance of payments problems.

On the other hand, if the government has a large budget deficit when there is already low unemployment and high economic growth, this could lead to a higher rate of inflation and larger balance of payments deficits.

It is important to note that some economists believe that a fall in government spending could lead the private sector to invest more and/or present a greater incentive for people to find employment.

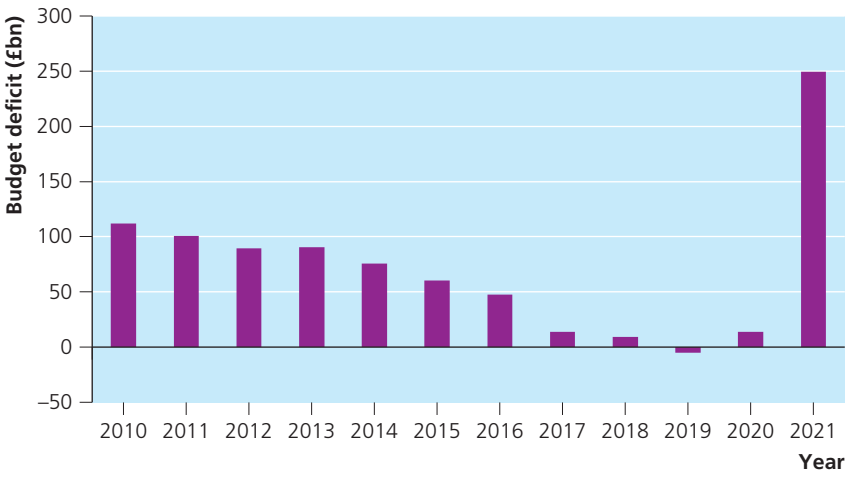


Figure 3.5.7 UK government budget deficit, 2010–21

Figure 3.5.7 shows that generally the UK government had a budget deficit for the whole of the 12-year period 2010–21 with the exception of 2019 when it achieved a small surplus of £4.91 billion. The large deficits at the beginning of the period were due to the government stimulating the economy to recover from the 2008 financial crises and recession. The deficit of £249.37 billion in 2021 was due to the Covid-19 pandemic and government measures to try to support the economy, businesses and individuals. This deficit was greater than the combined total for the period 2014–20.

Activity

1 Find out why the government achieved a surplus in 2019. Exchange ideas with other members of the class.
2 Find out what has happened to the budget deficit since 2021.

Analysing how taxes can affect markets

Direct taxes and markets

Direct taxes, such as income tax and national insurance contributions (NICs) can affect labour markets. For example, workers may feel it is not worth their while to seek jobs with a higher wage if a large proportion of the extra wage goes into paying taxes (this will be considered in more detail in Topic 3.7).

Other direct taxes such as corporation tax can also affect markets. Corporation tax is a tax on profits. For example, if the rate of corporation tax is reduced, firms will have more disposable income, which they may use to expand their business. They may buy capital goods (machinery, equipment etc.), which would raise demand in those markets. Furthermore, they may employ more labour, thus influencing those labour markets. On the other hand, if corporation tax is increased, firms may decide some investment is not worth the risk, as the post-tax rewards are now lower.

Indirect taxes and markets

Fiscal policy, and particularly indirect taxes, can be used to affect particular markets in the economy in order to achieve economic objectives.

Indirect taxes will obviously affect the markets of the products on which the taxes are levied. These taxes will raise the price of the product, so the quantity demanded will fall. The extent to which the quantity demanded falls when the tax puts the price up depends on the price elasticity of demand (see Topic 2.2).

Case study

Taxable income

All income taxpayers are given a tax allowance, which is that part of their income on which they do not have to pay tax. In 2021/22, this was £12,570 for the average worker.

The taxable income is the total income minus the tax allowance. The taxable income is then taxed at the rates shown in Table 3.5.5.

Table 3.5.5 Tax rates on taxable income

Tax band	Tax rate (on taxable income) (2021/22)
Basic rate	20% of the next £25,130
Higher rate	40% of the next £113,000
Additional rate	45% of taxable income over £150,000

The above is a good example of a progressive tax (see the section 'What measures does government use to redistribute income and wealth?' later in this topic).

Follow-up questions

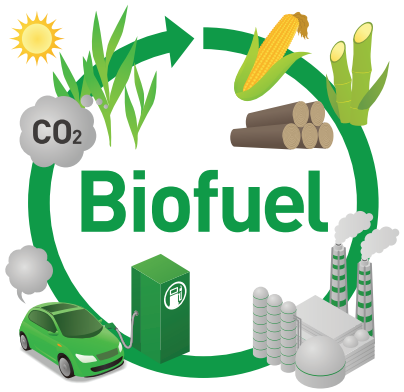
1 Using the figures in Table 3.5.5, calculate the amount of income tax paid in the following cases. Show your workings.

Example: Income £35,000

Taxable income = £35,000 – £12,570 = £22,430

Tax = £22,430 × 20% = £4,486

- **a** Income £14,000
- **b** Income £38,000
- **c** Income £50,000
- **d** Income £100,000
- **e** Income £175,000



The biofuel cycle

When the level or rate of tax differs between commodities, indirect taxes will affect the pattern of demand. Consumers will usually reduce consumption of the goods and services with the highest taxes on them, and may buy more of those products with no tax on them. Therefore, the taxes are discriminating against the producers whose products are taxed. This will lead to less output and employment in those industries.

An example is the market for fuels. Those considered less harmful to the environment, such as liquefied petroleum gas (LPG) and biogas, have a lower rate of tax than petrol and diesel.

There are two major indirect taxes that affect markets in the UK. First, VAT is levied on a wide range of goods and services, and on most of them it is at the standard rate of 20%.

Activity

Calculate the final price of the following items. In each case, VAT of 20% is added, except for home energy, which is taxed at a rate of 5%. Show your workings.

Example: a CD with a pre-tax price of £9

20% of £9 = £1.80, so final price = £9 + £1.80 = £10.80

1 A camera with a pre-tax price of £150
2 An annual car service with a pre-tax price of £180
3 A packet of crisps with a pre-tax price of £0.604
4 A holiday with a pre-tax price of £1,580
5 An annual electricity bill of £1,150 for a family of four people

The second type of indirect tax is excise duty. Three types of products (tobacco goods, alcoholic drinks and vehicle fuel) are very highly taxed – they have both VAT and excise duty levied on them. The reasoning behind high taxation on these goods is that they are demerit goods. In other words, they have negative externalities (see Topic 3.8).

The government can put a high rate of tax on these goods so that consumers are paying towards the external costs that they cause (see Figure 3.5.8). Motorists, for example, cause much pollution and congestion and they are charged a high level of excise duty plus VAT on their petrol and diesel purchases for this reason. It is also argued that these high taxes will act as a deterrent, so the consumption of these demerit goods will fall (see more on this in Topic 3.8).

High indirect taxes on goods such as alcohol and cigarettes can lead to the problem of illegal activity. If taxes are higher than in other countries, people will smuggle the goods into the country and sell them on the unofficial market. This means that the government loses out altogether on a significant amount of tax revenue. For example, in 2018/19 it was estimated that £2.8 billion of excise duty was lost, which was a considerable amount for the government.

Figure 3.5.8 There is high taxation on some goods in the UK

Extension material

Find out how much tax the government believes it loses due to a range of causes. Note that not all are illegal: tax avoidance is lawful, but tax evasion is not.

A good source is HMRC's 'Measuring Tax Gaps'. Go to **www.gov.uk** and search for 'Measuring tax gaps'.

You could then report back to the rest of the class on your findings.

While there are some goods with these very high taxes, and most goods and services are subject to 20% VAT, there are some goods with no indirect tax levied on them. These include most foods and children's clothes, which are 'zero-rated' for VAT. The reason for this is that they are basic necessities, so the government feels it would be unfair on lower income groups to tax them. The same argument applies to the reduced rate on home energy, although the government has not reduced this to zero.

Extension material

Stamp duty

Stamp duty is an indirect tax on the purchase of property. Table 3.5.6 shows the stamp duty rates as from 1 October 2021 for England and Wales. The normal rate applies to people who buy their own homes. Additional property includes second homes and buy-to-let property, and this has a 3% extra charge on all bands.

Table 3.5.6 Stamp duty rates

Property or transfer value	Stamp duty rate
Up to £125,000	Zero
The next £125,000 (the portion from £125,001 to £250,000)	2%
The next £675,000 (the portion from £250,001 to £925,000)	5%
The next £575,000 (the portion from £925,001 to £1.5 million)	10%
The remaining amount (the portion above £1.5 million)	12%

Example: In October 2021 you buy a house for £295,000. The stamp duty you owe will be calculated as follows:

- 0% on the first £125,000 = £0
- 2% on the next £125,000 = £2,500
- 5% on the final £45,000 = £2,250
- total stamp duty = £4,750

1 Calculate the amount of stamp duty when purchasing a home with a price of £240,000. Show your workings.

2 Calculate the amount of stamp duty when purchasing a home with a price of £750,000. Show your workings.

3 Calculate the amount of stamp duty when purchasing a home with a price of £1,000,000. Show your workings.

4 There is a stamp duty additional charge for second homes. Using a supply and demand diagram, show how this extra stamp duty might affect the market for second homes.

Analysing how government spending affects markets

Not only can taxes affect markets, so too can government spending.

You saw at the beginning of this topic that the government spends a great deal of money on services such as health, education and defence. It therefore has a big impact on markets connected with these services.

The government is a huge employer of labour, so it affects labour markets. For example, the government employs nurses in the NHS. If the government decides to improve health services, it may demand more nurses, which in turn may increase wages for nurses. Some nurses work in the private sector, but because demand for nursing services has risen, they too may be able to achieve higher pay (see Topic 2.7).

The government can have a significant effect on the construction market. If the government embarks on a programme of capital expenditure by building, for example, hospitals, roads and schools, then it will give the work to firms in the private sector. An increase in the

provision of public sector housing would have the same effect. The state of the construction industry can depend greatly on government policy. If the government decides to cut spending by postponing capital projects, then demand in this market could fall significantly, and many workers could lose their jobs.

Many private sector firms supply goods and services to the public sector. Once again, if the government decides to spend more, private sector firms will benefit. For example, if the government decides to spend more on education by building more schools, those firms that supply school furniture, whiteboards, computers etc. will benefit from a rise in demand for their products. Similarly, more spending on defence can benefit firms that make weaponry, uniforms, tanks, naval vessels, planes etc.

The government sometimes gives a subsidy to private sector firms. Subsidies may be in the form of direct payments from the government known as grants. By using subsidies, the government is deliberately having an influence on specific industries and markets. Here are three examples:

- The UK government has been giving subsidies to firms in the renewable energy market, particularly wind and solar energy markets. This is because the government wishes to encourage firms to provide energy from renewable sources and reduce the amount of energy coming from fossil fuels.
- The government has a system of grants for small businesses. For example, it has small business start-up grants, which aim to encourage enterprise by helping people to start up their own businesses.
- The government has subsidies that are targeted at encouraging businesses to set up in deprived areas where unemployment is significantly above average.

Study tip

The effect of a specific per unit subsidy is to shift the supply curve to the right, vertically downwards by the amount of the subsidy. Refer to Topics 2.3, 2.4 and 3.8 to see diagrams of how a subsidy affects the market.

Evaluating the costs and benefits of fiscal policy

We will now consider the effects and effectiveness of fiscal policy on the economy as a whole.

Let us assume that the government wishes to achieve a higher rate of economic growth and less unemployment. As you have seen above, it can budget for a deficit which will increase economic activity and achieve these two objectives.

However, there may be problems:

- The budget deficit increases the disposable incomes of consumers, but there is no guarantee that they will spend this extra money. They may save it. Some might argue that if interest rates are high, people are very likely to save their extra income.
- As disposable incomes rise, much of the extra spending might be on imported goods and services. This may lead to a larger balance of payments deficit.
- As the budget deficit leads to a rise in total demand in the economy, supply rises to meet the demand, leading to more output and employment. However, perhaps supply cannot rise to meet demand, in which case inflation could rise.

Activity

In 2020/21 the government spent a lot of money on the furloughing of workers following the Covid-19 pandemic. (Furlough means needing to take an unpaid leave of absence.) Investigate how much was spent, and what the costs and benefits of this scheme were. You could then have a class debate on whether this was a good use of government money.

Opportunity cost and fiscal policy

There are always opportunity costs (see Topic 1.2) involved in the operation of fiscal policy. Here are two examples:

- The government promises to spend more on health services and education, but maintain a balanced budget. The opportunity cost of the extra health and education spending will be either less spending in other areas, such as defence or transport, or higher taxes, which means that consumers have less to spend. In other words, either the government has to give up some spending on other areas or consumers have to give up some of their spending.
- The government cuts income tax rates so that its revenue from this tax falls, while also promising not to raise other taxes. The opportunity cost is either a rise in the budget deficit or a fall in government spending. In other words, either the government has to give up some spending (it will have to decide where to make spending cuts) or it has to accept a larger budget deficit.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the costs and benefits of fiscal policy for an economy wanting to achieve economic growth.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Now test yourself

6 How might a rise in income tax and national insurance contributions affect the labour market?

7 Why does the government impose high rates of indirect taxes on some goods? Give reasons for your answer.

8 How can government subsidies affect the markets for certain products?

9 Give an example of how fiscal policy always involves an opportunity cost.

What measures does government use to redistribute income and wealth?

Key terms

Income and wealth redistribution Government action, using mainly taxation and benefits, to reduce inequalities of income and wealth.

Progressive tax A tax which takes a greater percentage of tax the higher the income.

You saw in Topic 3.3 that both income and wealth are unevenly distributed in the UK. However, the government does have a policy of **income and wealth redistribution**. This means that it uses its system of taxation and government spending to reduce inequalities in the UK.

Progressive taxes

A **progressive tax** has a higher rate of tax on higher incomes. This means that progressive taxes help to redistribute incomes in favour of lower income groups.

Progressive taxes do this by taking a larger proportion or percentage in tax from the higher income groups and a lower proportion from the lower income groups. For example, if a person earning £10,000 a year pays no tax, a person earning £20,000 a year pays £4,000 in tax, which is 20%, and a person earning £50,000 a year pays £20,000, which is 40%, then this is a progressive tax. The greater the income, the higher the rate of tax.

Progressive taxes therefore help to reduce inequalities of income.

In the UK, income tax is a progressive tax. This was seen earlier in this topic in the case study 'Taxable income'.

Why is UK income tax progressive?

Income tax in the UK uses a system of tax allowances and tax bands (see Table 3.5.5). It is progressive for two reasons:

- First, the tax allowance is a larger percentage of a lower income, so the tax is a lower percentage. For example, in 2021/22 a person earning £25,140 per year has an allowance of £12,570, which is 50% of income. Therefore, they pay tax on the other 50% of income only. By contrast, a person earning £50,280 per year also has an allowance of £12,570, which is only 25% of income. Therefore, they pay tax on 75% of total income.
- Second, people on higher incomes may move into a higher tax band. Someone who earns £50,000 in 2021/22 pays tax at the basic rate of 20%, but another person earning £55,000 will be taxed at 40% for some of their income.

Study tip

Be careful of giving an incorrect definition of a progressive tax by stating that it is a tax where higher income earners pay a greater amount of tax. For example:

- Jay earns £20,000 and pays £5,000 in tax while Frances earns £50,000 and pays £10,000.
- Frances has paid more tax, but she paid 20% while Jay paid 25%.
- Frances paid a larger amount but a lower percentage, so it cannot be a progressive tax.

Always define a progressive tax as taking a greater percentage or proportion of a higher income, but never define it as taking a greater amount!

Extension material

Proportional and regressive taxes

Taxes can also be classified as proportional and regressive taxes.

- A proportional tax has the same rate of tax on all income levels.
- A regressive tax has a higher rate of tax on lower incomes.

The three types of taxes can be illustrated, as seen in Figure 3.5.9.

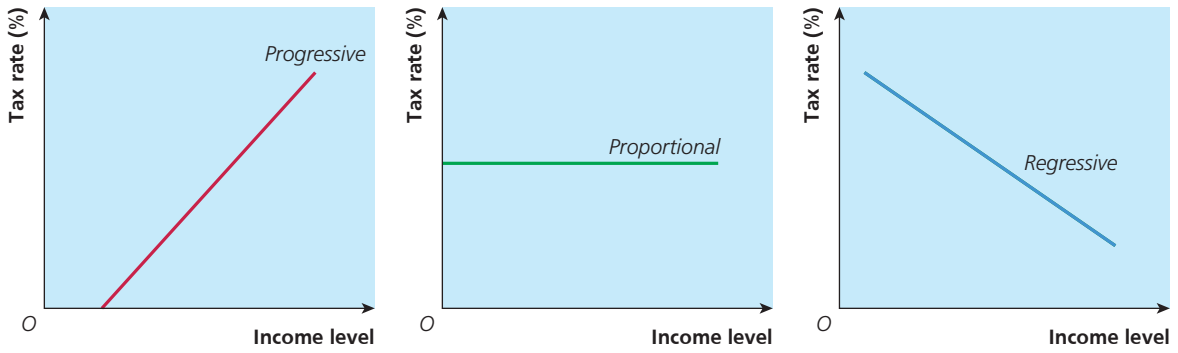


Figure 3.5.9 Progressive, proportional and regressive taxes

We will now use a numerical example to show the effects of these different types of taxes on two individual taxpayers, Robyn and Christoph.

Robyn earns £20,000 per year while Christoph earns £80,000 per year. Assume the government needs to collect £20,000 tax in total from their incomes.

1 A regressive tax:

Robyn and Christoph each pay £10,000.

This means that Robyn pays 50% of her income, while Christoph pays 12.5% of his income.

2 A proportional tax:

Robyn pays £4,000 while Christoph pays £16,000.

This means Robyn and Christoph each pay 20% of their income.

3 A progressive tax:

Robyn pays £2,000 while Christoph pays £18,000.

This means that Robyn pays 10% of her income while Christoph pays 22.5% of his income.

There may be some disagreement about which type of tax is the fairest, but progressive tax certainly helps to redistribute incomes in favour of the lower income groups.

In small groups, you could discuss which of the three types of taxes above you consider to be the 'fairest' and give reasons for your choice. You could then exchange your views with other groups.

Activity

Find out the current allowances and rates for inheritance tax. One useful source is: **www.gov.uk/inheritance-tax**. Calculate how much tax would be payable on a single person's estate of £500,000.

Inheritance tax

Inheritance tax can be used for the redistribution of wealth, as it is a tax on the assets of a person on death. A proportion of the wealth of the deceased person is paid in tax, so wealth is redistributed from the family.

Reducing indirect taxes

If the government wishes to redistribute incomes in favour of lower income groups, one method is to reduce indirect taxes. However, it may not wish to do this for other reasons. Goods with a high tax burden such as tobacco, alcoholic drinks and petrol/diesel have very considerable costs to society (see more on this in Topic 3.8). The government is therefore very likely to continue to tax them heavily even though they discriminate against those with lower incomes. On the other hand, the UK government does not impose indirect tax on a range of necessities, including most food, children's clothes, books and newspapers, medicines and public transport fares.

Government spending and redistribution

The government can increase its own spending on measures that will help it to reduce inequalities. The most obvious way is to provide social protection benefits to lower income groups. This directly increases the disposable incomes of households. These benefits are also known as transfer payments, as they transfer money from higher income groups through taxation to lower income groups. Benefits may be means-tested, which means the amount received depends on the income of the person or household. Other benefits are universal, such as state pensions and child benefits.

Government spending on services such as health and education also helps to redistribute incomes. These services represent a larger proportion of the incomes of lower income groups. Furthermore, some of this spending increases equality of opportunity, so people from poorer households may be able to have higher incomes in the future.

Case study

Indirect taxes in the UK

Some of the indirect taxes that affect consumption, other than VAT, are shown below. These are the rates for 2021/22. It has been suggested that the government will need to raise these rates in 2022/23 to help fund its greatly increased expenditure during the Covid-19 pandemic.

- Air passenger duty was kept at £13 for the cheapest seats for flights up to 2,000 miles and £82 for flights over 2,000 miles. For all other classes, the rates were £26 and £180.
- The tax on cigarettes was set at 16.5% of the retail price plus £4.90 on a packet of 20.
- Alcohol tax depends on its strength and type. A bottle of table wine is taxed at approximately £2.08.
- Insurance premium tax was set at a standard rate of 12% and a higher rate of 20%, which applies to travel insurance, electrical appliance insurance and some vehicle insurance.

Follow-up questions

1. Using a diagram, show the effect of an increase in an indirect tax on the price and quantity of the product.
2. How might the effect be dependent on whether the demand for the product is elastic or inelastic?
3. How might the markets for tobacco, air travel and insurance be affected by any proposed increase in taxes in 2022?

Evaluating the consequences of redistribution measures

As the aim of redistribution is to reduce inequalities of incomes, it can be said that the government is aiming for a fairer society. There will still be income inequalities between households, but not as great as before the redistribution took place. The redistribution aims to ensure that each family has a basic minimum standard of living. This should mean that in the UK all families will have somewhere decent to live, will be able to have a good diet, will receive education from the age of 4 up to at least 18, and will have access to health services when needed.

However, there may be other economic effects of the policy to redistribute incomes. Direct taxes including income tax and national insurance are very noticeable when they are deducted from pay packets. (Indirect taxes, on the other hand, are usually included in the price of goods and services and so are less noticeable.)

A particular problem is that higher rates of direct taxes may have adverse effects on incentives. This can show itself in a number of ways:

- If people find they can live well enough on benefits provided by the government, they may not bother to seek work. In other words, there is a disincentive to work. This is particularly true if the post-tax income from work is not much higher than benefits that could be gained when not working.
- People in work may make decisions based on the effect of direct taxes. They may be more reluctant to apply for a higher-paid job, as the difference in post-tax income may not make it worthwhile. Similarly, workers may not seek promotion at their current place of work.

Study tip

If you want to find out more about the personal savings allowance, a good starting point is **www.gov.uk/apply-tax-free-interest-on-savings**

- Some high earners may even move abroad to escape the tax, leading to the UK government losing all the tax revenue. They become 'tax exiles'. If talented workers move abroad, where tax rates are lower, this is sometimes referred to as a 'brain drain'. The UK economy also loses their contribution to society.
- High direct taxes can also act as a disincentive for businesses to invest. The rate of corporation tax is a consideration for businesses when deciding which country to locate in.
- Saving decisions are also affected by direct taxes on interest. People may be reluctant to save if a lot of their interest is taxed. Recently, however, the UK government greatly reduced taxation on savings interest. Every basic rate taxpayer in the UK now has a personal savings allowance of £1,000. This means that the first £1,000 of savings interest earned in a year is tax-free.
- The legal methods of avoiding extra tax are technically known as tax avoidance. Higher rates of tax could also lead to tax evasion, which is illegal. People may find ways to hide their incomes from the tax authorities. It is thought that the higher the rates of direct taxation, the more tax evasion there is likely to be.
- Taxes that affect incentives influence the supply side of the economy. If people are more reluctant to work, then the capacity of the economy to produce more goods and services is reduced (this will be considered further in Topic 3.7).

Now test yourself

10 What is meant by a progressive tax?

11 Why do governments want to redistribute income and wealth? Give reasons for your answer.

12 What is the difference between tax avoidance and tax evasion?

13 How may higher direct taxes have an adverse effect on employment? Give reasons for your answer.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the economic consequences of increasing progressive taxes to redistribute incomes.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Extension material

When the government wants to raise extra revenue, it has a choice of whether to increase direct or indirect taxes (or some combination of the two). The choice made will have certain effects on the economy, many of which have been considered in this topic.

Assume that the government wishes to raise an extra £5 billion from income tax or VAT through one of the following four options:

- raising the basic rate of income tax
- raising higher rates of income tax
- raising the standard rate of VAT
- introducing a low rate of VAT on goods that are currently zero-rated

1 Recommend which option should be chosen, giving the reasons for your answer.

2 Give reasons why you rejected the other options.

Progress check

Now you have finished this topic, you should be able to:

- explain purposes of government spending
- explain sources of government revenue, including direct taxes and indirect taxes
- explain what is meant by a balanced government budget
- explain what is meant by a budget surplus
- explain what is meant by a budget deficit
- explain what is meant by fiscal policy
- explain how fiscal policy can be used to achieve economic objectives
- calculate how taxes and government spending can affect markets
- calculate how taxes and government spending can affect the overall economy
- analyse how taxes and government spending can affect markets
- analyse how taxes and government spending can affect the overall economy
- evaluate the costs, including opportunity cost, of fiscal policy in achieving economic objectives
- evaluate the benefits of fiscal policy in achieving economic objectives
- explain progressive taxes
- evaluate economic consequences of measures to redistribute income and wealth, including progressive taxes

Topic 3.6
Monetary policy

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by monetary policy and how it can be used to achieve economic objectives
- analyse how monetary policy can affect growth, employment and price stability
- evaluate the effects of monetary policy on consumer spending, borrowing, saving and investment

Key term

Monetary policy A policy that aims to control the total supply of money in the economy to try to achieve the government's economic objectives, particularly price stability.

What is monetary policy?

Monetary policy is a policy that aims to control the total supply of money in the economy. It uses interest rates and other measures to influence the levels of total demand in the economy. The Monetary Policy Committee (MPC) of the Bank of England operates UK monetary policy. The Bank of England is the UK's central bank.

The major objective of monetary policy is a low and stable rate of inflation and the government sets a specific target for the rate of inflation. In the UK, this target of monetary policy is to keep inflation at a rate of 2% per year, as measured by the consumer price index (CPI). The MPC then sets the bank rate in order to try to meet this inflation target.

Provided inflation is within +1%/–1% of the 2% target, it is considered to be acceptable. Therefore, there is a target range for inflation of 1–3%. The government also asks the MPC to consider other economic variables such as growth and unemployment.

How does monetary policy work to achieve economic objectives?

Monetary policy can be used to achieve one or more of the following objectives:

- economic growth
- low unemployment
- price stability
- a balance in the balance of payments

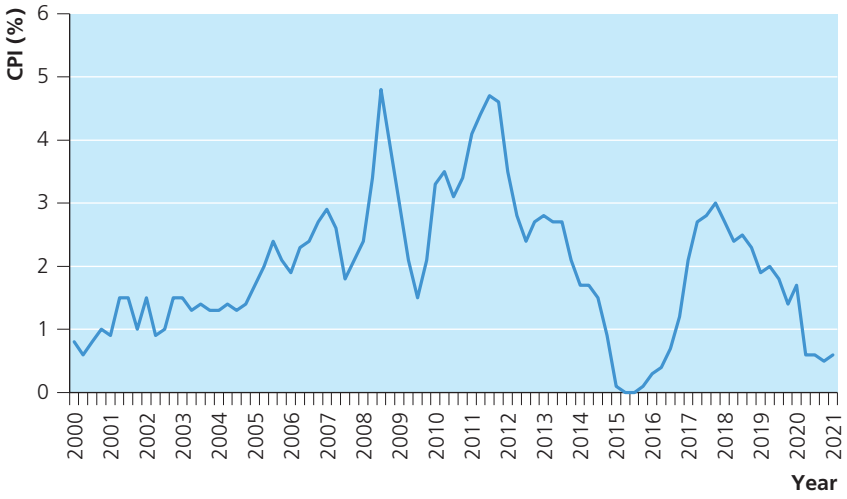
The Bank of England studies trends in the economy. This involves looking at a range of economic variables such as the labour market, consumer confidence, the exchange rate of the pound, house prices and economic growth. The MPC meets every month to study and

discuss all the economic data, and see projections about future inflation and other economic variables. Each month, a decision on interest rates is made. The minutes of each meeting are published, so that it is possible for everyone to see the reasons given for the interest rate decision.

If the MPC aims to increase the rate of economic growth and reduce unemployment, it can reduce the bank rate of interest. All rates of interest in the economy will then tend to fall. This means that spending in the economy will rise. The extra spending becomes incomes for firms, which produce more output. They employ more workers to meet the extra demand, and these workers will in turn have incomes to spend. This process continues, with incomes, spending, output and employment all rising.

The MPC's main objective in monetary policy is price stability. From all the statistics, the Bank of England decides whether inflation is likely to rise or fall in the future, and sets interest rates accordingly. If the Bank of England expects a fall in the inflation rate, the MPC tends to cut interest rates in order to keep inflation on target.

If the Bank of England expects higher inflation, the MPC tends to increase interest rates to keep inflation on target. This means that spending in the economy will fall. There will be less demand for the output of firms, and in response they are likely to reduce prices (or not increase prices), therefore reducing the rate of inflation. Figure 3.6.1 shows how the Consumer Price Index (CPI) has changed since the year 2000.



Source: ONS

Figure 3.6.1 Consumer Price Index, 2000–21 (quarter 1 figures)

The fall in demand brought about by lower interest rates also reduces the demand for imports, thus helping to achieve the objective of a balance in the balance of payments.

A summary of how monetary policy changes interest rates to achieve economic objectives is shown in Table 3.6.1.

The Bank of England has independence in setting monetary policy in the UK

Activity

Use the ONS website to update Figure 3.6.1.

Discuss in small groups, using Figure 3.6.1, how successful the Bank of England has been at meeting its target inflation figure of 2%.

Table 3.6.1 Summary of how monetary policy changes interest rates to achieve economic objectives

Objective	Interest rates	Effect
Economic growth	Reduced	Increased spending, output and employment
Low unemployment	Reduced	Increased spending, output and employment
Price stability	Increased	Reduced spending, so more price stability
A healthier balance of payments	Increased	Reduced spending, including spending on imports

The main measure the Bank of England uses in monetary policy apart from interest rates is quantitative easing. Here, the central bank makes more money available for financial institutions to lend to households and firms. When households spend more, this creates incomes for firms, which produce more output to meet the extra demand. It is also easier for firms to borrow money to invest in or expand their activities. Both mean that firms employ more workers and these workers will in turn have incomes to spend. This process continues with incomes, spending, output and employment all rising. This helps to achieve the objectives of economic growth and low unemployment.

In August 2016, an extra £60 billion of quantitative easing was announced, which took the total to £435 billion. The need to support the economy during the Covid-19 pandemic resulted in the total reaching £895 billion in November 2020.

Activity

Find out what the current situation is with quantitative easing.

Now test yourself

1 Which of the following statements are true and which are false?
   - a Monetary policy is a policy that aims to control the price of money.
   - b The target range for inflation is between 2 and 3%.
   - c If interest rates are reduced, this should lead to more economic growth and lower unemployment.
   - d During the period March 2020 to March 2021 the Bank of England decreased quantitative easing.

Analysing how monetary policy affects growth, employment and price stability

Growth and employment

If the Bank of England aims to achieve more employment and more economic growth, it can reduce the bank rate of interest. All rates of interest in the economy then tend to fall. This means that spending in the economy rises. We will now analyse why spending rises when interest rates fall.

Borrowing by consumers rises

Lower interest rates make the cost of borrowing cheaper. It will encourage consumers to take out loans to finance greater consumer spending, possibly on 'big ticket' items such as cars and expensive electrical goods. The loans could take various forms, such as personal bank loans or credit card spending.

Borrowing by firms rises

The cost of borrowing is cheaper for firms. It encourages firms to take out loans to finance greater investment expenditure.

Saving falls

There is a smaller reward from saving. This lower incentive to save may encourage consumers to spend rather than hold onto money.

Asset prices rise

It becomes more attractive to buy assets such as housing. This causes a rise in house prices and therefore a rise in wealth for their owners. Increased wealth also encourages consumer spending, as confidence will be higher. (This is known as the wealth effect.)

Disposable incomes rise for households with mortgages

The monthly cost of mortgage repayments will fall. In the UK, millions of households have mortgages. If the rate of interest on their monthly payments falls, this will leave householders with more disposable income and so should cause a rise in consumer spending. (Note, households on fixed-interest mortgages may not see their payments fall at first, but they are likely to fall eventually.)

The external value of the currency falls

If the UK reduces interest rates, it makes it relatively less attractive to save money in pounds in the UK (as there would be a better rate of return in another country). Therefore, there will be less demand for the pound, causing a fall in its value. Depreciation in the exchange rate makes UK exports cheaper and so more competitive, and export sales are likely to rise. Meanwhile, imports become more expensive and home-produced goods might be purchased instead. This also helps to increase total demand in the economy. (There will be a more detailed discussion of changes in the exchange rate in Topic 4.3.)

Price stability

If the Bank of England anticipates inflation rising above the government's target of 2%, the MPC is likely to increase interest rates. This is because higher interest rates should reduce total demand. We will now analyse why spending falls when interest rates rise.

Borrowing by consumers falls

The cost of borrowing rises. This will discourage consumers from taking out loans to finance their spending. They are less likely, for example, to borrow from banks or spend on their credit cards.

Borrowing by firms falls

The cost of borrowing rises for firms. This will discourage firms from taking out loans to finance greater investment expenditure. Even if firms use their own money for investment, the opportunity cost is now higher (as they can save it for the reward of a higher interest rate).

Saving rises

There will be a greater reward from saving. This increased incentive to save may discourage consumers from spending.

Asset prices fall

It becomes less attractive to buy assets such as housing. This may cause a fall in house prices and therefore a fall in wealth for the owners of the assets. Reduced wealth will also discourage consumer spending as confidence will be lower.

Disposable incomes fall for households with mortgages

The monthly cost of mortgage repayments rises. This will leave householders with less disposable income and so should cause a fall in consumer spending.

The external value of the currency rises

As well as the effects on demand, a rise in interest rates tends to raise the external value of the currency. This will make imports cheaper and help to reduce inflation.

Study tip

It is sometimes argued that a cut in interest rates makes consumers poorer because they will not get so much income from their savings. They therefore spend less and economic activity falls. It may be true that some individuals rely on interest for much of their incomes and their spending may fall. Nevertheless, for most consumers in the economy the fall in interest rates will lead to more spending for the reasons given above.

? Now test yourself

2 Complete the following sentences:

- **a** When the rate of interest rises, borrowing by consumers ..... .
- **b** When the rate of interest rises, the external value of the currency ..... .
- **c** To try to increase economic growth, the rate of interest should ..... .
- **d** Households with mortgages will gain if the rate of interest ..... .

Evaluating the effects of monetary policy on consumer spending, borrowing, saving and investment

Consumer spending

Study tip

Before starting this section, it might be useful to revisit Topic 2.8 where investment and savings are introduced.

We would expect consumer spending to rise as interest rates fall in monetary policy. However, the extent to which it will rise is not known in advance. If the interest rates on consumers' savings accounts fall by a small percentage, we do not know how many would deliberately reduce their savings and consume more. Indeed, there may not be much effect on consumer spending because the reward for saving has fallen.

On the other hand, in the UK, a large proportion of households have mortgages. Therefore, falls in interest rates have a bigger impact on consumer spending in the UK than in some other countries with a higher proportion of people who rent rather than buy. For households that already have a mortgage, the fall in interest rates means that they are likely to be paying less each month in mortgage interest payments. Therefore, as consumers, they have more to spend on other goods and services. Their disposable incomes have risen, and this is an important factor affecting consumer spending.

Consumer spending is linked to monetary policy

Assume now that the Bank of England operates a monetary policy of increasing interest rates. You have seen above that higher interest rates lead to less consumer spending. A rise in interest rates on savings means that the opportunity cost of spending is higher, so spending is less attractive. However, if the interest rates on consumers' savings accounts rise by a small percentage, we do not know how many would deliberately increase their savings and consume less. Again, there may not be much effect on consumer spending because the reward for saving has risen.

However, increases in interest rates may have a large impact on consumer spending in the UK through the effect on mortgages. If households have to spend significantly more each month on their mortgage, their disposable income falls, leading to a significant fall in consumer spending.

It is the case that some households have fixed-interest mortgages, so monetary policy interest changes may not affect their consumer spending in the short run. However, when the fixed rate comes to the end, the new rate will reflect changes in interest rates, and so will affect consumers' spending with a time lag.

Some consumers, such as retired people, may rely on interest from their savings as an important part of their incomes. If interest rates rise, they have a higher disposable income and so may spend more. If interest rates fall, they have lower disposable income and so may have to cut back on their consumer spending.

If a country has a high proportion of savers, lower interest rates will reduce the income of many people. Therefore, while we usually expect lower interest rates to increase consumer spending, in this case it could be reduced.

Another consideration when the Bank of England reduces the bank rate is whether the banks pass this reduction onto consumers. For example, in the 'credit crunch' of 2008/09, banks were short of liquidity and keen to encourage more bank deposits. Therefore, when the bank rate was cut to 0.5%, banks did not reduce their interest rates very much, so the interest rate cut had little effect on consumers.

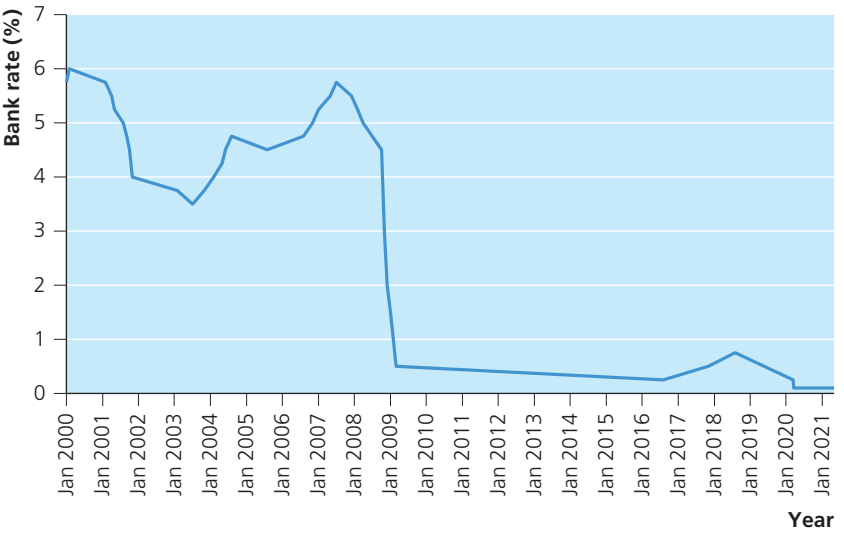
The extent to which consumer spending changes when interest rates change in monetary policy depends very much on the extent of the change in interest rates. The greater the change, the more consumer spending is likely to be affected, especially in the UK economy through the effect on mortgage interest payments.

Activity

1 Use the Bank of England website: **www.bankofengland.co.uk** to update Figure 3.6.2.

2 Find out why the bank rate has stayed below 1% since 2009.

3 Compare Figure 3.6.2 with Figure 3.6.1.Look for relationships between the CPI and the rate of interest. Once you have decided, exchange your views with others in the class.



Source: www.bankofengland.co.uk

Figure 3.6.2 UK bank rate, 2000–21

Many homeowners buy 'big ticket' items on credit

Borrowing

You have seen above that lower interest rates are good news for borrowers, as the price of loans has fallen. They may be encouraged to borrow more in order to spend. Many households buy expensive items such as cars, furniture and appliances using credit. This means they are borrowing to buy. Usually, the loans are paid back in monthly instalments. The amount paid will depend on the rate of interest, so if interest rates fall, the amount paid monthly falls, and borrowing becomes more attractive. Households may therefore borrow more in order to spend when interest rates are lower. When interest rates rise, borrowing is more expensive and fewer households are likely to take out loans.

Consumer confidence is an important factor. Just because interest rates are cut, people may not always want to borrow more. If confidence is low, a cut in interest rates may not encourage more spending. After 2008, there was an increase in the savings ratio (the proportion of income that is saved), despite an interest rate cut. This was because confidence fell as the economy entered a deep recession. Similarly, a rise in interest rates may not deter borrowing if consumers are confident about their own financial positions.

Lower interest rates may encourage more people to become homeowners by applying for mortgages. In this case, households are borrowing in order to purchase their homes. As explained above, the rate of interest has a significant effect on monthly mortgage interest payments and so borrowing for this purpose can be affected considerably by changes in rates of interest. In times of high interest rates, many households may be unable to afford the costs of borrowing, and the demand for mortgage loans falls.

It may be the case, however, that bank rates are reduced to encourage borrowing, but banks are unwilling to lend. For example, after the 'credit crunch' of 2008, banks reduced the availability of mortgages. Therefore, even if people wanted to borrow at low interest rates, some of them could not because the deposit they needed for the house purchase was too high.

Activity

Find out what has happened to the rate of interest since 2021. How have any changes affected consumption, borrowing and saving by individuals? Why do you think these changes have happened? Exchange your findings and ideas with other members of your class.

In conclusion, we would expect lower interest rates to encourage borrowing, but the extent to which borrowing rises depends on the various issues considered here.

Saving

You have seen that the opportunity cost of spending is the interest that could be earned from saving the money instead. A rise in interest rates means that the opportunity cost of spending is higher, so saving is more attractive.

However, if the interest rates on consumers' savings accounts rise by a small percentage, we do not know how many would deliberately increase their savings and consume less. Again, there may not be much effect on saving just because the reward for saving has risen.

There may be other factors affecting savings that are more important. For example, people may choose not to save up for later purchases of expensive consumer goods if they can buy them now using available credit.

Reductions in interest rates may not have much effect in a situation where the general price level is falling. People may still prefer to save because the real interest rate is still quite high, and because they know that prices will be lower in the future.

We can conclude that the change in total savings is likely to be greater, the greater the change in the interest rate, but the extent to which savings change depends on a range of issues considered here.

Case study

The UK bank rate

Refer to Figure 3.6.2 which shows the Bank of England's bank rate.

Follow-up questions

1 Using the information in Figure 3.6.2, calculate the difference in the UK bank rate between January 2000 and January 2021. Show your workings.

2 Would savers benefit from the changes to the bank rate between 2007 and 2009? Give reasons for your answer.

3 Would borrowers benefit from the changes to the bank rate between 2007 and 2009? Give reasons for your answer.

4 Would the level of the bank rate between 2017 and 2021 encourage consumer spending in the economy? Give reasons for your answer.

Evaluate this

Using the information in this topic and your own knowledge, evaluate the extent to which (a) consumers, (b) borrowers and (c) savers will have benefited from low, stable interest rates between 2009 and 2021.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Investment

Investment is the purchase of capital goods (see Topic 1.1) by firms. Two sources of finance for investment are retained profit and loans.

The rate of interest on loans may affect firms' decisions to invest, so if rates of interest rise, they may be put off from undertaking some investment. This is also true if they are using their own profits to invest, as the opportunity cost of the investment has risen. They could now earn more interest simply by saving the money rather than buying capital.

Firms will have to weigh up the potential returns from investment against the reward from saving. In practice, if interest rates rise a little, it may just affect the marginal investment decisions: that is, those which the firms are less confident about. Similarly, a small fall in interest rates may encourage a little more investment.

Business confidence is an important factor affecting investment decisions. Just because interest rates are cut, firms may not want to borrow more. If confidence is low, a cut in interest rates may not encourage more borrowing for investment. From 2008, in spite of a fall in interest rates, there was a fall in investment by firms, as business confidence fell when the economy entered the recession.

There are a range of other factors that affect investment decisions apart from changes in interest rates and business confidence. These include the expected returns from the investment, the state of the economy as a whole, the actions of competitors and taxes on profits. We would need to weigh up the importance of interest rates in making investment decisions in the context of these other factors.

Now test yourself

3 What is the opportunity cost of spending?

4 Why might a rise in interest rates have a large impact on consumer spending?

5 Why might a cut in the rate of interest not lead to greater consumer spending?

6 How can business confidence affect business investment?

Evaluate this

Using the information in this topic and your own knowledge, evaluate the effects of a rise in interest rates in monetary policy on consumer spending.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Extension material

The Bank of England publishes its Inflation Report quarterly at **www.bankofengland.co.uk**.

Find the latest report and answer the following questions:

1. How many members of the MPC are there?
2. Who is the governor of the Bank of England?
3. How many deputy governors are on the MPC?
4. The report is in five sections, dealing with different aspects of the economy. What are these five sections?
5. Towards the end of its report, the MPC gives key judgements. Try to summarise its key judgement with regard to the prospects for:
   - a global growth
   - b demand in the UK
   - c supply in the UK
   - d inflation in the UK

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by monetary policy
- explain how monetary policy can be used to achieve economic objectives
- analyse how monetary policy can affect growth
- analyse how monetary policy can affect employment
- analyse how monetary policy can affect price stability
- evaluate the effects of monetary policy on consumer spending
- evaluate the effects of monetary policy on borrowing
- evaluate the effects of monetary policy on saving
- evaluate the effects of monetary policy on investment

Topic 3.7
Supply side policies

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by supply side policy and how it can be used to achieve economic objectives
- evaluate the costs, including opportunity cost, and the benefits of supply side policies for the economy

Study tip

Refer back to Topic 2.6 to revise your understanding of productivity. Many of the supply side measures explained in this topic have the aim of increasing productivity.

Key term

Supply side policy Any policy that helps to improve a country's productive potential.

Study tip

It can be easy to confuse fiscal, monetary and supply side policies. Make sure you are clear which policies fall under each of these three headings.

Study tip

Refer back to Topic 1.1 for understanding of the factors of production.

What is meant by supply side policy?

Fiscal policy (see Topic 3.5) and monetary policy (see Topic 3.6) are used to affect the aggregate (total) demand in the economy. There are also policies that the government can use to affect the aggregate supply in the economy, which will be considered in this topic. These are known as **supply side policies**.

If total demand rises in the economy but the firms in the economy are not able to supply any more output, then the GDP will not rise but the price level will. In other words, there will be demand-pull inflation (see Topic 3.4). Supply side policies improve an economy's productive potential and its ability to produce more output, so that when demand rises in the economy this will lead to a higher GDP without inflation being a problem.

What are supply side policies and how do they work to achieve economic objectives?

There are several measures that a government can take to improve supply side performance.

Education and training

Topic 1.1 explained that labour is one of the four factors of production. In fact, the supply of labour is one of the economy's most important resources. It is not just the quantity of labour that affects an economy's ability to produce but also the quality of that labour. Government spending on education and training improves workers' human capital. A well-educated and trained workforce is a more productive one, resulting in greater output of goods and services and, therefore, more supply in the economy.

Many developing countries find that their development is lacking in part due to a shortage of skilled and educated workers and sometimes ongoing conflicts Their governments are unable to find the resources to put into education, which means their workforces are not very productive. This means a lack of resources, including for education. It is a vicious circle.

Case study

Apprenticeships

The UK government offers apprenticeships as an alternative for 16-year-olds or for anyone seeking a new direction in their career.

An apprenticeship is an actual job, with an employment contract and holiday leave, where you get paid while learning and gaining experience. Depending on the course chosen, and your previous experience, it can take between 1 and 6 years to complete. At the end, you will have gained the knowledge and skills required for your future career. The funding comes from the government and employers.

There are advantages for both the apprentice and the business for which they work.

The advantages for the apprentice are that they:

- learn and train for a specific job and get real hands-on experience
- get paid and receive holiday leave
- study for at least 20% of their working hours – usually at a college or university, or with a training provider, completing assessments during and at the end of the apprenticeship
- are on a career path with future potential

The advantages for businesses are that employing an apprentice:

- is a productive and effective way to grow talent which helps develop a motivated, skilled and qualified workforce
- helps to develop skills relevant to the business
- helps to improve productivity and the quality of their product or service
- enables training to be adapted to fit the needs of the business
- is a way to expand and up-skill the workforce

Follow-up questions

1 How are apprenticeships examples of supply side policies?

2 How can apprenticeships be used to achieve economic objectives?

Extension material

Carry out research on government policy on apprenticeships and the advantages to apprentices and employers. A useful source is: **www.apprenticeships.gov.uk**.

Discuss in small groups whether you feel that this would be a good alternative path for you to follow.

Now test yourself

1 Besides supply side policy, name the two other macroeconomic policies.

2 Name the two aspects of the economy that supply side policies improve.

3 Complete the following sentences:

a An advantage of supply side policies is that GDP can increase without leading to …… .

b A better educated workforce increases the …… of labour.

Reducing the power of trade unions in labour markets

The UK government reduced the power of trade unions, especially in the 1980s, to ensure that trade unions do not restrict the working of the labour market by making it more rigid. This has been controversial as it is difficult to decide between protecting the rights of workers and freeing up the market so that it can respond to the needs of the

economy. If there are labour disputes such as strikes, the output of the economy is lower than it would otherwise be. In 2018 there were:

- 273,000 working days lost due to labour disputes, the sixth-lowest annual total since 1891
- 26,000 working days lost in the public sector – the lowest since such records began in 1996
- 39,000 workers involved in labour disputes, the second-lowest figure since 1893
- 81 stoppages, the second-lowest figure since records for stoppages began in 1930

Table 3.7.1 compares 2018 with 2017.

Table 3.7.1 Number of working days lost (WDL), workers involved and stoppages in the UK, 2017 and 2018

	2017	2018
WDL through stoppages	276,000	273,000
Workers involved in stoppages	33,000	39,000
Stoppages	79	81
Mean number of WDL per stoppage	3,499	3,367

Reducing direct taxes on workers

The government may decide to reduce direct taxation to increase the incentives to work and invest, and thus enable the economy to increase its supply of goods and services.

Lower income tax and employees' national insurance contributions (NICs) can act as an incentive for unemployed workers to join the labour market, or for existing workers to work harder. If the post-tax reward for working is not much greater than the income that could be received from benefits when unemployed, this may act as a disincentive to work. This is sometimes called the unemployment trap. Therefore, cuts in direct taxes (such as income tax) that increase take-home pay can act as an incentive for unemployed workers to find a job.

Furthermore, people already in work may be reluctant to take jobs with higher pay if they end up paying more tax (the poverty trap). Therefore, cuts in direct taxes (such as income tax) can increase incentives to switch jobs, work longer or harder, seek promotion etc. This therefore improves the labour market and the supply side of the economy.

Case study

Zero-hours contracts and self-employment

A zero-hours contract is a type of contract between an employer and a worker, where the employer does not provide any minimum working hours and the worker does not have to accept any work offered. The worker may sign an agreement to be available for work as and when required, but no particular number of hours or times of work are specified. A person is self-employed if they run their business for themselves and take responsibility for its success or failure.

Zero-hours contracts have become a lot more common in recent years in the UK. Businesses have supported zero-hours contracts because they provide a flexible labour market. Some firms that operate zero-hours contracts for the majority of their workers in the UK include Sports Direct,

McDonald's and Boots. Such contracts may be ideal for some part-time workers who want occasional earnings and are flexible about when they work. Self-employment has increased in the UK as it suits workers who wish to have greater control over their working hours and conditions.

In 2021, Uber lost a final appeal on the status of its taxi drivers. The Supreme Court ruled that they were not self-employed, as Uber claimed, but were workers employed by the firm and were therefore entitled to receive the minimum wage and holiday pay as standard.

Follow-up questions

1 What is meant by a 'zero-hours contract'?
2 Give reasons why you might want to work on a zero-hours contract if:
   a you are a student who wants some part-time work
   b you are a parent, and your income supports your family?
3 Why has the number of self-employed workers increased?
4 What effects do you think the Supreme Court ruling could have for Uber? Give reasons for your answer.

Reducing benefits

As explained above, if the income that a person gets from working is not much more than the benefits they get from being unemployed, there is little incentive to work (the unemployment trap). Furthermore, people already in work may be reluctant to take jobs with higher pay if they lose in-work benefits (the poverty trap). Therefore, a generous level of benefits acts as a disincentive for people to work at all or to switch jobs. It is argued that incentives will be increased by cutting benefits (see Figure 3.7.1).

Study tip

It is advisable to keep up to date with tax and benefit levels, so that you can provide recent examples.

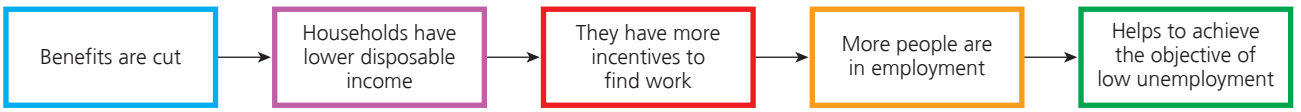


Figure 3.7.1 Cutting benefits may increase incentives to work

Reducing direct taxes on firms

Direct taxes can also affect a firm's incentive to invest. If corporation tax on profits is high, firms will be left with lower levels of funds with which to invest in order to expand. Also, if there are less profits to be made, firms may not be willing to take the risk of investment because it may not make financial sense.

Cuts in corporation tax help to release money that firms would otherwise have to pay as tax, thereby increasing their incentive to invest.

Multinational firms may be attracted to locations where corporation taxes are relatively low. If UK corporation tax rates compare favourably with those in other countries, such firms may be attracted to set up or expand in the UK, thus increasing productive capacity.

Policies to encourage competition in product markets

Competition policy is a government policy to promote competition. One aspect of this is to reduce monopoly power. As you saw in Topic 2.5, monopolies can lead to a number of supply side disadvantages. The government can control monopoly power in various ways. It can prohibit mergers that would lead to greater monopoly power and it can force monopolies to sell off part of their operation.

Study tip

Fiscal policies such as cutting benefits and income tax can be seen as supply side policies if they affect total output and/or increase productive potential.

Activity

Originally only Royal Mail was allowed to deliver parcels. Since 2006 this has changed, so there are now a number of firms that do this, both domestically and internationally.

Divide yourselves into small groups. Each group should research one of these companies, such as Parcelforce, and should cover aspects such as:

- how they operate
- what their market share is
- whether they specialise in particular types of deliveries

You may wish to add other aspects. Each group should then report back to the class.

Discuss the effects of these companies on the economy.

Case study

Challenger banks

A challenger bank refers to a newly created digital-only banking establishment in the UK, as an alternative to traditional high-street banks. They are often much smaller than well-established high-street banks, but are becoming increasingly popular with customers who wish to switch to a more dynamic and easy-to-use bank. Examples of challenger banks are Monzo Bank, Revolut and Starling.

Some people have found that these challenger banks offer better customer service than high-street banks, more convenient ways of making deposits and loan applications, and automation of financial services such as bill payments. In addition, they offer free transfers of cash both domestically and internationally, real-time notifications, and make spending and ATM withdrawals when abroad inexpensive.

On the other hand, most challenger banks are specialist banks offering limited services such as savings and budgeting or mortgages, as compared to the full range of services offered by traditional banks. They also leave customers vulnerable to cyber threats associated with online transactions. Some challenger banks will share your spending data with third parties.

Starling Bank announced in November 2020 that it was the first challenger bank to break even, four years after receiving its banking licence in 2016.

Follow-up questions

1. Other than the challenger banks named above, research two other examples.
2. Do you consider that challenger banks provide real competition for the traditional banks? Give reasons for your answer.
3. What are the advantages for the UK economy of more competition in the banking market? Give reasons for your answers.

Privatisation

Privatisation is the transfer of assets from the public sector to the private sector. In particular, the government may sell off whole businesses or industries to the private sector.

Privatisation of state industry was a central part of supply side policy during the 1980s and 1990s, with whole industries, including gas supply, electricity generation and supply, water, railways and steel privatised. It is often said that state-owned businesses operate inefficiently, as they lack the profit motive and decisions are often taken that do not lead to more efficiency.

If privatisation is accompanied by measures to promote competition, there are likely to be efficiency gains and productivity will rise.

Not all privatisations were entirely successful due to the way they were done, a good example being the railways.

Activity

Find out what changes the government has made to the structure of the railways since 2020. Why have they made these changes? How successful do you think they have been? Share your findings with the rest of the class and then discuss either whether the changes have been successful or whether the railways should be owned by the government.

Development of infrastructure

The economy relies heavily on infrastructure (see Topic 1.2). Infrastructure is the basic physical and organisational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of an economy.

For example, transport networks including road and rail, airports and docks are vital for the movement of goods. This includes not just the finished products that have to reach consumers through distribution networks, but also materials, components etc. that have to move through the chain of production. Furthermore, workers need transport to and from work, and consumers need access to markets.

A lack of basic infrastructure is a major obstacle to the development of some countries. Where, for example, roads are lacking or in poor repair, electricity supply suffers from power cuts, the internet is unreliable and mobile phone coverage is patchy. This makes it difficult for the economy to develop.

The UK economy has a well-developed infrastructure. Some of this is reliant on government spending decisions, for example on roads and railways.

Now test yourself

4 Apart from education and training, name three other supply side policies.

5 The Irish government has a very low rate of corporation tax. Why do you think it has done this?

6 What is meant by the unemployment trap?

7 How can the government reduce monopoly power?

Case study

HS2

HS2 is a new railway line linking London Euston station to Birmingham. It is intended then to extend this to Manchester, Nottingham, Sheffield and Leeds and perhaps to Scotland. The argument is that HS2 will benefit businesses and the economy as a whole, and will reduce the north–south divide by providing the most efficient, greenest and safest form of transport links.

Opponents argue that it involves a huge and growing cost (£88 billion in 2020) while having severe environmental impacts. They would prefer to see the money spent on rail improvements to reduce delays. Table 3.7.2 outlines some of the suggested benefits and costs of the project.

Table 3.7.2 Benefits and costs of the HS2 project

Benefits	Costs
The railway line will free up capacity on the existing lines, enabling more local commuter services.	Only those people who travel between the cities connected by HS2 will benefit.
The railway line will allow for more freight services, thus reducing heavy-lorry traffic.	People are increasingly working from home and meeting online rather than face to face, so the benefits are declining.
Fast rail times will reduce internal air travel, thus lowering the carbon footprint of travel.	Costs continue to rise from an initial £56 billion in 2015 to potentially over £100 billion.
Greater train frequency can lead to fewer car journeys, so lower pollution, fewer road accidents and a drop in infant mortality.	Upgrading the Manchester to Leeds rail line would do more for the north, while, for example, digital signalling would be cheaper and increase capacity.
The £2–3 billion annual capital investment will help to create jobs and promote economic activity.	There are considerable environmental costs of building a new line through the Chilterns and Midlands.

Before tackling the questions below, you may wish to do your own research to investigate the issue further.

Follow-up questions

1 What is the case for continuing with, and completing, HS2 through to Manchester and Leeds?

2 What is the case for discontinuing HS2 altogether?

Evaluate this

Using the information in this topic and your own knowledge, evaluate the costs and benefits to the economy of the HS2 project.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Evaluating the costs of supply side policies

Time lags

A major drawback with supply side policies is that they can take a long time to put into effect. Here are some examples:

- Infrastructure can take many years to construct – for example, a motorway network or airport capacity in southeast England. It can

take years of negotiation to make the decision about where such infrastructure will be, and it can take many more years before it is complete.
- Improving the quality of human capital, through education and training, can take a number of years.
- The benefits of deregulation will be seen after new firms have entered the market, and it can take some time for them to become established.

In addition, conditions in the economy may change to such an extent that the policy becomes less relevant.

Cost

Supply side policies can be costly to implement. Here are some examples.
- Education and training and health are very labour-intensive service industries with high wage costs. In addition, spending more money on education and training could mean less money spent on health (opportunity cost).
- There is always an opportunity cost involved. The money that is to be spent, for example, on HS2 could be spent on other things, such as new hospitals, schools or roads.
- Competition policy can also have opportunity costs. For example, breaking up an efficient monopoly might result in a number of smaller and less efficient firms, leading to lower output and/or higher prices.

Activity

Find out about a local supply side measure. This could be being implemented by central or local government. What are the opportunity costs involved? If there are several possibilities, divide the class into groups which then report back on their findings.

Resistance to policies

The policies may face resistance from groups within the economy. Here are some examples:
- Those who believe that it would hurt the most vulnerable in society would oppose a policy of reducing social protection benefits.
- Trade unions will oppose policies to limit their powers. This may lead to industrial disputes and perhaps industrial action, such as strikes.
- Firms may oppose aspects of competition policy, as their profits may suffer.

Equity issues

Supply side measures can have a negative effect on the distribution of income, at least in the short term. This is particularly the case for cuts in benefits, as the impact is on the lowest income groups in society.

Unintended effects

Some policies may not have the intended effects. For example, if there were a cut in income tax in order to increase incentives, would workers actually work more? Some may decide to work less because they can now have the same disposable income while working fewer hours.

Table 3.7.3 Effects of supply side policies

Objective	Cut in income tax	Reduction in trade union powers	Effect
Economic growth	Stimulates growth	Reduces monopoly power so more labour flexibility	Greater output, more employment
Low unemployment	Encourages more people to work as it is now more worthwhile	Should increase employment as labour is more flexible Could lead to a fall in employment as less job protection	More people enter the workforce, which is more flexible
Price stability	If more people enter the workforce, price stability is maintained. Otherwise could lead to inflation	Could lead to lower wages/wage increases so price rise due to cost-push inflation is kept low	If output increases due to more labour and a more flexible workforce, price stability is maintained
A healthier balance of payments	Should lead to more output so more exports Could lead to more imports as consumption expands	If this leads to price stability, this could lead to more exports	If there is greater output and price stability, this is likely to have a positive effect

Activity

Using Table 3.7.3 insert other supply side policies and decide what the outcomes/effects could be. This could be done in small groups or as a class to stimulate discussion.

Evaluating the benefits of supply side policies

Economists agree that if the supply side of the economy can be improved, it will be easier for the government to achieve its objectives. Supply side policies have the benefits outlined below.

Target specific markets

Supply side policies can target particular markets or parts of the economy in order to improve efficiency. For example, if there are certain skill shortages, the government could encourage training schemes to increase the number of workers with the required skills. An airport could be built in a specific location to encourage a tourist industry in that area, for example.

Combat inflation

Supply side policies can help reduce inflationary pressure in the long term because the product and labour markets become more efficient and productivity increases. This means that as total (aggregate) demand rises in the economy, supply is more able to rise to meet this demand without inflation becoming a problem.

Increase employment

As total demand and supply rise in the economy, more workers will be employed. Furthermore, as labour productivity rises, this is likely to lead to a rise in real wages for those workers.

Increase economic growth

As total supply in the economy rises, this means that economic growth has been achieved. Supply side policies can therefore help to increase the average standard of living and increase economic welfare.

Improve the balance of payments

As supply side policies increase competitiveness, they will also help improve the balance of payments. A higher quality of resources and rises in productivity should make UK firms more competitive on price and quality, and so help to achieve a balance between exports and imports.

Now test yourself

8 Why are time lags a major problem in using supply side policies?
9 How can supply side policies help to reduce inflationary pressures?
10 What can workers gain from greater productivity?
11 How do supply side policies differ from fiscal and monetary policies?

Evaluate this

Using the information in this topic and your own knowledge, evaluate the extent to which supply side policies can be successful in achieving an increase in economic growth.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Extension material

Supply capacity

Growth in the economy's potential supply capacity determines the pace at which output can rise without generating excess inflationary pressure. Supply capacity is largely unaffected by monetary policy and is determined by structural factors such as technological progress, the size and skills of the labour force, the quantity and quality of capital and the degree of openness of the economy.

In 2021 there are few signs of there being spare capacity in the labour market. In some cases, such as the haulage industry, this is partly due to Brexit. The Covid-19 pandemic, however, may change this situation. There are various places in which spare capacity within the labour market can be located.

People active in the labour market but currently without jobs could find work. People who are not currently active in the labour market could enter it, raising the participation rate. Both groups could be supported by offering improved education and/or more training opportunities such as apprenticeships. Alternatively, people already in work could increase their hours worked.

1 What is meant by potential supply capacity?
2 Identify two possibilities for there being spare capacity in the labour market.
3 How could the size and skills of the labour force affect the supply capacity of the economy?
4 How can supply side policies help to improve spare capacity? Give reasons for your answers.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by supply side policy
- explain how supply side policy can be used to achieve economic objectives
- evaluate the costs, including opportunity cost, of supply side policies for the economy
- evaluate the benefits of supply side policies for the economy

Topic 3.8
Limitations of markets

Learning outcomes

After studying this topic, you should be able to:

- explain what is meant by positive and negative externalities
- explain government policies to correct positive and negative externalities, including taxation and subsidies, state provision, legislation and regulation, and information provision
- evaluate the use and impact of government policies to correct positive and negative externalities
- evaluate the costs, including opportunity cost, and the benefits of government policies to correct positive and negative externalities

What are positive and negative externalities?

An **externality** is an effect of an economic activity on a third party. A third party is someone who is not involved in that activity. Therefore, a **positive externality** is a benefit to the third party, while a **negative externality** is a cost to the third party.

In Topic 2.4, you saw how demand and supply allocate resources. It can be an efficient method because the equilibrium price matches the value of the satisfaction that consumers hope to receive to the value of the factors of production used, so that all stock is cleared and scarce resources are used wisely. However, the presence of externalities makes the true values more difficult to quantify. So it may mean that markets are not always the most efficient way of allocating resources.

When production takes place, there can be beneficial effects on third parties. These are positive externalities or external benefits arising from this production. An example is that when a department store has decorative lights and trees at Christmas, all passers-by will benefit from the display.

Consumption can also lead to positive externalities. A good example of this is gym membership. The individuals who pay for (and use!) the gym benefit directly if they are fitter. There might also be an external benefit of increased output for the firms they work for, if being fitter means they are more productive.

When production takes place, there can be adverse effects on third parties, which are negative externalities arising from this production. An example of a negative externality is pollution. This includes land, air, water, visual or noise pollution. For example, an oil refinery may be constructed and consequently pollute the air of the surrounding area,

Key terms

Externality An effect of an economic activity on a third party.

Positive externality Beneficial effect of an economic activity on third parties, also known as external benefit.

Negative externality Harmful effect of an economic activity on third parties, also known as external cost.

while large road tankers cause noise and congestion travelling to and from the refinery.

Consumption can also lead to negative externalities. A good example of this is driving cars. This causes air and noise pollution as well as congestion. It also creates danger for pedestrians and passengers, as thousands of people are killed or injured on the UK's roads each year.

Negative externalities can impact third parties in the future – for example, when non-renewable natural resources are not used sustainably, so are used up in production or consumption. These resources are no longer available for future generations and can harm their standard of living. An example is the fishing industry. Fish stocks around the world have fallen considerably, with stocks of cod, in particular, being heavily depleted. Huge factory ships take unsustainable quantities of fish while also indiscriminately killing many forms of marine life, including dolphins and seabirds.

Activity

Go online to find out some facts about fast-food consumption and its effects. Does the consumption of fast food have negative externalities? Give reasons for your answer.

Now test yourself

1 Which of the following are examples of externalities?
   - **a** Water pollution from fertiliser from crops running into rivers
   - **b** House prices falling near the building of a new airport
   - **c** Catching a cold from another passenger on a flight
   - **d** Increased wages after becoming more skilled by completing a training course
   - **e** Increased asthma for children who go to school near main roads

Extension material

Categorising externalities

Beyond GCSE, economists quantify the impact of externalities and can theorise where corrected levels of demand and supply should be on a diagram. To do this, economists need to be able to categorise the externalities. They first decide whether they are positive or negative. They then consider whether the externality comes from consumption (so can be linked to demand) or production (so can be linked to supply).

List and categorise two externalities from each of the following:

1 honey
2 cars
3 libraries
4 cigarettes

Remember, to be 'external', the impact needs to be on a third party, so someone not involved in consumption or production.

Activity

Use a search engine to investigate the Deepwater Horizon oil spill. This is one of the biggest oil spills in history.

1 What caused the oil spill and for how long did it last?

2 Summarise the various costs to the environment as a result of this oil spill.

3 For how long did the negative externalities last?

4 Look for examples of more recent oil spills.

Extension material

Rainforests

When rainforests are cut down to provide timber and/or land for palm oil plantations or for cattle ranching, this is the loss of a valuable resource. Deforestation can lead to soil erosion and greater risk of flooding, which harms future generations. It can cause biodiversity to decline when forest cover is removed, wildlife is deprived of habitat and more species are at risk of extinction. Furthermore, when forests are destroyed through logging or burning, their carbon is released into the atmosphere as carbon dioxide, which is a climate-changing greenhouse gas.

Research rainforests online to see if you can find current answers for the following questions:

1 What percentage of the world's forests has already been destroyed?

2 How much forest is lost from the Earth each day?

Rainforests provide positive externalities

3 If deforestation continues at the current rate, when will there be no forests left?

4 Explain some of the benefits to the Earth of rainforests.

What are government policies to correct positive and negative externalities?

The government often takes responsibility to correct problems in markets. In particular, it will try to reduce negative externalities and increase consumption or production of goods with positive externalities in the economy.

We will consider the following five policies that the government uses to correct positive and negative externalities:

- taxation
- subsidies
- state provision
- legislation and regulation
- information provision

Taxation

How can taxation correct positive and negative externalities?

One way in which the government can reduce external costs is through taxation. Taxes that reduce negative externalities are sometimes called green taxes, if they are intended to have positive effects on the environment. Excise duties on petrol and diesel are good examples. As the increased tax puts the price up, consumption will fall, thus reducing negative externalities such as harmful emissions and congestion.

In Figure 3.8.1, the effect of the tax is to shift the supply curve to the left, from S to S^1. This causes the price to rise from P to P^1 and the amount bought and sold to fall from Q to Q^1.

Other ways of making consumers of vehicles pay towards the external costs they cause include road tolls, congestion charges and vehicle excise duty (VED).

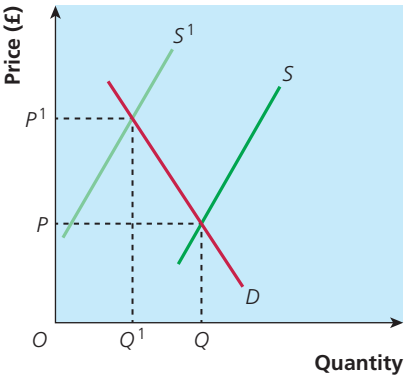


Figure 3.8.1 The effect of a rise in the tax on petrol and diesel

Case study

Should the 'sugar tax' be extended?

From 2018, producers making soft drinks that contain too much added sugar have had to pay a tax to the government. This has led to many producers reducing the sugar content added to their drinks without experiencing a fall in sales. The hope was that both consumers and producers would be nudged towards making decisions that would help reduce childhood health problems.

The National Food Strategy has now suggested adding tax to all purchases of sugar, and salt, for use in food production. It is estimated that these new taxes could raise £3.4 billion a year, which could be used to support more free school meals and pay for fruit and vegetables to be prescribed and paid for by the NHS for those with poor diets and low incomes.

Follow-up questions

1 How might you explain how the tax might correct negative externalities from consumption of food with high levels of added sugar and salt?

2 Do you think these ideas might help improve health? Can you support your answer?

Where markets have positive externalities, the government may place low or no tax on the goods and services. For example, in the UK there is no value-added tax (VAT) on a range of necessities, including most food and medicines. Note that if there is a tax on a good that has positive externalities, the government could remove the tax. This would have the same effect as shown in Figure 3.8.3 on page 218.

Study tip

Revisit Topics 2.2 and 2.3 to check that you understand the terms 'price elasticity of demand', 'price elastic demand' and 'price inelastic demand'.

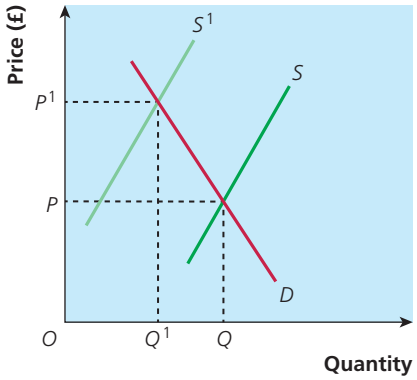


Figure 3.8.2 The effect of a rise in the tax on cigarettes

Evaluating taxation to correct positive and negative externalities

Use and impact

You already know that as the price of a product rises, the quantity demanded falls. Figure 3.8.1 showed that a tax causes the supply to fall, price to rise and quantity bought to fall. We now need to consider the extent to which the quantity will fall. To do this, we need to consider the concept of price elasticity of demand, first introduced in Topic 2.2.

When demand is price inelastic, the imposition or increase of a tax on the product is not very effective at reducing the quantity demanded. The quantity demanded changes at a lesser rate than price. This is shown in Figure 3.8.2, which represents the market for cigarettes. As the tax causes the price to rise from P to P^1, the quantity demanded falls by a relatively small amount from Q to Q^1.

In this market, the demand is very price inelastic so the proportionate change in quantity demanded is considerably less than the proportionate change in price. The reason for this is that cigarettes are habit-forming goods, so consumers tend to be addicted. This is why the tax and high price may not be very effective in reducing smoking. Similarly, high taxation may have limited effects in markets for other habit-forming goods, such as alcoholic drinks and gambling.

The demand for petrol and diesel also tends to be very price inelastic. Car owners will still buy fuel when its price rises, as their vehicles are no use without it. Cars and fuel are complementary goods (see Topic 2.2). The higher tax and price may mean that some unnecessary journeys are cut out, but overall the effect will be similar to that in Figure 3.8.2.

Now test yourself

2 What is meant by 'a negative externality'?

3 Identify two possible negative externalities caused by cigarette consumption.

4 How might price elasticity of demand affect the impact of an increase in the tax on cigarettes?

5 Other than taxation on cigarettes, identify two policies that may be used to reduce cigarette consumption.

Costs and benefits

A particular cost may be the effect on the distribution of incomes. Indirect taxes can affect people on lower incomes badly, taking a greater proportion of lower incomes than higher incomes.

A car driver whose only income is a state pension will pay as much indirect tax as a high-earning individual, paying a much larger

percentage of income in the tax. We can say that with regard to government policy there is an opportunity cost. To reduce negative externalities from demerit goods, taxation is conflicting with its aim of reducing inequality in the distribution of income.

Taxation can also lead to unofficial markets, sometimes called black markets. If the level of taxation makes prices much higher than in other countries, smuggling is likely to take place. This is the case in the UK tobacco market, where it is estimated that billions of cigarettes on which no tax is paid are consumed each year. This is a major cost to society. Potential tax revenue that could be used to spend on health and education, for example, is simply lost. Furthermore, the money spent on policing unofficial markets also has an opportunity cost, as it could be spent elsewhere.

The great benefit of taxation is the reduction in quantity traded and we have evaluated above that the effectiveness of taxation in this respect depends on the price elasticity of demand.

Another major benefit of high indirect taxes on goods with negative externalities is that they provide a lot of revenue for government (notwithstanding the lost revenue explained above). As demand is often price inelastic, a rise in taxes tends to raise the revenue received. It can be argued that this revenue can be spent on clearing up the negative externalities these goods cause. Revenue could, for example, be used to help pay for the burden that smokers put on the NHS.

The London Congestion Charge tries to make drivers face up to the negative externalities of their journeys

Evaluate this

Evaluate the impact on reducing negative externalities of an increase in the tax on petrol and diesel.

Using the information in this topic and your own knowledge, use chains of reasoning to explain how an increase in tax on petrol and diesel might reduce negative externalities before evaluating the likelihood or extent of their reduction and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Subsidies

How can subsidies correct positive and negative externalities?

As explained in Topic 3.5, a subsidy is an amount of money that the government gives directly to firms to encourage production and consumption. The government may wish to give subsidies to encourage

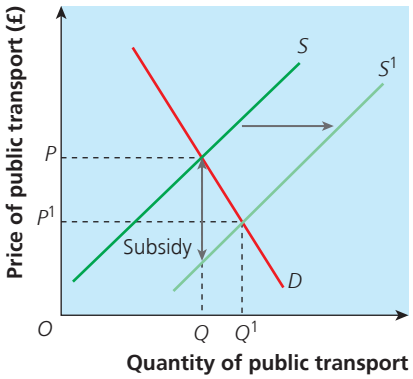


Figure 3.8.3 The effect of a subsidy on public transport

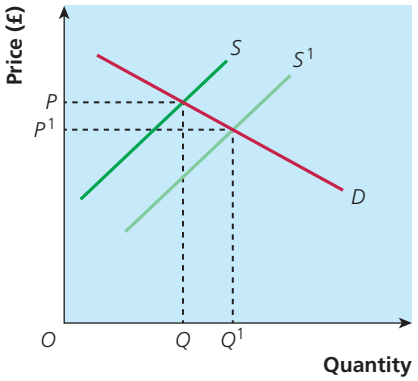


Figure 3.8.4 The effect of a subsidy on a product with elastic *PED*

the production or consumption of products with positive externalities, which in turn may replace the production or consumption of products with negative externalities.

The UK government gives subsidies to public transport, so more people are encouraged to travel by buses and trains, thereby reducing the harmful emissions and congestion that private vehicles cause. The effect of the subsidy is shown in Figure 3.8.3. It shifts the supply curve to the right, from S to S^1. This causes the price to fall from P to P^1 and the amount bought and sold to rise from Q to Q^1.

Evaluating subsidies to correct positive and negative externalities

Use and impact

Figure 3.8.3 showed that a subsidy causes the supply to rise, price to fall and quantity bought to rise. We now need to consider the extent to which the quantity will rise. Once again, we need to consider the concept of price elasticity of demand.

In Figure 3.8.4, the quantity demanded rises at a greater rate than the price falls, so the subsidy is very successful in encouraging greater consumption of the good.

Therefore, if the government wants to encourage the consumption of a good with positive externalities, subsidies will be particularly successful if that good has a price elastic demand. On the other hand, subsidies will have less success when goods have a price inelastic demand.

Costs and benefits

The analysis above shows that a subsidy will lower the price of a product for consumers, and more will be bought. The main benefit is the increase in the consumption of goods with positive externalities. However, there is a significant opportunity cost. The money the government gives in subsidies could have been used elsewhere. For example, subsidies given to train operating companies could have been used to provide more education or healthcare.

Evaluate this

Evaluate the impact on reducing negative externalities from private car use of an increase in a subsidy on public transport.

Using the information in this topic and your own knowledge, use chains of reasoning to explain how an increase in a subsidy on public transport might reduce negative externalities from private car use before evaluating the likelihood or extent of their reduction and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

State provision

How can state provision correct positive and negative externalities?

State provision takes place when goods and services are provided directly by the government.

> **Key term**
>
> **State provision** Goods and services provided directly by the government.

There are some goods that cause positive externalities. The government directly provides some of these goods and services for the benefit of society as a whole. They include health and education services. If provision of these were left to the market, there might not be enough to benefit everyone. Some people would not be able to afford to pay for health services and would be excluded from them. This would be a disadvantage not only to the excluded consumers, but also to third parties and to society as a whole. If a lot of people were unable to afford healthcare, it is more likely that diseases would spread. It would also mean that the economy's workforce was less healthy, which could affect total output. Therefore, the government provides most health services free of charge for consumers through the National Health Service (NHS).

Parents can pay for their children's education in the private sector. If this were the only provision of education, lower income groups would not be able to afford it. The government, therefore, provides education (see Topic 3.7) at no charge, which benefits the country as a whole. Everyone is literate and there is an educated and skilled workforce for the economy.

The effect of government provision is shown in Figure 3.8.5. It shifts the supply curve to the right, from S to S^1. The supply is perfectly inelastic in the short run as there is a fixed quantity, for example, of school places. This causes the price to fall from P to zero and the amount of education provided to rise from Q to Q^1.

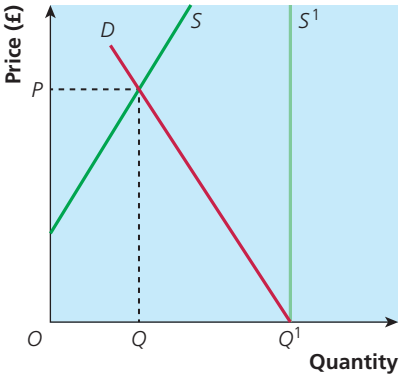


Figure 3.8.5 The effect of state provision on education

Evaluating state provision to correct positive and negative externalities

Use and impact

When the government steps in to provide goods and services at a zero price for the consumer, a potential problem is that the government may not provide enough to satisfy the demand. This can be seen in Figure 3.8.6, which illustrates the market for healthcare.

Assume that the government provides Q healthcare. The diagram shows that there is a perfectly inelastic supply (in the short run). In other words, only Q healthcare is available. If the price were set at P, then supply would meet demand.

However, when the government provides healthcare free to the consumer (at a zero price), Q^1 is demanded. Therefore, there is excess demand of QQ^1. In other words, there is a shortage. In practice, this means that some consumers will not be able to get healthcare when they demand it. There may, for example, be long waiting lists for hospital operations.

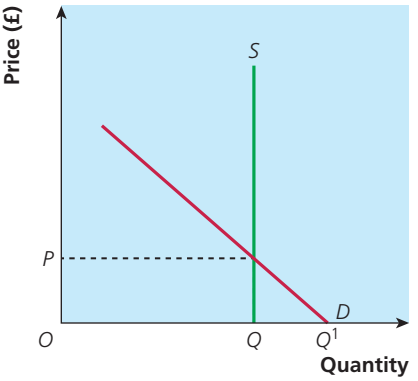


Figure 3.8.6 The effect of state under-provision of healthcare

Costs and benefits

Demand will often exceed supply for services such as healthcare, which the government provides at zero cost to the consumer.

Pressure will be put on the government to increase supply, for example to reduce waiting lists for operations. There are many pressure groups in the economy, many of them wanting the government to spend more on provision of services in their particular area of interest. Every time the government chooses to spend more on one area, there is an opportunity cost in that the money could have been spent elsewhere. The potential benefits of other goods or services are sacrificed. We are back to the basic economic problem introduced in Topic 1.2. The government's resources are finite, so some wants for a good such as healthcare may be left unsatisfied.

Furthermore, the demand may rise over time at a faster rate than the supply. The UK has an ageing population, so the demand for operations – for example, for hips, knees and cataracts – has risen. As the resources put into these areas of the NHS have not kept up with the rise in demand, the waiting lists and waiting times have become longer. Referring to Figure 3.8.6, the demand curve shifts to the right and the excess demand becomes greater.

In conclusion, consumers who gain access to the services benefit greatly, but there may be costs to others who find it difficult to gain access. There is always an opportunity cost to taxpayers who fund the state provision.

Activity

Vaccination programmes benefit society

Discuss, in small groups, the costs and benefits of the government providing vaccines for free.

Legislation and regulation

How can legislation and regulation correct positive and negative externalities?

The government may use laws to reduce or eliminate negative externalities. Laws often introduce **regulations** that control aspects of markets.

Some **legislation** aims to eliminate the market entirely, so there is no supply and demand. In this case, the law could lead to a complete ban on harmful products, such as illegal drugs in the UK.

Some legislation aims to reduce the supply of goods with negative externalities. An example is the law which requires licences for operating pubs and clubs and which can limit the opening hours in order to reduce the noise and inconvenience to nearby residents. Such laws have the effect of reducing the supply, similar to Figure 3.8.1.

The government may use laws to encourage positive externalities. For example, students in many countries are legally required to attend school. This is so that, not only do they directly benefit themselves, but also third parties, such as future employers, benefit from having a more skilled workforce.

Key terms

Regulation Rules, directives or government orders to control the way people and organisations behave.

Legislation Laws to control the way people and organisations behave.

Evaluating legislation and regulation to correct positive and negative externalities

Use and impact

In cases where the law makes production or consumption of a product illegal, it can be a very effective means of reducing negative externalities from the product. Most firearms are illegal in the UK. Recently, one study put the death rate from firearms in the UK at 0.23 deaths per 100,000 population. This contrasts with the USA, where firearms are legal and the death rate was over 53 times higher at 12.21 deaths per 100,000 population.

Banning a product by law does not mean its consumption will necessarily fall to zero because of illegal activity, but it is effective in greatly reducing consumption. It will be more effective when there is also effective policing of the law.

Other forms of regulation also require effective policing to work well. For example, in the UK the minimum age to purchase tobacco goods is 18. Although it may be difficult to police the consumers, the law generally works to prevent retailers selling to under-age consumers, as there are severe penalties. Unfortunately, legislation and regulation are not always effective. For example, there are laws against littering and fly-tipping, whereby people illegally dump waste and rubbish, but these are still widespread (see the case study on p. 223.

Regulation can, however, successfully change attitudes. Until 2007, people could smoke in public places such as cafés and pubs, and often at their place of work. When the ban was introduced, it soon became the norm in society as a whole that passive smoking was not acceptable.

Wearing seatbelts benefits not only the individual, but also members of their family and the health service, as less treatment should be required in the event of accidents. There was a lot of opposition when the law to make the wearing of seat-belts compulsory was introduced, but now most people 'belt up' without a second thought.

Costs and benefits

As with taxation, if the law bans certain products, there is the danger of unofficial markets. Criminal activity will lead to illegal markets in products such as Class A drugs and handguns. The government will have to spend money on policing such activity, including investigation, arrest and prosecution, and imprisonment. There is an opportunity cost in that money the government spends on this could have been spent elsewhere.

Similarly, money will have to be spent on policing regulations to ensure they are complied with. As there is always an opportunity cost to the

Activity

Motorcyclists are required by law to wear a crash helmet. Do you think it should be compulsory for pedal cyclists to wear a helmet? Consider possible effects on third parties as well as the cyclists. Give reasons for and against before coming to your own conclusion.

Cigarette producers in the UK are required to use health warnings

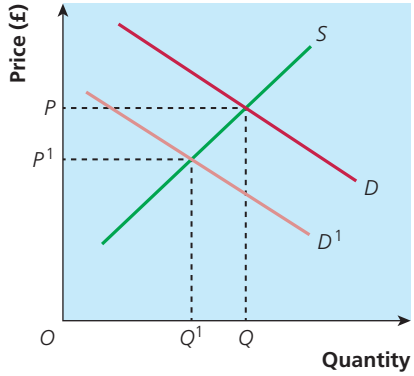


Figure 3.8.7 The effect of information provision on goods with negative externalities

Key term

Information provision
The government provides information to encourage people (especially consumers) and organisations to change their behaviour.

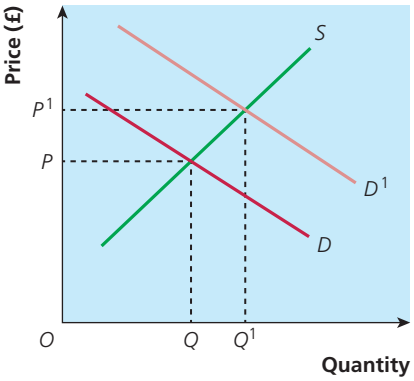


Figure 3.8.8 The effect of information provision on goods with positive externalities

The government aims to encourage the consumption of the recommended 'five a day'

government of spending money in one particular area, it is often the case that not enough resources are devoted to policing to make the regulations completely effective. This may be the case, for example, with fly-tipping. Overall, legislation and regulation mean that citizens benefit from a safer and more secure society to live in, but there is a limit to how effective they can be.

Information provision

How can information provision correct positive and negative externalities?

The government may try to educate and inform the public about the harmful effects of goods. There may, for example, be a programme of education in schools about smoking being harmful to health. If the government's **information provision** is successful, the demand for the goods and services with negative externalities falls – for example, from D to D^1 in Figure 3.8.7. This causes the quantity to fall from Q to Q^1.

The government may encourage the consumption of goods with positive externalities through publicity campaigns. These campaigns aim to change consumer preferences in favour of a certain product so that the demand for it rises. There are therefore more goods consumed with positive externalities in the economy. For example, if more consumers, especially commuters, can be persuaded to travel by train, there will be less pollution and congestion on the roads.

If the government's information provision is successful, the demand for the goods and services with positive externalities rises – for example, from D to D^1 in Figure 3.8.8. This causes the quantity to rise from Q to Q^1.

Evaluating information provision to correct positive and negative externalities

Use and impact

The reasoning behind information provision is that if consumers are educated about the benefits of consuming certain goods and services, they will demand more. This may be the case with the campaign to eat 'five a day', which encourages the consumption of fruit and vegetables. If people eat healthily, they not only benefit themselves, but also put less pressure on the health service. It is difficult to judge the effectiveness of such information provision, but if demand and consumption rise following such a campaign, as in Figure 3.8.8, we can assume it had a positive effect.

Similarly, if consumers are provided with information about the problems caused by the consumption of a product, for example through anti-drink-driving campaigns, they will demand less of it. This is illustrated in Figure 3.8.9, which shows the market for alcoholic drinks in pubs.

The information provision changes the tastes and preferences of consumers so less of the product is demanded (D to D^1). This causes consumption to fall from Q to Q^1. This benefits third parties, as there is less danger on the roads.

We must consider the extent to which demand will fall. It may be argued that in practice, the information provision may not have much effect in the market, especially when the good is addictive. Consumers may take little

notice of the information and advice contained in information provision, so demand will not fall much. It may be more effective in the long run, however, as younger generations who are educated through information provision do not start to consume the product in the first place.

Costs and benefits

You have seen that the effectiveness of information provision depends on how it alters consumer demand. This is a much cheaper method of discouraging consumption of harmful goods than subsidising alternatives, so the opportunity cost is lower. However, it may be less effective. In the case of habit-forming goods and services, such as gambling, it is unlikely to be effective, as consumers are addicted to the product.

Information provision may also be used to increase the demand for goods with positive externalities, but again it depends on how much notice consumers take of the campaigns. Overall, information provision may have fewer costs than other measures, but it may be less effective and so deliver fewer benefits.

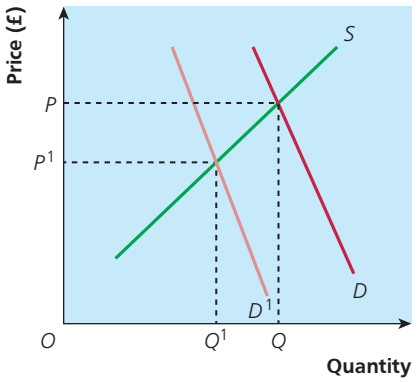


Figure 3.8.9 The effect of anti-drink-driving campaigns on alcoholic drinks sold in pubs

Evaluate this

Evaluate whether the benefits outweigh the costs of a subsidy to farmers to increase production of healthy food.

Using the information in this topic and your own knowledge, use chains of reasoning to explain both benefits and costs of a subsidy to farmers to increase production of healthy food before evaluating their likelihood or extent of their impact and coming to a judgement as to which is greater.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Now test yourself

6 Spot the errors in the following:

- **a** Taxation on a good or service is likely to lead to a fall in its price.
- **b** Information provision should always reduce consumption of products to some extent.
- **c** 'Smoking kills' labels on cigarettes are an example of information provision.
- **d** A subsidy on healthy food should increase positive externalities.
- **e** Regulations are always aimed at making producers comply with government rules.

Case study

Fly-tipping

There are over 900,000 cases of fly-tipping in England alone every year. Nearly two-thirds of these cases involve large household items such as mattresses and fridges, and most are dumped at the side of roads. It was estimated in 2019 that the government spent £57 million each year to clean up after the fly-tippers. In addition, money is spent on enforcement action against fly-tippers. However, as most fly-tipping is not witnessed, it is difficult to get evidence to make a successful prosecution of the lawbreakers. Those who are found guilty are often fined. In 2019/20 the total value of fines issued was £1,170,000.

Follow-up questions

1 Explain the opportunity cost to the government of cleaning up and policing fly-tipping.

2 How effective do you think legislation and regulation are in the case of fly-tipping? Explain your reasons?

Extension material

As seen throughout this topic, government intervention can have costs and benefits. Sometimes, by intervening, a government can worsen market failure. This is known as government failure. It is a useful idea that is studied in more detail beyond GCSE. Research this online and add any useful points to your notes.

Progress check

Now you have finished this topic, you should be able to:

- explain what is meant by positive externalities
- explain what is meant by negative externalities
- explain government policies to correct positive and negative externalities
- explain how taxes are used to correct positive and negative externalities
- explain how subsidies are used to correct positive and negative externalities
- explain how state provision is used to correct positive and negative externalities
- explain how legislation and regulation are used to correct positive and negative externalities
- explain how information provision is used to correct positive and negative externalities
- evaluate the use and impact of government policies to correct positive and negative externalities
- evaluate the costs, including opportunity cost, of government policies to correct positive and negative externalities
- evaluate the benefits of government policies to correct positive and negative externalities

Part 4

International trade and the global economy

Topic 4.1
Importance of international trade

Learning outcomes

After studying this topic, you should be able to:

- explain why countries import and export goods and services, and the benefits of this for consumers and producers
- explain free trade agreements, including the European Union

Why do countries import and export goods and services and what are the benefits and costs?

International trade is made up of imports and exports. **Imports** are the goods and services that are bought from overseas, i.e. producers based in a different country make them. **Exports** are the goods and services that a country sells overseas, i.e. domestic producers sell goods and services to other countries. Domestic producers are producers within the home country. There are many reasons why countries engage in international trade.

Key terms

International trade The exchange of goods and services between countries.

Imports Goods and services bought from abroad.

Exports Goods and services sold abroad.

Now test yourself

1 Which of the following are UK imports and which are UK exports?

- a ASDA buys Italian peaches to sell in its stores.
- b Wasim goes on holiday to Spain.
- c A British aerospace company sells software to the US Air Force.
- d Barclays Bank provides financial services advice to a prince in Saudi Arabia.
- e Ellie buys a shirt that says it is 'Made in China'.

UK-based GlaxoSmithKline and AstraZeneca are two of the world's biggest pharmaceutical companies

Why do countries import and export goods and services?

The main reasons for international trade are the same as those for trade within a country. In the same way as producers have different resources available to them, different countries have different allocations of resources, i.e. land, labour, capital and enterprise. At any one point in time, these resources are fixed in quantity. For example, a country is unlikely to be able to find more oil instantly and it takes time to train workers with different skills to create different goods and services (see Topics 1.1 and 3.7).

The different levels of resources can make a country more suited to and relatively more efficient at making certain goods and services.

This means that countries, and the world, may be better off if each individual country specialises (see Topic 2.1) and then trades with other countries to get a wider range of goods and services. International trade can increase the productive potential of each individual country and encourages economic growth (see Topic 3.1).

For example, France may specialise in the production of grapes because it has many advantages in growing them, such as climate, soil type and expertise. Brazil may specialise in the production of bananas because it has many advantages in growing them. If France makes wine and Brazil grows bananas, they can trade with each other so that they both get wine and bananas.

There may also be wider benefits for society because international trade can foster closer relationships between countries and greater sharing of culture and knowledge. Ongoing trade negotiations can also incentivise better political relationships between countries.

A lot of the benefits of international trade flow from the expectation of increased output and use of fewer scarce resources globally. In other words, international trade should help with the economic problem (see Topic 1.2).

Activity

Research online the UK's exports and imports. A useful starting point is **www.uktradeinfo.com**.

1. Who are the UK's main trading partners?
2. What are the UK's main exports? Does the UK have any advantages in the production of these exports?
3. What are the UK's main imports? Explain why these are the main imports.

What are the benefits of imports and exports for consumers and producers?

As well as benefits for the whole economy and more efficient use of scarce resources, there are further benefits of imports and exports for consumers and producers. Many of these benefits are linked. (Note, it is important to acknowledge that both parties involved in the trade only benefit if suitable trading agreements are made.)

The benefits of imports and exports for consumers

There is a range of benefits of international trade for consumers:

- Lower prices: producers need to compete against a wider range of producers internationally, so may reduce price to try to keep or gain market share. Firms may also have lower average costs due to greater specialisation and economies of scale, so are able to offer lower prices for their goods.
- Better quality: producers may respond to the increase in competition by investing in research and development (R&D) or using better inputs so that their goods and services become more desirable. For example, Apple is known for its ongoing innovation to differentiate its products. Innovation also increases due to interaction between

markets internationally and access to research from all over the world (see Topic 4.4).
- Greater choice of goods: without international trade, there will be some goods that countries do not have the resources to produce. The UK, for example, would struggle to produce bananas on a large scale, and has no domestic source of the materials that are needed to produce some electronic devices.

Specialisation can lead to workers becoming more skilled in their particular task or area

The benefits of imports and exports for producers

Producers engaging in international trade receive a range of benefits. These include the following:
- Access to a larger market to sell goods and services: international trade gives access to more potential consumers and may reduce the risk of problems for demand in a specific country such as a recession.
- Larger potential sales leading to greater efficiency: if producers increase their level of production to meet export demand, they can benefit from increased economies of scale (see Topic 2.6), such as through bulk buying, so they reduce average costs and potentially increase profits.
- Specialisation and lower average costs: with a greater market, specialist producers can grow and specialise further, leading to a range of benefits such as less wastage of resources and output (see Topic 2.1).
- Larger market for buying inputs and lower average costs: producers can buy resources for production worldwide. This may mean producers can find resources that are not available in their own countries or find them at lower prices. A good example of a raw material that producers in the UK are almost wholly dependent on through imports is magnesium.

Study tip

The theories involved in specialisation and economies of scale can link together to increase the benefits of international trade.

Case study

India

In the past, India, in return for international financial aid, was forced to cut its taxation on imports on average from 90% to 30%. This caused great concern for the Indian government, which thought there would be a flood of imports that would have a negative effect on the country's own producers. However, a wider range of cheaper imported inputs gave a big push to economic growth. The imports included raw materials such as oil and capital goods such as machinery. This reduction in costs of inputs allowed the manufacturing sector to produce more finished goods. It also enabled many manufacturing firms to increase the number of different goods produced. These new goods accounted for one quarter of the growth in manufacturing in India.

Overall, India's exports have grown significantly over the last 25 years. Exports of services, such as computer services, have been a major driver of economic growth and have created many jobs in India. Exports of goods have increased, though not yet to a level where they are greater than their imports. The goods that India exports most are changing, gradually moving from agricultural products, such as rice, to non-agricultural products and capital foods, such as clothing, pharmaceutical products and cars.

Follow-up questions

1 How might the increase in imports help an Indian manufacturer?
2 How might the increase in imports benefit Indian consumers?
3 Why might India want to increase its exports?

Activity

1 Which sector is the most important contributor to the economy of the Maldives?

2 Which industry do you think is the main contributor to this sector?

3 In small groups, discuss why this industry may benefit some producers and harm others in the Maldives.

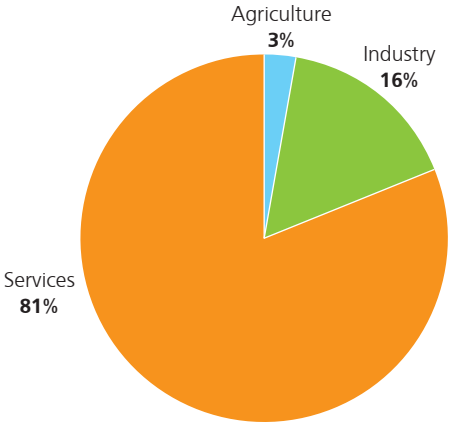


Figure 4.1.1 Composition of GDP in the Maldives by sector, 2015

Source: *CIA Factbook*

Now test yourself

2 Which of the following statements are true and which are false?

a Countries import finished goods because it is likely to create more jobs for workers in their country.

b A benefit of imports for producers is increased profits if the imports are lower-priced inputs.

c A benefit of imports for consumers is access to a wider choice of goods and services.

d A benefit of exports for producers is a chance to increase production and increase economies of scale.

e Countries are more likely to export goods they are worse at making and import goods they are better at making.

What are free trade agreements, including the EU?

The benefits of international trade are only fully received if there is free trade. The UK has many trade agreements and used to be a member of the **European Union (EU)**. The agreements between member states of the EU are an example of a **free trade agreement**.

To understand free trade fully, it is useful to think about how trade can be restricted, so domestic producers have an advantage over imports. Globally, many countries try to restrict trade and protect their own producers, despite international attempts to promote free trade. For example, governments raise the price of imports by adding a tax to them.

Key terms

European Union (EU) An economic and political group of countries in Europe that have free trade with each other.

Free trade agreement Free movement of goods and services between countries, without any restrictions.

What are free trade agreements?

Free trade agreements allow the free movement of goods and services between countries. This means that the receiving country does not impose restrictions on either imports or exports. Examples of restrictions that are lifted are tax added to imports and a maximum quantity of imports allowed.

Free trade helps maximise the benefits of international trade because there are no restrictions stopping market forces working, such as prices being increased artificially. This means consumers and producers have clearer information to make rational economic decisions.

Countries with a focus on opening up trade and exports, such as South Korea, have experienced much greater economic growth than those with more closed economies, such as Cuba. Free trade can lead to more employment within countries due to increased output, which can increase average incomes and the standard of living. It should also lead to lower prices for goods and services overall.

Study tip

Consumers still pay for goods and services if there is a free trade deal. The 'free' is linked to the fact that trade is free from restrictions.

Extension material

Research the restrictions that countries use to protect their own industries. A useful search term is 'protectionism'. This area is not on the GCSE specification, but can extend your understanding of the alternatives to free trade.

What is the EU free trade agreement?

The EU is a group of European countries that have made a range of agreements that affect the laws and economies of their countries, including free trade. This means that there are no taxes or fixed quantities of imports and exports between EU countries. This agreement also prevents the occurrence of business practices that reduce competition within the EU and are considered harmful. This is one of the founding principles of the EU.

The EU is the world's largest single-market area. See Figure 4.1.2 for a map showing the current member states.

EU member states work together as the EU to negotiate trade agreements with other countries, so they have a common commercial policy with the rest of the world. As the EU is the world's biggest trader, with about 15% of global trade in goods, these agreements have a significant impact.

The EU follows up practices that are anti-competitive within the member states. For instance, a group of French pharmaceutical companies were fined almost €430 million after making deals that protected some of their medicines from competition from producers elsewhere in the EU. Amazon is also being investigated for possible anti-competitive practices, such as using customer details from sellers on their site to give them an advantage.

Figure 4.1.2 EU member states, June 2021

Case study

Free trade with the EU

A new trade deal between the UK and the EU started on 1 January 2021. This followed the UK's decision in 2016 to leave the EU, now known as 'Brexit'. This deal was important because the EU is the region that the UK trades with most.

This trade deal means there are no taxes on imports from or exports to the EU. If taxes had been added, prices of goods and services from either side would have increased. This could have meant increased costs for UK firms that used EU imports in production, and increased prices for UK consumers of EU imports and UK goods that used EU imports. It also could have meant a fall in demand for UK exports to the EU.

In the deal, there are no limits on quantities of imports and exports. However, now UK producers do not have to follow all the EU rules for production, individual producers need to fill out more forms for exports to be allowed into the EU. This takes time, which can delay deliveries. Producers have to pay workers for extra work involved. Over time, differences may evolve between similar products made in the EU and in the UK.

The full effects of Brexit for the UK economy may be unclear for some time. Trade agreements with other countries are still being negotiated, UK producers and the government are adapting to new requirements when trading internationally, and the effects of the Covid-19 pandemic make it harder to separate out the impact of Brexit.

Follow-up questions

1 Describe the benefits for consumers or producers from free trade agreements.

2 Describe the problems for consumers or producers due to free trade agreements.

Activity

Research online the latest economic consequences of 'Brexit'. Try to find sources that are recent and reliable.

Now test yourself

3 Correct the following definitions:

- **a** Exports: products sold abroad.
- **b** Imports: goods and services brought from abroad.
- **c** International trade: the exchange of goods and services.
- **d** European Union: a group of countries in Europe that trade with each other.
- **e** Free trade agreement: goods and services exchanged for free between countries.

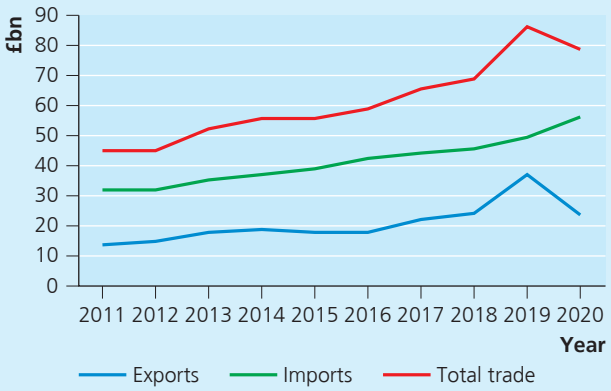
Extension material

Research online other free trade deals around the world. Look at their history and impact. Well-known examples are the North American Free Trade Agreement (NAFTA) and the Association of Southeast Asian Nations Free Trade Area (AFTA).

Whether Mexico's farmers have benefited from NAFTA is open to debate

Case study

UK/China trade and investment deals



Source: ONS, UK Economic Accounts

Figure 4.1.3 UK trade with China, 2011–20

The UK and China have agreed significant trade and investment deals in recent years. Trade between the two countries has increased (see Figure 4.1.3). China was the UK's sixth largest export market and fourth largest source of imports in 2019. The overall value of imports is much greater than that of exports, but the recent increase in UK exports was at a faster rate than the increase in Chinese imports until 2019. During that year, exports to China decreased while imports still increased.

After Brexit, the UK is looking to increase exports to other countries, so may return to trade talks with China. This may include reductions in taxes on UK exports to encourage the consumption of UK goods and services in China. However, there remain other barriers to increased trade, such as distance, language and differing regulations. There are also political questions concerning human rights in China and whether they should have any impact on trade deals.

Follow-up questions

1 Describe a possible benefit of trade between the UK and China for UK consumers.

2 Describe a possible benefit of trade between the UK and China for UK producers.

Extension material

Research online the total imports and total exports of the following countries for the most recent year available:

- China
- Germany
- USA

A reliable source of information is the website for the United Nations Conference on Trade and Development (UNCTAD).

1 Rank the countries in terms of least to most imports.

2 Rank the countries in terms of least to most exports.

Progress check

Now you have finished this topic, you should be able to:

- explain why countries import and export goods and services
- explain the benefits of imports and exports for consumers and producers
- explain free trade agreements
- explain the free trade agreement within the European Union

Topic 4.2
Balance of payments

Learning outcomes

After studying this topic, you should be able to:

- explain the balance of payments on current account
- explain the meaning of a balanced current account, a current account surplus and a current account deficit
- calculate deficits and surpluses
- analyse recent and historical data on exports and imports
- evaluate the importance of the balance of payments on current account to the UK economy
- evaluate the causes of surpluses and deficits on the balance of payments on current account

Key terms

Balance of payments The record of all financial transactions between one country and the rest of the world.

Current account The record of trade in goods and services, income flows and transfers between one country and the rest of the world

Study tip

When you are reading more widely, you may well see balance of payments abbreviated to BOP. If you want to use this abbreviation in your work, write the term in full once in each answer followed by the abbreviation in brackets. You can then use the abbreviation in the rest of that answer.

What is the balance of payments on the current account?

The **balance of payments** reports the financial transactions between a country and the rest of the world. It records all the flows of money coming in and going out of a country. Inflows of income from overseas (e.g. exports sold overseas) are counted as a positive entry. Outflows of income to overseas (e.g. imports bought from overseas) are counted as a negative entry.

This GCSE course focuses on the balance of payments on **current account**. The balance of payments is an important measure of the relative performance of the UK in the global economy.

Current account

The balance of payments shows how much a country is spending on imported goods and services, and how successful domestic firms have been in exporting to other countries. The current account is made up of four main sections: trade in goods, trade in services, income flows and transfers. Trade in goods and trade in services are sometimes combined and referred to simply as trade.

Trade in goods

Trade in goods shows the balance of earnings from exports and spending on imports of goods (see Topic 4.1 for more on international trade). This used to be known as the visible balance, as the goods are tangible, i.e. they are goods that can be touched and seen. Examples of the goods included are oil, agricultural products, machinery and raw materials.

In recent years, there has been a deficit in trade in goods in the UK. This means that the UK has spent more on imports than it has received from exports of goods.

Trade in services

Trade in services shows the balance of earnings from exports and spending on imports of services. This used to be known as the invisible balance, as the services are intangible, i.e. they cannot be touched or seen. Examples of services included are tourism, financial and IT services.

In recent years, there has been a surplus in trade in services in the UK. This means that the UK has received more from exports than it has spent on imports of services.

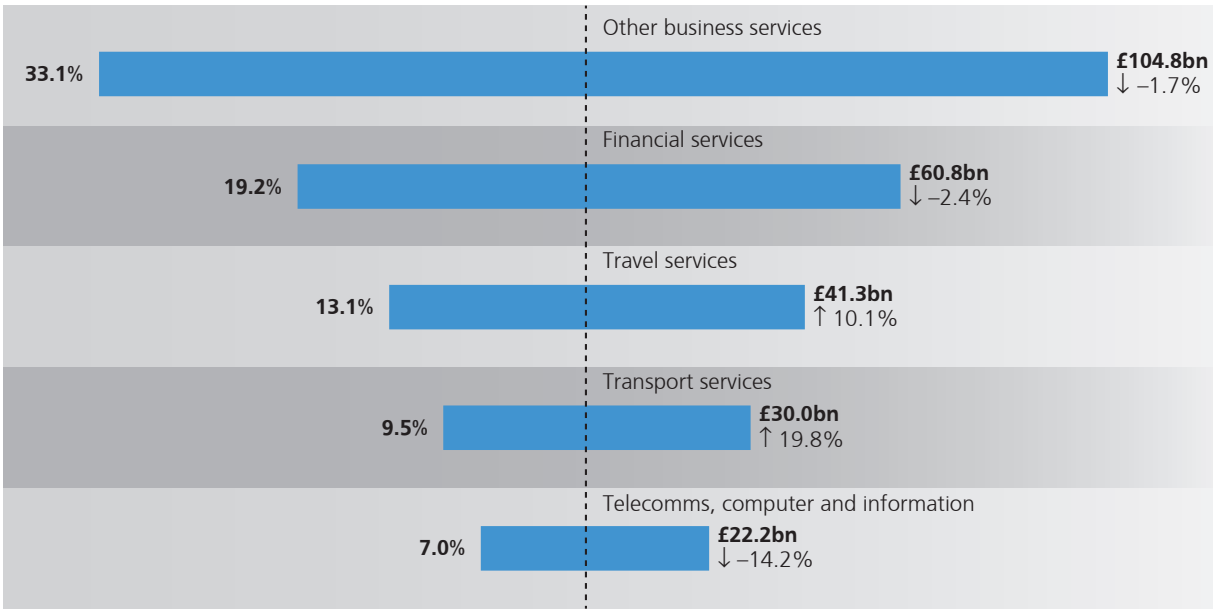
The UK balance of payments represents the amount of imports into and exports out of the country

Now test yourself

In 2019, UK exports of services were £316.3 billion and exceeded imports of services of £213.0 billion. This continued the surplus on trade in services for the UK, though where the different sales come from is always changing.

1 Figure 4.2.1 shows different types of services exports: percentage of total services exports, their value in 2019 and annual percentage change.
   - **a** Calculate the UK trade surplus for services in 2019 (i.e. how much more were services exports than imports?).
   - **b** Which were the two largest-value services exports for the UK in 2019?
   - **c** Calculate the combined percentage of services exports for these two types of services.
   - **d** Which type of services export saw the biggest percentage rise in 2019?
   - **e** Calculate the total value of these five types of services exports in £ billions.

Are there any terms here that you are not familiar with? Research them online to see what they mean.



Source: Department for International Trade

Figure 4.2.1 Top five UK services exports, 2019; % of total, amount in £billions and % change from 2018

Income flows

Income flows include earnings for labour or investments moving between the UK and other countries – for example, interest that foreigners earn on investments in the UK, and that UK nationals earn on investments abroad. This is also known as primary income.

Transfers

Transfers do not reflect any actual trade. They cover the transfer of money or goods and services without any requirement of payment – for example, foreign aid or money sent 'home' by relatives working in another country. This is also known as secondary income.

Balance of payments on current account

The record of the **balance of payments on current account** works a little like a bank statement. It shows all the money coming into and going out of a country. To calculate the balance of the current account, all the different balances from the four different sections are added together. Money flowing into a country counts as a positive entry, while money flowing out of a country counts as a negative entry. The sum of these entries gives a total for the account. Overall, a surplus has a positive number and a deficit has a negative number.

Study tip

Take care in all calculations questions to check that you have used the correct currency (e.g. $ or £) or units, and the correct multiples (e.g. billions or millions).

Key term

Balance of payments on current account The total of net trade in goods and services, income flows and transfers between one country and the rest of the world.

Now test yourself

2 a Copy out a larger version of Table 4.2.1 and allocate each of the examples below to a section.

- Earnings of UK citizens working overseas paid into UK
- Exports of manufactured goods
- Food imports
- Overseas gas purchases by UK
- Profits paid to overseas companies on their businesses in the UK
- Sale of oil to overseas countries
- Spending of overseas tourists in the UK
- UK financial aid to overseas countries

Table 4.2.1 Examples from different sections of the current account

Trade in goods	
Trade in services	
Income flows	
Transfers	

b Mark which result in money flowing into the UK and which result in it flowing out of the UK.

Balanced current account, current account surplus and current account deficit

A balanced current account

A **balanced current account** means that a country's revenue from overseas is the same as its spending overseas (see Figure 4.2.2a). Therefore, the total of negative entries is equal to the total of positive entries. In other words, the inflow of income matches the outflow of income. A balanced current account is unlikely and is unnecessary, as other sections of the balance of payments automatically cancel any surplus or deficit.

A current account surplus

A **current account surplus** is where the sum of exports and the inflow of income and transfers is greater than the sum of imports and the outflow of income and transfers (Figure 4.2.2b). In simplified terms, a country's revenue from overseas is greater than its spending overseas. In other words, the inflow of income into a country is more than the outflow. It is a positive number.

A current account deficit

A **current account deficit** is where the sum of exports and the inflow of income and transfers is less than the sum of imports and the outflow of income and transfers (Figure 4.2.2c). In simplified terms, a country's revenue from overseas is less than its spending overseas. It is a negative number.

Key terms

Balanced current account
Where the sum of exports plus the inflow of income and transfers is equal to the sum of imports plus the outflow of income and transfers.

Current account surplus
Where the sum of exports plus the inflow of income and transfers is greater than the sum of imports plus the outflow of income and transfers.

Current account deficit
Where the sum of exports plus the inflow of income and transfers is less than the sum of imports plus the outflow of income and transfers.

Study tip

It can be easy to confuse the balance of payments with the budget balance. You must keep these two concepts clearly separate in your answers.

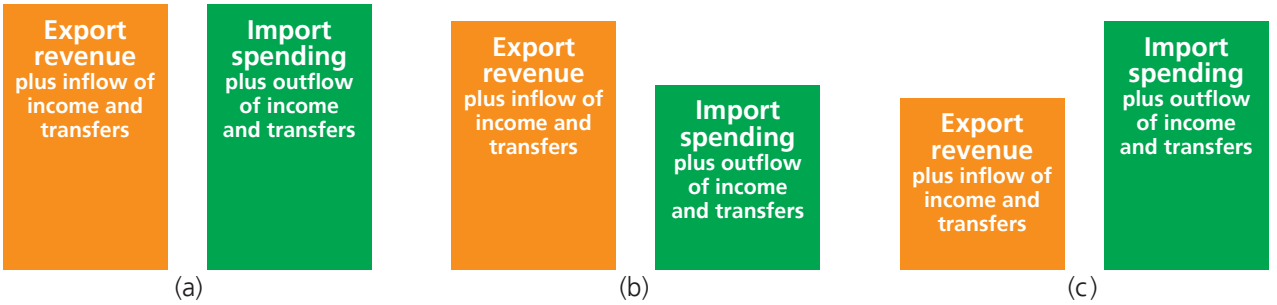


Figure 4.2.2 Examples of (a) a balanced current account, (b) a current account surplus and (c) a current account deficit

How are deficits and surpluses calculated

The balance of payments on current account is calculated by adding together all the items under trade in goods, trade in services, income flows and transfers. If the total is positive, there is a surplus. If the total is negative, there is a deficit.

Now test yourself

3 Table 4.2.2 shows the trade balance and current account balance for three countries.

Table 4.2.2 Trade balance and current account balance

Country	Trade in goods (£bn)	Trade in services (£bn)	Trade balance (£bn)	Income flows (£bn)	Transfers (£bn)	Current account balance (£bn)
A	–20.2	+13.2		+6.5	–4.0	
B	+40.5	–30.3		–12.6	+12.1	
C	–17.1	+9.7		+4.5	–2.0	

a Copy out Table 4.2.2 and complete it by adding the trade balance and current account balance for each country.

b Note whether it is a surplus or deficit.

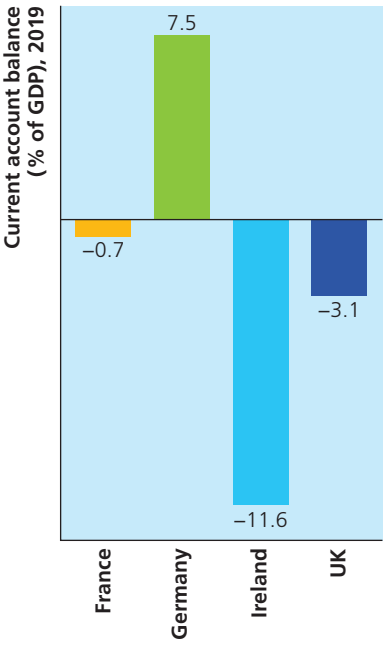
The balance of payments on current account is often represented as a percentage of GDP. This gives an idea of proportion and how significant a deficit or surplus is. It is also a useful measure for comparison between countries.

Now test yourself

4 Figure 4.2.3 compares the current account balances of four countries.

a Using the data in Figure 4.2.3, explain what Ireland's current account balance means.

b Using the data in Figure 4.2.3, explain how Germany's current account position differs from that of the other countries.

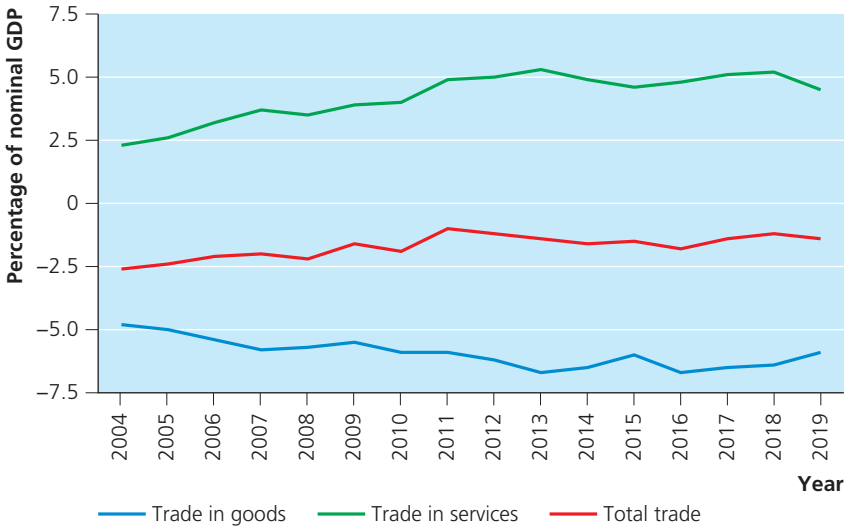


Source: World Bank

Figure 4.2.3 Current account balances (% of GDP), 2019

Analysing recent and historical data on exports and imports

There are various themes that can be seen and analysed from data on the balance of payments on the UK current account. The analysis of exports and imports focuses on trade in goods and services (see Figure 4.2.4).



Source: The National Archives, ONS. Contains public sector information licensed under the Open Government Licence v3.0

Figure 4.2.4 The balance of trade in goods and services in the UK, 2004–19 (% of GDP)

Overall, the trade balance improved from –2.6% of GDP in 2004 to –1.4% of GDP in 2019. However, this is still a negative balance, so the UK had a balance of trade deficit.

- Since 2004, the trade in services surplus has been less than the trade in goods deficit, so overall there has always been a deficit in trade.
- Between 2004 and 2019, the deficit of the UK trade in goods increased from –4.8% to –5.9% of GDP. So, the trade in goods balance has worsened, i.e. growth in imports has been greater than growth in exports of goods. The UK imports more goods than it exports in areas such as oil, gas and consumer goods like food and clothing.
- Between 2004 and 2019, the surplus of the UK trade in services increased from 2.3% to 4.5%. This means that exports of services have increased more than imports of services. The UK exports more services than it imports in areas such as insurance and financial services and other business services, such as management consultancy.

Activity

1. Write a short article on the balance of trade in a country of your choice.
2. 'Use the data', so refer to figures and trends in the data to describe patterns in the exports and imports.
3. Try to find at least one explanation for one of the key trends and include this in your reasoning.

A useful place to find data is **http://data.imf.org**.

Extension material

Search online for the most recent UK Trade in Numbers Pocketbook. This is a useful summary of the data for the UK and uses a range of pictures and graphs. See if you can understand the different information formats and make notes with an overview of what you find.

For more detail, search for the ONS UK Balance of Payments, The Pink Book for the most recent year.

Evaluating the importance of the balance of payments on current account to the UK economy

Economists weigh up the importance of the balance of payments on current account by examining a number of key factors, including:

- whether there is a deficit or surplus, their causes and consequences
- the size and duration of the deficit or surplus
- the effects of the current account balances within the balance of payments

The importance of a current account deficit or surplus

The importance of the disequilibrium of the current account may depend on whether it is a deficit or surplus and what is thought to be the cause. The effects of the current account balance can then be considered as costs or benefits for the economy, and their importance evaluated.

The importance of a current account deficit

In general, a current account deficit means that a country is consuming more than it is producing and the income from this extra output is going overseas. In simplified terms, the country's imports are greater than its exports. Some concerns relating to a current account deficit are as follows:

- It may reflect falling total demand for domestic goods, which can be linked to increased unemployment, less income tax revenue and higher benefit payments for the government.
- It may cause the exchange rate to fall as consumers exchange their domestic currency for foreign currency to buy imports, leading to higher prices for imports, which could reduce standards of living (see Topic 4.3).
- It increases the debt of a country as the extra spending on imports is not being fully financed by the revenue from exports.
- If it is due to a factor that will take a long time to change, such as low productivity, this is more significant.

Alternatively:

- The current account deficit may not be such a concern if it is only a temporary deficit – for example, due to importing more raw materials or capital goods to put into the production of goods that will eventually be exported and increase economic growth.
- It may reduce inflation within the domestic economy as imports are greater than exports, thereby decreasing total demand and reducing some upwards pressure on prices
- Over time, it may lead to a fall in the exchange rate, which can increase the international competitiveness of UK goods and eventually increase exports (see Topic 4.3).
- The deficit will not matter as much if it is only a small percentage of GDP, because a country is more able to pay back any debt that arises from borrowing to pay for imports that are not covered by the revenue from exports.

Activity

Make a list of positive and negative effects of a current account deficit. You may find it helpful to research this online or discuss it as a class. Another starting point is to try researching the consequences of a current account deficit as experienced by the UK.

The importance of a current account surplus

In general, a current account surplus means an economy is consuming less than it is producing. It is experiencing a net inflow of money and income into the country. In simplified terms, the country's exports are greater than its imports. Some effects related to a current account surplus are as follows:

- It may reflect rising total demand for domestic goods, which can be linked to decreased unemployment, more income tax revenue and lower benefit payments for the government.
- It decreases the debt of a country because more money is flowing into the country from greater spending on exports than money is flowing out to pay for imports.

Alternatively:

- The current account surplus may cause rising inflation within the domestic economy as exports are greater than imports, thereby increasing total demand and putting upward pressure on prices.
- It may hide causes that have a negative impact on global economic growth, such as protectionist policies (see Topic 4.1). If these are responsible for the surplus, there may also be political and trade negotiation problems for the country.
- Over time, it may lead to a rise in the exchange rate, which can decrease the international competitiveness of domestic goods and eventually decrease exports (see Topic 4.3).

The size and duration of the deficit or surplus

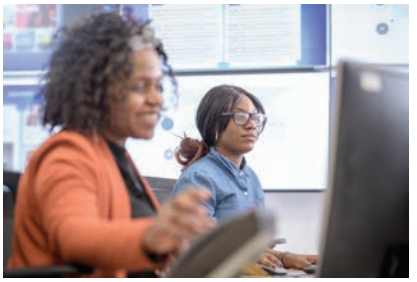
If a current account deficit or surplus is only small or lasts for only a short time, it is of less significance and creates less need for investigation and analysis. However, if it is large or lasts for a longer amount of time, then it may be more significant and it may be worth investigating the causes of the trend.

Other parts of the balance of payments

The current account is only one part of the country's balance of payments. There are also capital and financial accounts. Knowledge of the details of these accounts is not tested in this course. However, changes in these other accounts may cancel out a current account deficit or surplus. For instance, a current account deficit may be offset by a surplus on either the capital or financial account, for example due to an inflow of overseas direct investment into the UK such as Chinese firms building factories in the UK.

Activity

Make a list of the positive and negative effects of a current account surplus. You might find it helpful to research this online or discuss it as a class. Another starting point is to try researching the consequences of a current account surplus as experienced by Germany.



In recent years there has been a surplus of trade in services in the UK, including in IT

Evaluate this

Evaluate the importance of the balance of payments on current account to the UK economy.

Using the information in this topic and your own knowledge, answer this question using the present UK balance of payments on current account and chains of reasoning linking to the UK economy.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Evaluate the causes of surpluses and deficits on the balance of payments on current account

The causes of current account surpluses and deficits are a key area of analysis for economists and inform government policy decisions.

Causes of surpluses on the balance of payments on current account

In simplified terms, a current account surplus is where the value of exports is greater than the value of imports. There are several possible causes of a current account surplus.

- The strength of the economy: for example, products are of a high quality, sold at a relatively low price and reflect what households and firms at home and overseas want to buy.
- Lack of growth in the domestic economy: in this case, consumers within the economy may buy fewer imports, while domestic firms, finding it difficult to sell at home, compete more to sell exports abroad.
- A fall in the exchange rate: this might increase the quantity of exports if consumers overseas are responsive to the now lower export prices, and might similarly reduce the quantity of imports (see Topic 4.3).
- A net inflow of investment income: in other words, the investments that foreign residents have made in the country earn less than the investments the country's inhabitants have made in other countries.

Activity

Oil-exporting countries such as Saudi Arabia and Kuwait have often had current account surpluses

1 What consequences might there be from this success for their economies and people?

2 Think of reasons why the current account surplus might not continue.

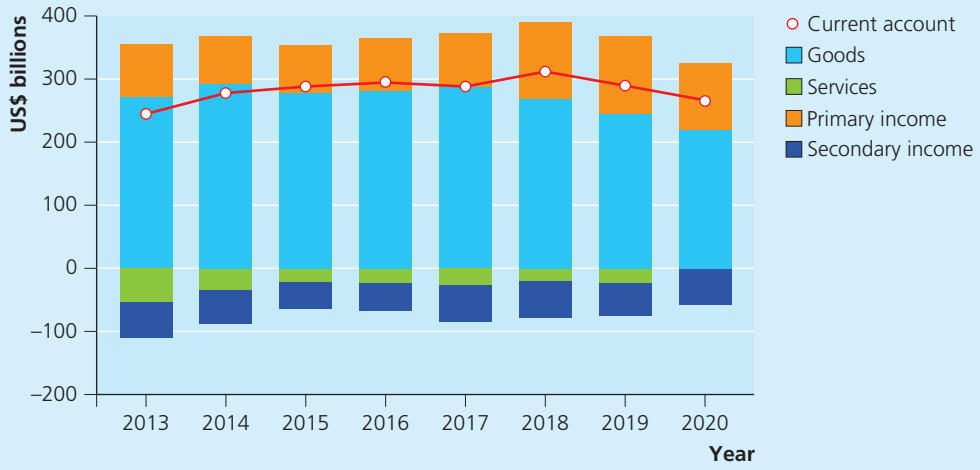
Causes of deficits on the balance of payments on current account

In simplified terms, a current account deficit is where the revenue from exports is less than spending on imports. There are several possible causes of a current account deficit.

- Structural problems in the economy: for example, firms overpricing goods or producing poor-quality goods or goods no longer in demand (see Topic 3.7 for supply side problems).
- Falling incomes overseas: this may lead to falling exports. Also, rising incomes in the domestic economy may in turn lead to rising imports.
- A rise in the exchange rate: this may decrease the quantity of exports if consumers overseas are responsive to the now higher export prices, and may similarly increase the quantity of imports (see Topic 4.3).
- A net outflow of investment income: in other words, the investments that foreign residents have made in the country earn more than the investments the country's inhabitants have made in other countries.

Case study

Germany



Source: IMF data

Figure 4.2.5 Germany's current account, 2013–20

According to World Bank GDP data, in 2021, Germany was the fourth largest economy in the world. Its current account surplus was the largest in the eurozone and has existed since the 1980s (see Figure 4.2.5). One strength of the German economy has been the power of its exports, with its car and high-tech brands being particularly desirable throughout the world. Also, since 2000, its labour costs have risen much more slowly than those of other eurozone countries.

Another factor is that saving is traditionally particularly high among German consumers, so consumer spending on imports is relatively low.

Finally, Germany imports most of its oil, so the fall in the price of oil has been beneficial.

Follow-up questions

1. Give an example of an export and of an import for Germany.
2. Describe one factor that causes the current account surplus for Germany.
3. Explain why an increase in the price of oil might result in a current account deficit for Germany. Do you think this is likely?

Evaluate this

Evaluate the causes of the current deficit of the balance of payments on current account in the UK.

Using the information in this topic and your own knowledge, use chains of reasoning to explain how potential causes link to the deficit before evaluating the likelihood of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Extension material

Research any of the following areas to extend your understanding beyond the GCSE specification. See if you can find what is included in these parts of the balance of payments, any recent trends in the UK and how they might have been impacted by government policies or recent events.

1. Primary income
2. Secondary income
3. Financial account
4. Errors and omissions

As well as educational websites, the government publishes information about the balance of payments through the Office for National Statistics (ONS).

Progress check

Now you have finished this topic, you should be able to:

- explain the balance of payments on current account
- explain the meaning of a balanced current account
- explain the meaning of a current account surplus
- explain the meaning of a current account deficit
- calculate deficits and surpluses
- analyse recent and historical data on exports and imports
- evaluate the importance of the balance of payments on current account to the UK economy
- evaluate the causes of surpluses of the balance of payments on current account
- evaluate the causes of deficits of the balance of payments on current account

Topic 4.3
Exchange rates

Learning outcomes

After studying this topic, you should be able to:

- draw and analyse how exchange rates are determined through the interaction of supply and demand
- calculate currency conversion
- analyse recent and historical exchange rate data
- evaluate the effect of changes in the exchange rate on consumers and producers

Introduction to exchange rates

Ideally, countries around the world would all produce the goods they are most efficient at producing and then trade with other countries to obtain a wider range of goods (see Topic 4.1). Money is needed as a measure of the value of a good or service so that they can be traded (see Topic 2.8). However, most countries each have a different **currency**. So, to allow trade between countries, it has to be possible to buy one currency using another. This then allows economic groups in one country to buy goods in another country with that country's currency. The price of one currency in terms of another is known as the **exchange rate**.

For example, to buy a car from the USA, a British citizen would exchange their pounds into US dollars. This then means they can pay the US producer for the car in the USA's currency.

Activity

Research and create a quiz on names of different currencies for your class. Try to find five different currencies that have to be matched to their countries. Different groups could look at different continents.

How are exchange rates determined through the interaction of supply and demand?

Exchange rates work like any market for goods and services. The goods here are types of currency, such as British pounds and US dollars.

Drawing the determination of exchange rates through the interaction of supply and demand

The market forces of demand and supply determine the UK's exchange rate against other currencies. In this section, the two currencies used to illustrate the theory are British pounds (£) and the euro (€). The eurozone is a group of countries that use the euro as their currency.

Key terms

Currency The system of money used in a country or group of countries.

Exchange rate The price of one currency in terms of another currency.

Study tip

If you are reading more widely, the British pound (£) is often referred to as 'pound sterling' or 'sterling'.

Foreign exchange trading

Study tip

Read the question carefully so that you use the correct currencies on your diagram.

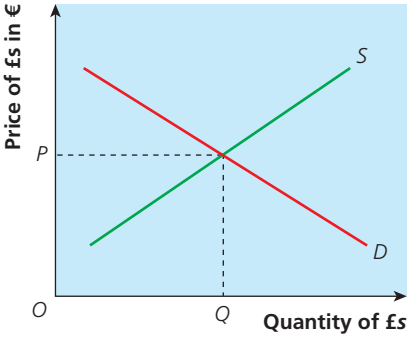


Figure 4.3.1 The exchange rate for pounds in terms of euros

Study tip

The vertical *y*-axis of an exchange rate diagram is the price of the currency that is traded in terms of another country's currency. Label this clearly, such as 'Price of £s in €' or 'Exchange rate (euros per £)'. In these examples, the horizontal *x*-axis could be 'Quantity (£)' or 'Quantity of pounds'.

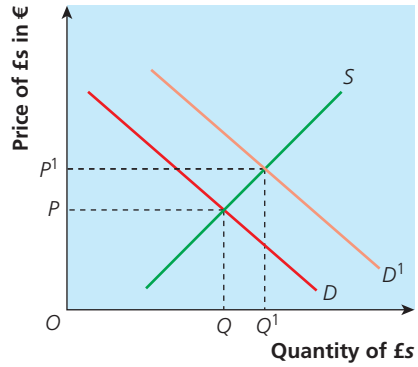


Figure 4.3.2 A rise in the exchange rate due to an increase in demand for pounds

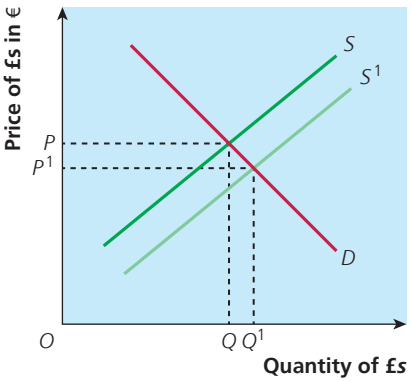


Figure 4.3.3 A fall in the exchange rate due to an increase in supply of pounds

Determination of exchange rate through the interaction of supply and demand

The exchange rate for a currency (its price in terms of another currency) is set at the equilibrium of demand and supply. This equilibrium price shows the external value of a currency. In other words, it shows how much of another currency it can buy (see Figure 4.3.1).

- The exchange rate is where $D = S$ at a price of P.
- The demand curve (D) is the demand for pounds. This comes from overseas economic groups (consumers, producers, governments) who want pounds to buy British goods, services and financial assets from the UK.
- The supply curve is the supply of the pound. This comes mainly from UK economic groups (consumers, producers, governments) who supply their pounds in exchange for another currency that they can then use to buy goods, services and financial assets from other countries.

A rise in the exchange rate

A rise in the exchange rate means that the price of a currency increases in terms of another currency. It means that each pound will buy more units of another currency. This is referred to as the currency becoming stronger or as an appreciation of the currency. There are two possible changes in the exchange rate diagram that lead to a rise in the exchange rate: an increase in demand for a currency or a decrease in supply of the currency.

Figure 4.3.2 shows the effect of an increase in demand for pounds. As a result of the shift to the right of the demand curve (D to D^1), the price of the pound increases (P to P^1) and the exchange rate rises. For example, the price of the pound at P may have been £1 = €1, whereas after the shift of the demand curve, it might increase to £1 = €2. In effect, each pound now buys more euros and more euros have to be sold to buy pounds.

A fall in the exchange rate

A fall in the exchange rate means the price of a currency decreases in terms of another currency. Each pound will therefore buy fewer units of another currency. This is referred to as the currency becoming weaker or as a depreciation of the currency. There are two possible changes in the exchange rate diagram that lead to a fall in the exchange rate: a decrease in demand for a currency or an increase in supply of the currency.

Figure 4.3.3 shows the effect of an increase in the supply of pounds. As a result of the shift to the right of the supply curve (S to S^1), the price of the pound decreases (P to P^1) and the exchange rate falls. For example, the price of the pound at P may have been £1 = €2, whereas after the shift of the supply curve, it decreases to £1 = €1. In effect, each pound now buys fewer euros, and fewer euros have to be sold to buy pounds.

Now test yourself

1 Draw a supply and demand diagram to show the change in each of the following scenarios:

- **a** This exchange rate diagram is for US dollars in terms of British pounds. The scenario is that there is a decrease in supply of US dollars.
- **b** This exchange rate diagram is for Swiss francs in terms of the euro. The scenario is that there is an increase in demand for Swiss francs.
- **c** This exchange rate diagram is for British pounds in terms of the euro. Initially, the equilibrium price for pounds in terms of euros was €1. After an increase in demand for pounds, the new equilibrium price is €1.25. Use quantity labels of Q and Q^1.

Study tip

Demand and supply in an exchange rate diagram work the same as in the market diagrams first seen in Topic 2.4. An increase in either demand or supply results in a shift to the right ('right is a rise'). A decrease in either demand or supply results in a shift to the left ('left is lower').

Analysing the determination of exchange rates through the interaction of supply and demand

A number of factors affect supply and demand of currency and cause a shift in either the supply or demand curve, resulting in a new equilibrium price, i.e. exchange rate. The following section looks at some of the main factors affecting demand and supply using the UK economy and the British pound in terms of the euro.

Factors affecting demand for pounds

One simple way to think about demand for pounds and exchange rates is by considering if there has been a change in demand for UK exports, which then affects the demand for pounds. For instance, if there is an increase in demand for UK exports, there will also be an increase in demand for pounds with which to buy the exports.

Economic groups in the eurozone need pounds for these key reasons:

- to buy UK exports of goods and services
- to save in UK bank accounts
- to speculate on the pound. This is where speculators buy the pound in the hope that it will be worth more in the future (known as flows of 'hot money').
- to invest in the UK – for instance, so overseas producers can set up businesses and trade from the UK as a base. For example, BMW needed pounds to build factories and employ workers in the UK.

Therefore, demand for the pound may increase because:

- UK goods become more desirable – for example, due to a fall in price, which could happen, for instance, if the inflation rate in the UK falls relative to that in other countries (see Topic 3.4)
- incomes rise in the eurozone, so eurozone consumers can now afford to buy more goods, and this is likely to include UK exports

Study tip

Analysis is the use of economic ideas, concepts and diagrams to examine economic evidence. Questions on the determination of exchange rates include the ability to 'explain' the diagram and the effect of changes in the market using logical chains of reasoning.

Pounds are traded for euros on the foreign exchange market

Study tip

Take care when using the word 'change'. This can be too vague, so consider whether increase/decrease or rise/fall might be better.

- interest rates in the UK rise relative to other countries' interest rates, so eurozone savers would want to save more in the UK to take advantage of the increased return on their savings (see Topic 2.8)
- some eurozone speculators think the value of the pound will rise in the future, so it is worthwhile buying the pound now to exchange for more euros in the future
- the UK becomes more attractive for foreign investment – for example, due to a reduction in corporation tax or an increase in productivity (see Topic 2.6)

These scenarios would all result in the effect seen in Figure 4.3.2.

Factors affecting supply of pounds

One way to think about the supply of pounds and exchange rates is by considering if there has been a change in demand for imports into the UK that affects the supply of pounds. For instance, if there is an increase in demand for imports, there will also be an increase in supply of pounds. This happens because the pounds are sold for euros (or other currencies) that are then used to buy the imports.

British economic groups need euros, so will trade pounds, for these key reasons:

- to buy imports of goods and services
- to save in eurozone bank accounts
- to speculate on the euro. This is where speculators buy the euro in the hope that it will be worth more in the future (known as flows of 'hot money').
- to invest in the eurozone – for instance, so UK producers can set up businesses and trade from the eurozone as a base.

Therefore, supply of the pound may increase because:

- eurozone goods become more desirable – for example, due to a fall in price
- incomes rise in the UK, so British consumers can now afford to buy more goods, and this is likely to include imports from the eurozone
- interest rates in the eurozone rise relative to other countries' interest rates, so British savers want to save more in the eurozone to take advantage of the increased return on their savings (see Topic 2.8)
- British speculators think the value of the euro will rise in the future, so it is worthwhile buying the euro now to exchange for more pounds in the future
- the eurozone becomes more attractive for foreign investment – for example, due to a reduction in regulations or an increase in productivity (see Topic 2.6)

These scenarios would all result in the effect seen in Figure 4.3.3.

Table 4.3.1 Summary of exchange rate changes

Change in the exchange rate	Change in demand or supply of £s	Change on diagram	Example of cause
Rise	Decreased supply of £s	Supply curve shifts left	Fewer imports bought from eurozone
Rise	Increased demand for £s	Demand curve shifts right	More exports sold to eurozone
Fall	Increased supply of £s	Supply curve shifts right	More imports bought from the eurozone
Fall	Decreased demand for £s	Demand curve shifts left	Fewer exports sold to eurozone

Now test yourself

2 Draw the supply and demand diagram for the exchange rate in each of the following scenarios.

- **a** This exchange rate diagram is for US dollars in terms of British pounds. The change in the market is that the USA increases its productivity and can reduce its prices for goods more than the UK economy.
- **b** This exchange rate diagram is for British pounds in terms of euros. The change in the market is that average incomes in the UK decrease relative to those in the eurozone.

How do you calculate a currency conversion?

It is easy to calculate a currency conversion. Here is the method for calculating it, using British pounds (£) and euros (€).

To convert pounds into euros, you need to know how many pounds you have to exchange, then multiply this by the exchange rate, which states how many euros can be bought by a single pound.

To convert euros into pounds, you need to know how many euros you have to exchange, then divide this amount by the exchange rate, which states how many euros can be bought by a single pound.

Table 4.3.2 Currency conversion methods

Currency conversion	Method	Example: exchange rate of £1 = €1.20
Convert £ into €	£ amount × € exchange rate	To convert £5.70 to €: £5.70 × €1.20 = €6.84
Convert € into £	€ amount ÷ € exchange rate	To convert €3.45 to £: €3.45 ÷ €1.20 = £2.88

Activity

Find out the exchange rate of the pound against five different currencies. If you were to visit these countries and take £100 with you, how much of these foreign currencies would you get for your £100? Check this on a currency converter.

Now test yourself

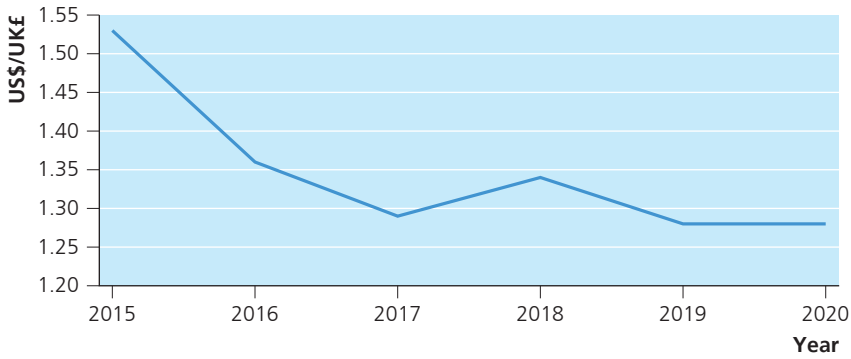
3 Calculate the answers in the following foreign exchange transactions:

- **a** A pencil case costs $5.50 in the USA. What is the price in British money when £1 = $1.40?
- **b** Change £1,000 into euros if £1 buys €1.04.
- **c** How many pounds are 500 rand worth if 12.5 rand = £1?
- **d** On holiday from the USA, Juanita spends her money on: golf £30, plane ticket £200 and hotel £32. How much does it cost her in dollars if £1 = $1.60?
- **e** Mrs Kumar returns from Europe with €86. How much does she get back in pounds to the nearest 10p if £1 = €1.06?

Analysing recent and historical exchange rate data

The UK's exchange rate can be analysed in terms of other currencies, such as the US dollar or euro.

Recent exchange rate data



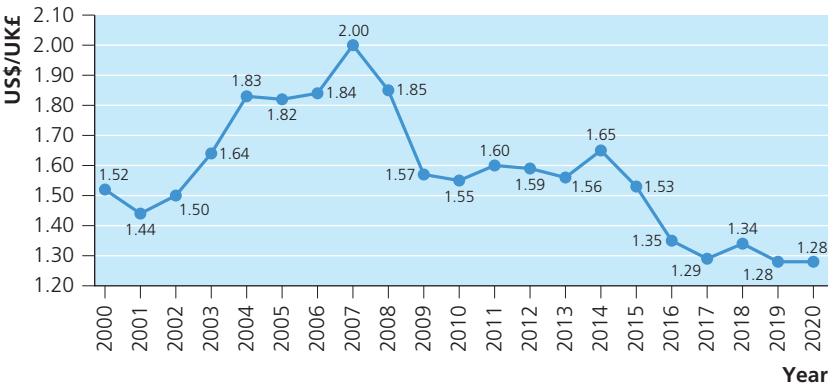
Source: Bank of England

Figure 4.3.4 The number of US dollars per British pound, 2015–20

Figure 4.3.4 plots how many US dollars are converted to make a British pound. It shows:

- Overall, the exchange rate fell between 2015 and 2017. This reflected uncertainty about the EU referendum and then how the vote to leave the EU would affect the UK economy.
- With some fluctuations during the year, the exchange rate rose a little in 2018. This reflected concerns about interest rate changes and international trade disputes in the USA and the possibility of a UK–EU trade deal.
- The exchange rate then fell again, so overall between 2015 and 2019 the annual exchange rate fell. This may have reflected a return of uncertainty over a final UK–EU trade deal.

Historical exchange rate data



Source: Bank of England

Figure 4.3.5 The number of US dollars per British pound, 2000–20

Since 2000, there have been many fluctuations in the exchange rate of the British pound against the US dollar. Figure 4.3.5 plots how many US dollars are converted to make a pound. It shows:

- With some fluctuations, the exchange rate increases up to a peak in 2007. This may have reflected rising interest rates and confidence in the UK economy and policies such as competition and privatisation.
- After the financial crash of 2007–08 and the following recession, the exchange rate then fell up to 2010. This reflected greater uncertainty and growing problems in the UK banking industry, although both economies experienced problems.
- The exchange rate then stayed at a similar level with smaller fluctuations through to 2015. The stability of the exchange rate at this lower level reflected the relatively slow growth in the UK economy over this period.
- Since 2015, because of uncertainty in the UK economy and the effects of the EU referendum, the exchange rate has fallen overall.

Activity

Practise chains of reasoning to explain the impact of recent events, such as Brexit or the Covid-19 pandemic, on the UK exchange rate against another currency.

Evaluating the effect of changes in the exchange rate on consumers and producers

Changes in the exchange rate have an impact on all economic groups, including consumers and producers. A change in the exchange rate has an impact on prices of exports and imports. This in turn affects other parts of the economy. For instance, if the exchange rate falls, the effects might include:

- An increase in total demand: this is likely because demand for exports will increase while imports decrease due to relatively more competitive domestic prices.
- An increase in domestic output (GDP) and economic growth: this is likely because output will need to increase to meet the increased demand for domestic goods.
- A decrease in unemployment: this might happen if more workers are needed to make the extra output.
- A current account surplus: this might happen if export revenue becomes greater than import spending.
- A rise in inflation: this might happen due to the increase in total demand and upwards pressure on prices.
- A decrease in total supply: this may happen if the country imports a lot of its raw materials or capital goods as the price of these increases, so may have a negative impact on producers in the economy.

The effect of changes in the exchange rate on consumers

A fall in the exchange rate is likely to have opposite effects from a rise for consumers. For instance, if there is a rise in the exchange rate, the following may occur:

- Import prices fall: domestic consumers may be more willing and able to buy imported goods.
- Improved standard of living: domestic consumers may buy more imported goods.
- Increased tourism overseas: more domestic consumers may go overseas for holidays as their British pound will buy more foreign currency.

Activity

Research the impact of changes in the exchange rate on food prices. Marmite has been in the news a lot!

Fluctuations in the exchange rate affect consumers and producers

Activity

Make a list of effects of a fall in the exchange rate on consumers and producers. Practise planning chains of reasoning to explain how they happen. Extend this to explain an impact on a trade deficit or inflation.

Activity

In small groups, discuss how unpredictable exchange rates might affect the decisions of overseas businesses that invest in a country, e.g. basing factories in the country.

- A fall in the inflation rate: due to total demand falling, if imports grow and exports fall there is likely to be a downward pressure on the price level. This may benefit consumers, as their income will now, in effect, buy more goods.

The effect of changes in the exchange rate on producers

A fall in the exchange rate is likely to have opposite effects from a rise for producers. For instance, if there is a rise in the exchange rate the following may occur:

- A fall in import prices: this is a benefit for producers who import raw materials, components or capital goods, as now their average costs will be lower and there is a chance of increased profits.
- A rise in export prices: usually this would be expected to result in a fall in demand for goods from British producers. However, if overseas consumers have inelastic price elasticity of demand for these British goods, they will not be responsive to the rise in price and may continue to demand a similar quantity (see Topic 2.2).
- Increased tourism overseas: producers involved in the provision of holidays overseas, such as travel agents and airlines, should benefit from the increased demand from British consumers. However, producers involved in providing holiday and leisure services within the UK may suffer due to less demand from both British and overseas consumers.
- A fall in the inflation rate: due to total demand falling, if imports grow and exports fall there is likely to be a downward pressure on the price level. This may benefit producers, as there is less need for wage rises, it should lower menu costs (see Topic 3.4) and eventually British producers should become more internationally competitive again.

Evaluate this

Evaluate the effect of a fall in the exchange rate on consumers.

Using the information in this topic and your own knowledge, use chains of reasoning to explain the potential effect of a fall in the exchange rate on consumers before evaluating this effect and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification.

Case study

The British pound immediately after the EU referendum

The British pound had been falling in value during 2016. However, after the result of the EU referendum, the pound dropped significantly to a 30-year low against the US dollar. Figure 4.3.6 focuses on the period surrounding the referendum from 30 May to 25 August 2016.

One positive effect for the UK was an increase in the number of tourists coming to the country over the summer of 2016. These overseas visitors took advantage of the exchange rate, which resulted in retail prices that were 15% below the level of August 2015. Sales of watches and jewellery to overseas visitors soared in London as a result.

However, British tourists going abroad did not have the same experience. In some instances, British tourists faced living costs while overseas that were 20% higher than in the summer of 2015.

Follow-up questions

1 Using Figure 4.3.6, calculate the approximate percentage change in the value of the pound against the dollar between 23 and 26 June (i.e. the highest to lowest points in the date range 17–28 June).

2 Explain the effect that a fall in the exchange rate would have for consumers in the UK.

3 Explain the effect that a fall in the exchange rate would have for producers in the UK.

4 Research the changes in the value of the pound to the dollar since 2016. Explain why these changes occurred.

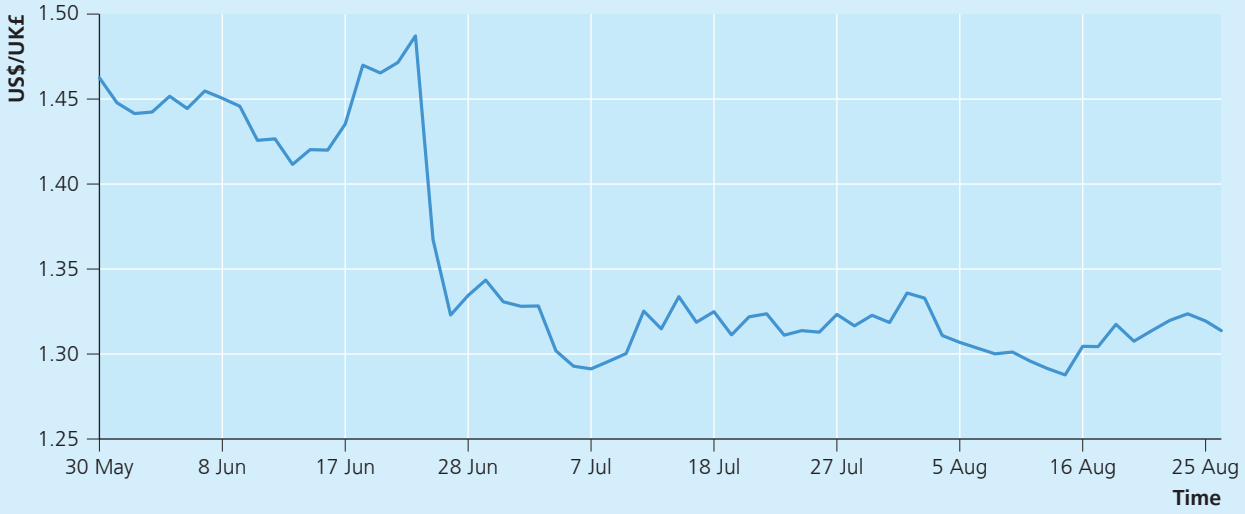


Figure 4.3.6 The number of US dollars per British pound, 30 May–25 August 2016

Extension material

If the initial exchange rate is at point *A* on Figure 4.3.7, work out the most likely new exchange rate equilibrium as a result of each of the following changes:

1 an increase in exports

2 a decrease in imports

3 an announcement that the UK has had a record number of hours of sun during the summer for 5 years in a row

4 an increase in international competitiveness of British producers

5 a rise in interest rates in the UK

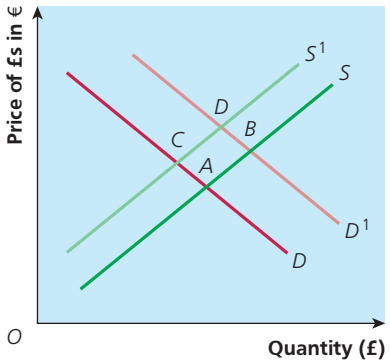


Figure 4.3.7 Changes in the supply and demand of the British pound in terms of euros

Now test yourself

4 Every year the Premier League clubs review their teams and decide if they want to recruit new players. A lot of these players are based overseas, so the exchange rate can have an impact. For instance, a club may offer to buy a player for €50 million on Thursday when the exchange rate is £1:€1.50. However, it then signs the player on the Friday, still for €50 million, but when the exchange rate has fallen to £1:€1. This significantly increases the price that the Premier League club has to pay in British pounds.

Footballers working around the world are affected by exchange rates

Overseas players may negotiate a salary in the currency of their own country. Therefore, if, a player comes from the eurozone and agrees to an annual salary of €1 million per year, the Premier League club will have to pay out varying amounts in pounds to meet the fixed figure in euros.

a Calculate in pounds how much the Premier League club would need to pay for the player on the Friday.

b Calculate in pounds the difference the Premier League club would need to find to pay a salary of €1 million/year between an exchange rate of £1:€1.50 and £1:€1.

c Explain the impact on Premier League clubs of a falling exchange rate.

Progress check

Now you have finished this topic, you should be able to:

- draw exchange rate diagrams
- analyse how exchange rates are determined through the interaction of supply and demand
- calculate currency conversion
- analyse recent and historical exchange rate data
- evaluate the effect of changes in the exchange rate on consumers
- evaluate the effect of changes in the exchange rate on producers

Topic 4.4
Globalisation

Learning outcomes

After studying this topic, you should be able to:

- explain globalisation, including its driving factors
- explain how development is measured, including GDP per capita, life expectancy, access to healthcare, technology and education
- evaluate the costs and benefits of globalisation to producers, workers and consumers in developed countries, including the impact on economic, social and environmental sustainability
- evaluate the costs and benefits of globalisation to producers, workers and consumers in less developed countries, including the impact on economic, social and environmental sustainability

What is globalisation and what are its driving factors?

Globalisation has resulted in many countries in the world becoming closer to acting as a single market. There is now more freedom of movement of goods, services, people and money through different countries. Almost any good can be made anywhere in the world using resources from anywhere else. These goods can then be sold anywhere and the resulting profits equally could go anywhere in the world.

Examples of globalisation can be seen in global brands such as McDonald's and Coca-Cola. There is also increasing global sourcing, which is where producers make their goods and services using resources from all over the world. For instance, a raw material such as iron ore may be bought from producers in Australia and shipped to factories in China for production. Another example is a bank that may have a call centre in India, accounting services in Mexico and offices around the world.

Key term

Globalisation The expansion of world trade in goods and services, together with capital flows, leading to greater international interdependence.

Globalisation can be seen in the rise of global brands

The driving factors of globalisation

The driving factors of globalisation include the increase in international trade, improvements in transportation, the increase in worldwide foreign investment and advances in technology and communications.

Increase in international trade

International trade has grown significantly since the Second World War. Countries found their resources depleted and had to cooperate and work together to rebuild and maximise their use of scarce resources. This resulted in a movement to increase international trade, by the removal of barriers to trade such as taxation and regulations that restricted movement of resources. This led to easier movement of people, raw materials, money and goods between different countries. The costs associated with barriers to

international trade were reduced for producers and it became more profitable to trade around the world. Freer trade meant producers could also take advantage of the lower costs of components and raw materials resulting from the benefits of specialisation in other countries (see Topic 2.1).

Changes in economic policy in countries such as China have brought about some of the greatest developments in international trade in more recent times. China has changed from a closed economy to an economy that is increasingly open to international trade. This is significant because China is now one of the largest economies in the world and is an important producer and consumer of the world's goods and services.

Activity

1 Split into small groups and choose one of these global brands to research: Apple, Coca-Cola, Disney, Facebook, Google, H&M, McDonald's, Microsoft, Nike, Toyota.

2 Write an article about the company and answer these questions:

- **a** What goods or services does it produce?
- **b** When, and in which country, was it set up?
- **c** In how many countries does it now have offices/factories/branches?
- **d** Where does it sell its goods or services?

Try to include data and visuals that enhance your article.

Improvements in transportation

Improved transport has increased travel and tourism worldwide

Improvements in transportation have been a very practical contributor to globalisation. This has enabled producers to source inputs for production from around the world and to distribute goods worldwide. For instance, the development of huge container ships has resulted in greater economies of scale for transportation. Transporting such a large number of goods on a single ship significantly lowers the average costs of transportation. One contributor to this is reduced average wages, because a similar-size crew can still be used to transport a much larger quantity of goods (see Topic 2.6).

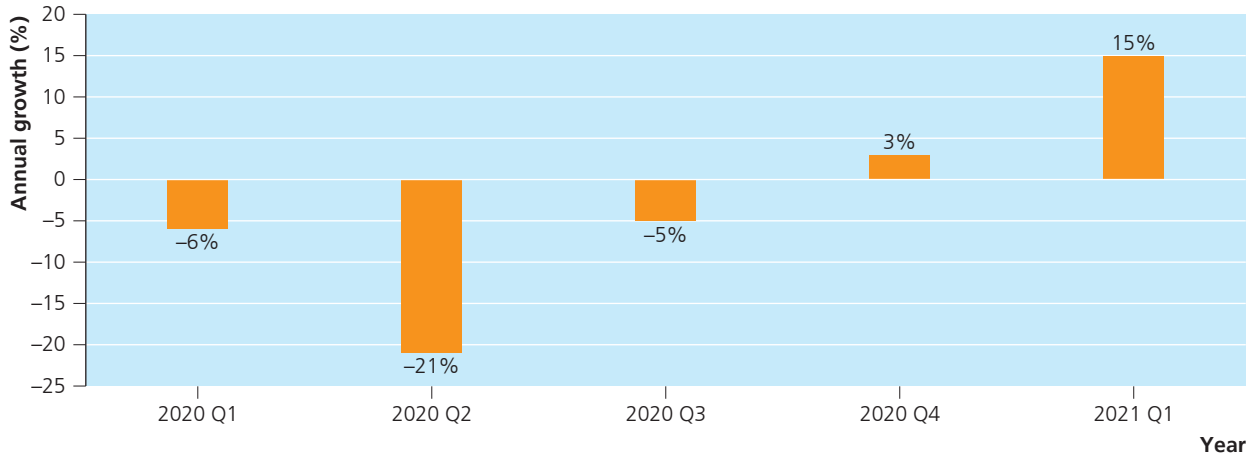
Improvements have also been made worldwide in transport infrastructure, with investment in air, rail and road systems. These improvements have enabled businesses to employ overseas producers to take on parts of the production process.

Increase in worldwide foreign investment

Foreign investment is now a significant contributor to the flow of money into and out of different countries.

As with international trade, the promotion of free trade and the removal of restrictions on foreign investment have ensured significant growth in this area. Significant foreign investors in the UK include the USA, France, Germany, the Netherlands and Ireland. Countries with a balance of payments surplus, such as China and Germany (see Topic 4.2), can use the surplus to invest overseas.

Now test yourself



Note: Q means a quarter of a year, a 3-month period, so Q1 shows figures for January to March.
Source: World Trade Organization

Figure 4.4.1 Average growth of world trade in goods, Q1 of 2020 to Q1 of 2021 (%)

1 Figure 4.4.1 shows the average growth in world trade in goods between 2020 and 2021.
   - **a** Calculate the change in percentage points for average growth of world merchandise trade between Q1 of 2020 and Q1 of 2021.
   - **b** Calculate the percentage change in average growth between Q4 of 2020 and Q1 of 2021.
   - **c** Using the data shown in Figure 4.4.1, explain what happened to average growth of world merchandise trade between Q4 of 2020 and Q1 of 2021.
   - **d** Explain a possible reason for the change in average growth of world merchandise trade in Q2 of 2020.

Foreign investors consist of both governments and privately run businesses. The growth of multinational corporations (MNCs) (see Topic 2.6) has resulted in an increase in worldwide foreign investment. These businesses, such as Shell, Ford and Nestlé, have a base in one country but will then conduct business (via production or retail outlets) in other countries. In order to produce or sell in another country, these businesses have to invest in all sorts of ways, from buying factories to computers.

Advances in technology and communications

Improved technology and communications have made it simpler to trade around the world. It is now easier for producers to have parts of their business in other countries, especially those parts linked to accounts, IT and call centres. Advances such as the internet have allowed producers to find suppliers of resources they need in different parts of the world and reach consumers in different countries. It has also enabled consumers to find a wider range of suppliers and a greater choice of goods and services from countries around the world.

Now test yourself

2 Decide whether the following statements are most likely to be true or false.

- **a** The development of online video communications, such as Zoom, has reduced globalisation.
- **b** The increased size of container ships has enabled increased globalisation.
- **c** Political decisions to reduce free trade by governments around the world increase globalisation.
- **d** The increased investment worldwide by China has decreased globalisation.
- **e** The chance of greater profits by basing production in different countries has incentivised globalisation.

How is development measured?

Key term

Development The process of increasing people's standard of living and wellbeing over time.

Development is the process of increasing people's standard of living and wellbeing over time. Economic growth is usually a key indicator of development, but there are many more aspects to this concept.

Methods of measuring development

Many different methods are used to measure development, using different combinations of key indicators. GDP per capita is the main economic indicator of development. Social indicators cover areas such as health, crime, education and the environment.

GDP per capita

GDP per capita is output per head of population. An increase in GDP represents economic growth, which may benefit the whole population in a country if more workers are needed to make the increased output, and as more people receive a higher income. This in turn may result in increased total demand in the economy, as people can now afford to buy more goods and services.

Life expectancy

Life expectancy is the average age to which a person lives. For instance, life expectancy in England is now around 81 years whereas it is only 55 in Nigeria. It is a useful gauge of development because it is likely to tally with the overall health and safety of a population. A country experiencing conflict, or with no health and safety regulations in industry, might have a lower life expectancy. For instance, in 2013 in Dhaka, Bangladesh, over 1,000 workers died when an eight-storey building collapsed. This was partly blamed on poor building regulations, inadequate health and safety regulations, and lack of government oversight of businesses.

Extension material

Human development indicators

Table 4.4.1 Human development indicators in Canada and Mali: health, 2020

	Canada	Mali
Human Development Index (HDI)	0.929	0.434
Life expectancy at birth	82.4	59.3
Infant mortality rate (per 1,000 live births)	4.3	62.0
Infants lacking immunisation, measles (% of 1-year-olds)	10	30
Public health expenditure (% of GDP)	10.6	3.8

Source: United Nations Development Programme

The Human Development Index (HDI) measures development within countries using a range of data from key areas. The higher the HDI number, the higher the level of development is likely to be. Knowledge of HDI goes beyond the GCSE specification, but it is a useful source of information on areas in this topic, including average income, life expectancy, access to healthcare, technology and education.

1. Consider why immunisation against measles might be important.
2. What impacts do you think the different life expectancies will have in Canada and Mali?
3. How do you think the differing levels of government spending on health might affect development?

Access to healthcare

The availability of hospitals, medical facilities and medical professionals has a significant effect on wellbeing. For instance, a severe shortage of midwives and nurses in Africa has meant that Africa has more than half the world's maternal and child deaths.

Technology

Statistics relating to technology may include the percentage of a population with access to mobile phones, televisions and the internet. For instance, access to the internet has many benefits, including for education, business and personal banking services.

Statistics on technology may include the amount of investment in research and development (R&D). This is useful as it can help forecast future development in a country due to advances in technology, productivity and innovation.

Education

There are two main measures for education. One measures access to education and includes the total number of children and teenagers attending primary school, secondary school and higher education. The other is the literacy rate, which takes into account the percentage of adults who can read and write.

Education is an important indicator for many reasons. It has strong links to future productivity and economic growth. It can also help with inequality within a country, as an increase in skills enables people to access higher wages. There are, of course, many other benefits from education that clearly promote wellbeing but are not easily measured, such as providing an opportunity to make new friends.

Evaluating the costs and benefits of globalisation in developed countries

There are many costs and benefits of globalisation for the different economic groups in developed countries.

Developed countries are countries that have reached an advanced stage of development. In terms of economic indicators, they have high GDP per capita and developed industrial and service sectors. In terms of human indicators, they are likely to have high levels of education and healthcare.

Key term

Developed country A country with high GDP per capita and developed industry and service sectors.

Costs and benefits of globalisation for producers in developed countries

The costs include:

- A possible decline of industry: less developed countries may have a cost advantage, which means domestic producers are unable to compete and have to close. For example, the minimum wage in the UK makes farming more expensive than in less developed countries, and so makes it more difficult for UK farmers to compete globally.
- Vulnerability to problems in the worldwide economy: for instance, if incomes fall in another country, producers in developed countries may not be able to export as much, which may harm their business.

The benefits include:

- Wider markets to sell into: there is the potential for increased sales as producers can now sell virtually anywhere in the world. They may also benefit from greater economies of scale or increased specialisation.
- A cheaper and wider range of resources: producers should be able to obtain the resources for their production processes from anywhere in the world. This increased level of competition between resource suppliers means lower prices for producers as well as access to resources that were not available within their own country.
- Advances in technology: sharing of scientific information and joint research have led to benefits for producers. For example, advances in GM crop technology have come from research worldwide.
- A cheaper and more skilled labour force: increases in overseas workers moving to a country can be a benefit for producers who have access to a wider range of workers, sometimes with different skills or who are willing to work at lower prices.

Producers may reduce costs by basing parts of the business in other countries

Costs and benefits of globalisation for workers in developed countries

The costs include:

- Decline of industry and unemployment: for instance, due to global competition, the steel industry in the UK has declined and many steelworkers are now unemployed. Many of these workers, who have only ever worked in the steel industry, have found it difficult to get new jobs, as their skills were specific to making steel. Also, the decline of this industry has hit specific areas of the country, but workers find it difficult to move elsewhere to seek new jobs.

Activity

Many multinational companies have outsourced their call centres to businesses in India. Research and make a list of advantages and disadvantages for the multinational companies.

- An increase in the use of machinery and unemployment: there may be increased output due to more international trade after globalisation. However, this may lead to fewer jobs if producers replace workers with machinery to increase productivity.
- An increase in dependence on world markets and unemployment: for instance, when incomes have fallen in other parts of the world, the demand for luxury cars made in the UK has fallen. This has resulted in fewer workers being needed to make the cars.
- An increase in immigration and unemployment: globalisation can increase movement of people around the world, so may impact unemployment if existing workers are not competitive in terms of either skills or price.

The benefits include:

- Increased employment due to increased output: overall, there may be more jobs available as the economy produces more to meet the demands of international trade. This may take time as economies adjust production to the goods and services they can produce relatively most efficiently and that are also in demand globally.
- Increased employment due to increased foreign investment has helped many developed countries.
- Increased geographical mobility: the opening up of markets means that workers from developed countries have the opportunity to live and work anywhere in the world.

Costs and benefits of globalisation for consumers in developed countries

The costs include:

- Less choice due to global brands: for instance, the rise of global companies like McDonald's has led to smaller, local fast-food restaurants closing and some losses of specialist local food.
- Volatility and rising prices: for example, oil prices have fluctuated greatly in recent years, leading to increased fuel costs. Also, as there are more consumers competing to buy some goods, this can actually lead to an increase in worldwide prices.

The benefits include:

- A wider range of goods: in general, due to the lowering of barriers to trade, improved transportation and the internet, consumers can research and buy a wider range of goods.
- Lower prices for goods: increased worldwide competition should result in lower prices for most goods that consumers buy in developed countries. These lower prices, in effect, mean higher real incomes for these consumers, as they are now able to buy more with the same level of income.
- Better-quality and more innovative goods: due to the increase in competition, producers have to be more focused on the quality of their goods and invest in R&D to constantly innovate to stay ahead of their rivals.
- Greater opportunity to travel: opening up borders allows greater tourism and travel for consumers in developed countries.
- Improved services due to more skilled professionals: due to freer movement of people, there may be more skilled professionals moving from less developed countries to developed countries. For instance, the National Health Service (NHS) is thought to employ a significant proportion of its health professionals from overseas.

Study tip

When answering a question on costs and benefits of globalisation, take care to answer the exact wording of the question – for example, you might need to focus on a specific aspect such as the impact on consumers or environmental sustainability.

The impact on economic, social and environmental sustainability in developed countries

Economic sustainability

Initially, globalisation can have a negative economic impact on developed countries. They may have an industry that is less efficient than the same industry in a less developed country. This means that their goods cannot compete on price with those from the less developed country. This can lead to the decline of the whole industry in the developed country, which results in unemployment.

However, over time these economies should adjust production to more profitable activities where they have greater efficiency. Developed countries may focus on areas such as services and high-tech industry. Producers in these areas have high levels of profit and can benefit from lower costs by international trading of resources needed for production. This should result in positive impacts, such as increased GDP, less unemployment and greater tax revenue. (For more on economic sustainability, see Topic 1.2.)

Social sustainability

The benefits of more, better and lower-priced goods for consumers contribute significantly to an increased quality of life within developed countries. However, this should be balanced with the negative effects for society during possible periods of unemployment. For instance, when the UK started to import cheaper coal and fuels, consumers benefited from lower prices. However, this led to the decline of the coal-mining industry in the UK. This resulted in an increase in unemployment, concentrated within specific areas of the country, and much hardship for these communities. (For more on social sustainability, see Topic 1.2.)

Environmental sustainability

In theory, globalisation should have a positive impact on environmental sustainability. Through increased international trade, countries should now be specialising in the goods they can produce most efficiently. However, there are significant problems in less developed countries, with increased damage to the environment, such as pollution from production, and resource usage that, if allowed to continue, will impact the rest of the world, including developed countries.

Evaluate this

Evaluate the costs and benefits of globalisation to producers in developed countries.

Using the information in this topic and your own knowledge, use chains of reasoning to explain potential costs and benefits of globalisation for producers before evaluating the likelihood of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification as questions could also apply to workers and consumers.

Evaluating the costs and benefits of globalisation in less developed countries

There are many costs and benefits of globalisation for the different economic groups in **less developed countries**.

The term 'less developed countries' covers a wide range of countries and differing levels of development. In terms of economic indicators, they are likely to have lower GDP per capita and lower levels of industrialisation. In terms of human indicators, they are likely to have lower levels of wellbeing, such as shorter life expectancy and limited access to clean water. However, there are a wide range of economies that could be classed as less developed, with differences in key areas such as total GDP, population size and natural resources.

These less developed countries may have a greater risk of poverty and are less resilient when problems arise that affect their economy, as they do not have a sufficient level of development to respond.

Key term

Less developed country A country with a developing economy that has lower GDP per capita, lower levels of industrialisation and weaker indicators of wellbeing.

Activity

Find data on two countries: one that you think would qualify as a developed country and one as a less developed country. The Country Profiles section of the website of the United Nations Conference on Trade and Development (UNCTAD) at **http://unctadstat.unctad.org/EN/** and the website of the United Nations Development Programme (UNDP) at **http://hdr.undp.org/en/countries** have useful data.

Compare the data on the two countries and answer the following questions:

1. How does their GDP per capita compare?
2. How might their levels of GDP per capita affect their levels of development?
3. How does their growth of GDP compare? Explain the difference.

Costs and benefits of globalisation for producers in less developed countries

The costs include:

- Vulnerability to problems in the worldwide economy: this is a more significant problem for producers in less developed countries, as they already have less resources to deal with problems such as economic shocks. A reduction in foreign investment and demand for exports can make it difficult for producers to survive.
- Increased migration and loss of skilled workers: skilled workers may leave the less developed country to go to work in a developed country. This leaves a less productive workforce in the less developed country.
- Smaller, developing industries may not be able to compete: less developed countries may have a lot of newer industries trying to grow. These producers may find it difficult to compete with bigger producers worldwide, which can lead to them going out of business.

The benefits include:

- Wider markets to sell into: there is potential for increased sales, as producers can now sell virtually anywhere in the world. This may be more difficult for producers in a less developed country who may not have the resources to grow their output and take advantage of potential exports.

Subsistence agriculture is widespread in less developed countries

- Advances in technology: sharing of scientific information and joint R&D initiatives may lead to reduced costs for producers in less developed countries.
- Increased foreign investment: this may reduce costs for producers in less developed countries. For example, more roads may be built, which helps people and goods to move around.

Now test yourself

3 Match the following causes to their most likely consequence. Try to use each option only once.

a Greater economies of scale for established producers in developed countries

b Increased foreign investment in less developed countries, such as building roads and airports

c Greater ability for producers in less developed countries to sell goods to consumers worldwide

d Increased foreign investment in less developed countries, such as building hospitals and houses

e A fall in incomes or a change in tastes and fashion in developed countries

A An increase in environmental damage due to air pollution

B A higher standard of living for people in less developed countries

C Less demand for goods produced in less developed countries

D Producers in less developed countries may have more profits

E Producers in less developed countries may not be price competitive, so lose sales

Costs and benefits of globalisation for workers in less developed countries

The costs include:

- Increased use of machinery and unemployment: although there may be increased output due to more international trade after globalisation, there may be fewer jobs if producers replace workers with machinery to increase productivity. Also, there may be fewer jobs if there is a change of focus from labour-intensive primary sector markets, such as agriculture, to secondary-sector markets that use more machines.
- Increased vulnerability and unemployment: the problem of increasing dependence on world markets is that, if global demand falls for exports from less developed countries, then fewer workers will be needed.
- Increased gap between rich and poor: the increased revenue from more trade may not filter down to workers but may instead go to other groups, such as government, owners and managers.
- Poor working conditions: for instance, many clothes manufacturers and shops have been criticised in the past for using producers who treated workers badly in less developed countries. Poor treatment has included very low pay and long working hours.

The benefits include:

- Increased employment due to increased output: overall, there should be an increase in employment due to increased output to meet international trade. This may take time.
- Increased employment due to increased investment: an increase in foreign investment has provided more jobs for workers.
- Increased geographical mobility: the opening up of markets means that workers from less developed countries have the opportunity to live and work anywhere in the world.

Costs and benefits of globalisation for consumers in less developed countries

The costs include:

- Rising prices: as there are more consumers competing to buy goods, this can lead to an increase in global prices. This has a particularly significant effect on consumers in less developed countries, who may no longer be able to afford the prices of essential goods such as rice.
- Poor quality of services due to migration: due to freer movement of people, there may be a loss of skilled professionals.

The benefits include:

- Wider range of goods: due to the lowering of barriers to trade and the internet, there should be increased access to a greater range of goods, such as life-saving medicines.
- Access to global brands: the availability of global brands to consumers in less developed countries may be seen as a positive.
- Greater opportunity to travel: the opening up of borders and improved transport allows consumers who can afford it to travel.
- Better infrastructure due to foreign investment: consumers may benefit from some of the development linked to foreign investment, such as better transport links.

Increased global demand can push up prices of essentials, such as rice

Impact on economic, social and environmental sustainability in less developed countries

Economic sustainability

Globalisation should have benefits for economic sustainability. Due to the increase in international trade, there should be greater tax revenues, less unemployment, increased output and economic growth.

However, the benefits may not last if multinational companies leave – for instance, if they find another country with lower costs of production. There are also examples of tax avoidance by multinational companies, which may mean fewer benefits for the economy.

Social sustainability

Benefits for consumers contribute to an increased quality of life. Increased income levels due to increased employment should also be significant in reducing poverty. However, these positives should be balanced with the negative effects if essential goods rise in price or there is a reduction in cultural diversity – for instance, as global brands replace local goods.

Environmental sustainability

In theory, globalisation should have a positive impact on environmental sustainability on a worldwide basis. Through increased international trade, countries should now be specialising in the goods they can produce most efficiently. However, there are significant problems in less developed countries, with increased damage to the environment such as pollution and using up of resources. The increase in output may involve production processes that create both air and water pollution. One example is the leather industry, which uses many harmful chemicals that enter either the air or water supply. Also, less developed countries sometimes rely on natural resources as a key driver of growth. Once these resources are depleted, their economies will face serious problems.

Evaluate this

Evaluate the cost and benefit of globalisation to producers in less developed countries.

Using the information in this topic and your own knowledge, use chains of reasoning to explain potential costs and benefits of globalisation for producers before evaluating the likelihood of their impact and coming to a judgement.

Check that you fully understand what is meant by *evaluate* before answering this question – see p. ix for advice on this technique.

Note this is just one possible question that fits this area of the specification as questions could also apply to workers and consumers.

Case study

China and global trade

China has become a key producer of consumer goods for countries around the world. This international trade is beneficial in many ways but has also created lots of pollution, such as airborne pollutants like sulphur dioxide, nitrogen oxides and carbon dioxide. Ironically, the emissions from these Chinese factories that make goods for the US market contribute to smog in the USA.

The Chinese government has been criticised for not doing enough to control these production processes, even though this pollution is harming China's own population more than the USA's. The technology to control windblown pollutants like sulphur dioxide is readily available, as is more energy-efficient machinery. With improvements made to production, it is thought that China could cut its sulphur dioxide emissions by more than 60%.

Follow-up questions

1. Consider why globalisation has made trade more likely between China and the USA.
2. Think of any benefits of globalisation for consumers in the USA.
3. Consider how the increase in global trade impacts people living in China.

Extension material

Chinese investment in Africa

China became the largest foreign investor in Africa in 2013, overtaking the USA. Africa is full of potentially profitable business opportunities. It has a wide range of factors of production. For instance, Africa has a large labour force with a population growing beyond 1 billion and an average age of around 20 years old. It has a long coastline with access to different oceans and, across them, to different markets. Africa also has lots of natural resources and a quickly developing manufacturing sector.

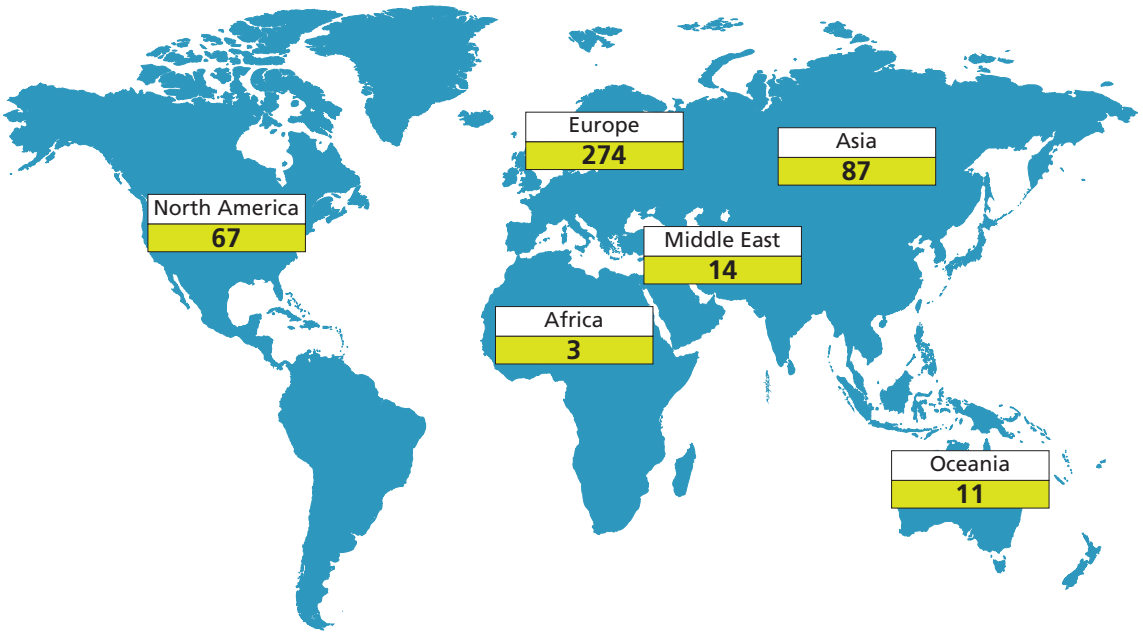
Both the Chinese government and private companies have invested in Africa. One Chinese producer has based its production in Kenya as it is now more desirable to produce in Africa to sell to the African market. As part of its investment, the Chinese producer has invested in building houses jointly with the Kenyan government. China has also loaned money to over 70 countries in Africa to help build infrastructure such as roads and electricity networks.

Africa is an increasingly important source of imported goods for China. As incomes have increased in China, demand for goods and services has increased. For instance, China needs to import food to meet the growing requirements of its population, and Africa adds to the options from around the world. Pork, for example, saw its prices rise in China by over 100% in 2019–20.

1. Why do you think Africa is a good place for Chinese producers to base their production?
2. Consider reasons why China lends money for and invests in projects like building houses in Kenya or infrastructure such as roads.
3. What are the benefits of this investment in Africa for Chinese consumers?
4. Consider whether there may be any disadvantages for African people.

Extension material

Multinational companies



Source: IKEA

Figure 4.4.2 Geographical location of IKEA stores

The IKEA Group is a well-known multinational company. It sells goods for the home through 456 stores in more than 50 markets. It is involved in all the stages of production and has operations in many countries. Sustainability is a key motivator for its production and it sets minimum requirements for its suppliers, linked to the environment, social and working conditions.

1. Research what is meant by 'multinational company'.
2. Consider different ways that IKEA qualifies to be a multinational company.
3. State a benefit of globalisation for IKEA's workers in less developed countries.
4. Think of an initiative for IKEA that could promote environmental sustainability.

Progress check

Now you have finished this topic, you should be able to:

- explain what globalisation is
- explain the driving factors of globalisation
- explain how development is measured by GDP per capita
- explain how development is measured by life expectancy
- explain how development is measured by access to healthcare
- explain how development is measured by technology
- explain how development is measured by education
- evaluate the costs and benefits of globalisation to producers in developed countries
- evaluate the costs and benefits of globalisation to workers in developed countries
- evaluate the costs and benefits of globalisation to consumers in developed countries
- evaluate the impact of globalisation on economic, social and environmental sustainability in developed countries
- evaluate the costs and benefits of globalisation to producers in less developed countries
- evaluate the costs and benefits of globalisation to workers in less developed countries
- evaluate the costs and benefits of globalisation to consumers in less developed countries
- evaluate the impact of globalisation on economic, social and environmental sustainability in less developed countries

Practice questions: Paper 2

Multiple-choice questions

Answer all the questions in this section.

1 Which one of the following is most likely to cause a worsening in a developed country's trade balance? [1]

- **A** A fall in the real incomes of the country's citizens
- **B** A rise in the quality of the country's goods and services
- **C** A rise in the country's exchange rate against other currencies
- **D** A fall in the quality of another country's goods and services

2 Which of the following is least likely to be used as an indicator of development? [1]

- **A** The number of hospitals
- **B** Ownership of mobile phones
- **C** Average earnings
- **D** The size of the population

3 If a country has a GDP of £600 billion and a population of 20 million, then its GDP per capita is: [1]

- **A** £300
- **B** £3,000
- **C** £30,000
- **D** £300,000

4 'UK ships are used to import more cars from Germany.' What does this mean for the UK's balance of payments? [1]

- **A** Exports of goods and services rise
- **B** Imports of goods and services rise
- **C** Exports of goods and imports of services rise
- **D** Imports of goods and exports of services rise

5 Which of the following is most likely to lead to a fall in a country's general price level? [1]

- **A** An increase in the energy prices
- **B** A decrease in the number of people unemployed
- **C** A decrease in taxation on goods and services
- **D** An increase in productivity

6 The table below shows some items of income and wealth of a household. What is the total income of the household? [1]

Basic wage	£30,000
Overtime	£4,000
Bank current account	£500
Building society savings account	£2,500
Interest	£100
Pension fund	£40,000

- **A** £34,000
- **B** £34,100
- **C** £74,000
- **D** £77,100

7 Which of the following is the impact on the market of a government increasing an indirect tax on energy-producing firms that use fossil fuels? [1]

A The demand curve shifts left
B The demand curve shifts right
C The supply curve shifts right
D The supply curve shifts left

8 If the Consumer Price Index (CPI) rises from 200 to 210 over the course of a single year, what is the rate of inflation? [1]

A 1%
B 5%
C 10%
D 210%

9 A statement reads that the UK had an economic growth rate of 2% last year. This statement refers to growth in: [1]

A employment
B exports
C investment
D output

10 The table below shows part of the balance of payments account for a country.

Export of goods	£5,600 million
Export of services	£1,900 million
Import of goods	£6,700 million
Import of services	£1,300 million

The value of the balance of trade in goods and services is: [1]

A £1,100 surplus
B £1,100 deficit
C £500 surplus
D £500 deficit

11 The table below shows items of government spending and revenue in a year. What is the value of the government's budget balance? [1]

	£bn
Direct taxes	160
Indirect taxes	120
Social protection benefits	110
Health and education	70
Other government services	90

A £230 billion surplus
B £10 billion surplus
C £10 billion deficit
D £230 billion deficit

12 Which one of the following measures is likely to increase negative externalities? A rise in: [1]

A fuel duty
B subsidies to bus companies
C subsidies to car manufacturers
D vehicle excise duties

13 Which one of the following could be a progressive tax measure? A rise in: [1]

A duties on fuel
B income tax
C subsidies to bus companies
D value-added tax (VAT)

14 If the government wishes to encourage the consumption of a good with positive externalities, a subsidy will be most effective when: [1]

A demand for the good is price elastic
B demand for the good is price inelastic
C supply of the good is price elastic
D supply of the good is price inelastic

15 Which combination of government policies would be aimed at achieving more employment? [1]

A Lower government spending and lower interest rates
B Lower indirect taxes and lower interest rates
C Lower direct taxes and higher interest rates
D More training schemes and higher interest rates

16 Which of the following is NOT an example of a negative externality? [1]

A Passive smoking by a child in a car where the driver is smoking
B A driver's injuries after a car crash
C Air pollution from petrol use in car travel
D The eyesore of a motorway built through a national park

17 A government collects the following taxes in a year.

Type of tax	Amount (£bn)
Income tax	50
VAT	30
National insurance	25
Excise duties	22
Corporation tax	17

The amount collected in direct taxes is: [1]

A £50 billion
B £67 billion
C £75 billion
D £92 billion

18 The rate of economic growth is measured by the percentage change in: [1]

A bank rate of interest
B Consumer Price Index (CPI)
C employment
D gross domestic product (GDP)

19 If the exchange rate changes from £1 = €1.5 to £1 = €1.0, then: [1]

A UK exports to France will be cheaper
B French imports to the UK will be cheaper
C French holidays will be cheaper for UK consumers
D The euro has fallen against the pound

20 Which is a feature of a less developed country? [1]

A A high GDP per capita
B A high infant mortality rate
C A high life expectancy
D A high literacy rate

Data-response questions

Question 1

Figure 1 shows the UK's annual unemployment rate for over-16-year-olds between 2011 and 2020.

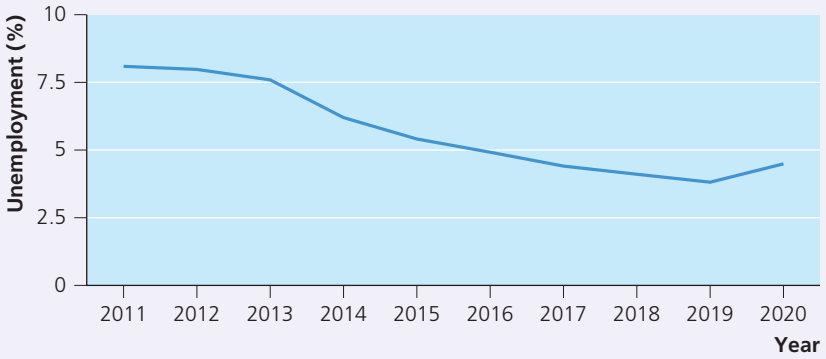


Figure 1 Unemployment rate (aged 16 and over), 2011–20

a Explain, using Figure 1, what happened to the unemployment rate between 2011 and 2020. [2]

b Explain **one** method of measuring unemployment. [2]

c Analyse **two** possible causes of unemployment. [6]

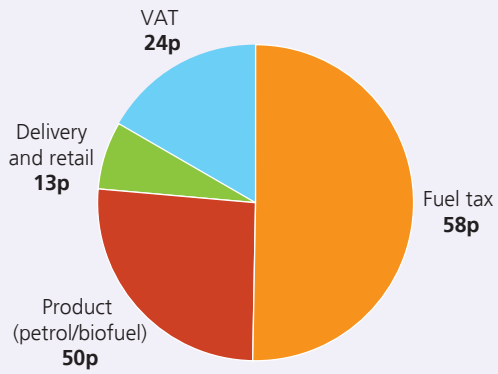
d i Explain what is meant by unemployment. [2]

ii Explain the term 'a budget deficit'. [2]

iii Evaluate the consequences of increased unemployment for the government. [6]

Question 2

Figure 2 shows where the money paid for a litre of fuel goes.



Source: https://rac.co.uk/drive/advice/fuel-watch/ on 12 January 2022

Figure 2 A litre of fuel (£1.45): where the money goes

a From Figure 2, calculate the total tax on a litre of fuel. You must show your workings. [2]

b Explain what is meant by a subsidy. [2]

c Analyse, with the aid of a diagram, the effects of rail and bus subsidies on travel by car. [6]

d i Explain what is meant by a negative externality. [2]

ii State two negative externalities which may be caused by car travel. [2]

iii Evaluate the impact of legislation and regulation to correct negative externalities caused by car travel. [6]

Question 3

Table 1 shows the balance of payments current account data for a country for 2021.

Table 1 Balance of payments current account data, 2021

	£bn
Export of goods	305.2
Import of goods	411.9
Balance of trade in goods	–106.7
Export of services	224.3
Import of services	138.8
Balance of trade in services	85.5
Balance of trade in goods and services	

a Explain what is meant by the term 'a balanced current account'. [2]

b Calculate the balance of trade in goods and services. You must show your workings. [2]

c Analyse, with the aid of a diagram, how a decrease in the supply of the pound (£) may affect its exchange rate against the euro (€). [6]

d **i** Explain what is meant by a fall in the exchange rate. [2]

ii Explain one reason why the demand for the pound (£) may fall. [2]

iii Evaluate whether a fall in the exchange rate would benefit consumers. [6]

Glossary

Allocation of resources How scarce resources are distributed among producers, and how scarce goods and services are allocated among consumers.

Average cost The cost of producing a unit (unit cost of production).

Average revenue The revenue per unit sold.

Balance of payments The record of all financial transactions between one country and the rest of the world.

Balance of payments on current account The total of net trade in goods and services, income flows and transfers between one country and the rest of the world.

Balanced current account Where the sum of exports plus the inflow of income and transfers is equal to the sum of imports plus the outflow of income and transfers.

Balanced government budget When government's revenue is equal to its expenditure/spending.

Boom A period of high economic activity and high levels of employment.

Borrowing To receive money from another party with the agreement that the money will be repaid.

Budget deficit When government expenditure is greater than its revenue.

Budget surplus When government's revenue is greater than its expenditure.

Building society A mutual financial institution that is owned by its members. Its primary objectives are to receive deposits from its members and to lend money for members to purchase property.

Capital The factor of production that relates to the human-made aids to production.

Claimant Count The method of measuring unemployment according to the number of people who are claiming unemployment-related benefits.

Competition Where different firms are trying to sell a similar product to a consumer.

Consumer A person or organisation that directly uses a good or service.

Consumer Price Index (CPI) Method used to calculate the rate of inflation.

Cost of living The price level of goods and services bought (by the average family).

Currency The system of money used in a country or group of countries.

Current account The record of trade in goods and services, income flows and transfers between one country and the rest of the world.

Current account deficit Where the sum of exports plus the inflow of income and transfers is less than the sum of imports plus the outflow of income and transfers.

Current account surplus Where the sum of exports plus the inflow of income and transfers is greater than the sum of imports plus the outflow of income and transfers.

Cyclical unemployment Lack of employment caused by a lack of demand in the economy.

Demand The willingness and ability to purchase a good or service at the given price in a given time period.

Determination of price The interaction of the free market forces of demand and supply to establish the general level of price for a good or service.

Developed country A country with high GDP per capita and developed industry and service sectors.

Development The process of increasing people's standard of living and wellbeing over time.

Direct tax A tax on income or wealth.

Distribution of income How incomes are shared out between individuals and households.

Distribution of wealth How wealth is shared out between individuals and households.

Division of labour Where workers specialise in, or concentrate on, one area of the production process.

Economic choice An option for the use of selected scarce resources.

Economic growth Growth in GDP (value of output) over time.

Economic problem How to best use scarce resources to satisfy the unlimited wants of people.

Economic sustainability The best use of resources in order to create growth or development for a country, firm or individual, both now and into the future.

Economies of scale The cost advantages a firm can gain by increasing the scale of production, leading to a fall in average costs.

Efficiency The optimal production and distribution of scarce resources.

Elastic demand When the percentage change in quantity demanded is greater than the percentage change in price.

Elastic supply When the percentage change in quantity supplied is greater than the percentage change in price.

Employment The use of labour in the economy to produce goods and services.

Enterprise The factor of production that takes a risk in organising the other three factors of production. The individual who takes this risk is known as an entrepreneur.

Environmental sustainability The impact of development or growth where the effect on the natural world is small and possible to manage, now and into the future.

Equilibrium price and quantity Where the quantity supplied exactly matches the quantity demanded.

European Union (EU) An economic and political group of countries in Europe that have free trade with each other.

Exchange The giving up of something that the individual or firm has, in return for something they wish to have but do not possess.

Exchange rate The price of one currency in terms of another currency.

Exports Goods and services sold abroad.

Externality An effect of an economic activity on a third party.

Factor market Market in which the services of the factors of production are bought and sold.

Factors of production The resources in an economy that can be used to make goods and services, e.g. land, labour, capital and enterprise.

Financial sector Consists of financial organisations and their products, and involves the flow of capital.

Fiscal policy A policy that uses taxation and government spending to affect the economy as a whole.

Free trade agreement Free movement of goods and services between countries, without any restrictions.

Frictional unemployment Lack of employment caused by time lags when workers move between jobs.

GDP per capita GDP divided by the population.

Globalisation The expansion of world trade in goods and services, together with capital flows, leading to greater international interdependence.

Good A tangible product, i.e. a product that can be seen or touched.

Government A political authority that decides how a country is run and manages its operation.

Government revenue The source of finance for government spending.

Government spending The total amount of money spent by the government in a given period of time.

Gross domestic product (GDP) The total value added of goods and services produced in the country in a year.

Gross income Income received before any taxes are taken or benefits given.

Gross pay The amount of money that an employee earns before any deductions are made.

Imports Goods and services bought from abroad.

Income The reward for the service provided by a factor of production, including labour.

Income and wealth redistribution Government action, using mainly taxation and benefits, to reduce inequalities of income and wealth.

Income tax A tax levied directly on personal income, i.e. a tax on a person's wages.

Indirect tax A tax on spending, often defined as a tax on goods and services.

Individual demand The demand for a good or service by an individual consumer.

Individual supply The supply of a good or service by an individual producer.

Inelastic demand When the percentage change in quantity demanded is less than the percentage change in price.

Inelastic supply When the percentage change in quantity supplied is less than the percentage change in price.

Inflation A sustained rise in the general price level over time.

Information provision The government provides information to encourage people (especially consumers) and organisations to change their behaviour.

Insurance company Financial institution that guarantees compensation for specified loss, damage, illness or death in return for an agreed premium.

International trade The exchange of goods and services between countries.

Investment The purchase of capital goods that are used to produce future goods and services (see Topic 3.1). It is also an asset purchased to provide an income in the future and/or to be sold at a profit.

Labour The factor of production that is concerned with the workforce of an economy in terms of both the physical and mental effort involved in production.

Labour force (or workforce) The number of people who work in a country.

Labour market Where workers sell their labour and employers buy the labour: it consists of households' supply of labour and firms' demand for labour.

Land The factor of production that is concerned with the natural resources of an economy, such as farmland and mineral deposits.

Law of demand For most products the quantity demanded varies inversely with its price.

Law of supply For most products the quantity supplied varies directly with its price.

Legislation Laws to control the way people and organisations behave.

Less developed country A country with a developing economy that has lower GDP per capita, lower levels of industrialisation and weaker indicators of wellbeing.

Level of unemployment The number of people in the working population who are unemployed.

Loss When a firm's revenue is less than its costs, i.e. $TR < TC$.

Market Any way of bringing together buyers and sellers to buy and sell goods and services.

Market demand The total demand for a good or service, found by adding together all individual demands.

Market economy An economy in which scarce resources are allocated by the market forces of supply and demand.

Market forces Factors that determine price levels and the availability of goods and services in an economy without government intervention.

Market supply The total supply of a good or service as a result of adding together all individual producers' supplies.

Medium of exchange Anything that sets the standard of value of goods and services acceptable to all parties involved in a transaction.

Monetary policy A policy that aims to control the total supply of money in the economy to try to achieve the government's economic objectives, particularly price stability.

Money Anything that is generally accepted as a means of payment for goods and services.

Monopoly A sole producer or seller of a good or service.

Mortgage An agreement with a financial institution to borrow money to purchase a property.

Movement along the demand curve When the price changes, leading to a movement up or down the existing demand curve.

Movement along the supply curve When the price changes, leading to a movement up (expansion) or down (contraction) on the existing supply curve.

National insurance A contribution paid by workers, and their employers, towards the cost of state benefits.

Negative externality Harmful effect of an economic activity on third parties, also known as external cost.

Net income Income available after the effect of direct taxes and benefits, often called disposable income.

Net pay The amount of money that an employee is left with after deductions are made from the gross income.

Oligopoly Where a small number of firms control the large majority of market share.

Opportunity cost The next best alternative given up when making a choice.

Pension contributions Payments made to a pension fund. If you are employed, contributions are usually from three sources – the employee, the employer and the government.

Positive externality Beneficial effect of an economic activity on third parties, also known as external benefit.

Price The sum of money paid by a consumer to a producer for a good or service. It is determined by the interaction of supply and demand.

Price elasticity of demand (*PED*) The responsiveness of quantity demanded to a change in the price of the product.

Price elasticity of supply (*PES*) The responsiveness of quantity supplied to a change in the price of the product.

Price stability When the general level of prices stays constant over time, or grows at an acceptably low rate.

Primary sector The direct use of natural resources, such as the extraction of basic materials and goods from land and sea.

Producer A person, company or country that makes, grows or supplies goods and/or services.

Production The total output of goods and services produced by a firm or industry in a time period.

Productivity One measure of the degree of efficiency in the use of factors of production in the production process. It is measured in terms of output per unit of input.

Product market Market in which final goods or services are offered to consumers, businesses and the public sector.

Profit The difference between the revenue received from the sale of a good or service and the costs involved in making and/or selling the good, including any opportunity costs.

Progressive tax A tax which takes a greater percentage of tax the higher the income.

Rate of inflation The percentage rise in the general price level over time.

Rate of interest/interest rate The cost of borrowing money, i.e. that which is paid to the lender. It is also the reward for saving.

Rate of unemployment The percentage of the country's workforce that is unemployed.

Recession A period of time when the country's GDP falls for two (or more) consecutive quarters.

Regulation Rules, directives or government orders to control the way people and organisations behave.

Saving(s) The part of a person's (disposable) income which is not spent on consumption. Savings are done by savers.

Scarce resources When there is an insufficient amount of something to satisfy all wants.

Seasonal unemployment Lack of employment caused by a fall in demand during a particular season.

Secondary sector All activities in an economy that are concerned with either manufacturing or construction.

Service An intangible product, i.e. a product that cannot be seen or touched.

Shift of the demand curve A complete movement of the existing demand curve either outward (to the right) or inward (to the left).

Shift of the supply curve The complete movement of the existing supply curve either outward (to the right) or inward (to the left).

Social sustainability The impact of development or growth that promotes an improvement in quality of life for all, now and into the future.

Specialisation The process by which individuals, firms, regions and whole economies concentrate on producing those products that they are best at producing.

State provision Goods and services provided directly by the government.

Structural unemployment Unemployment caused by a permanent decline of an industry or industries.

Subsidy An amount of money the government gives directly to firms to encourage production and consumption.

Supply The ability and willingness of firms to provide goods and services at each price in a given time period.

Supply of labour The total number of people who are willing and eligible to supply their labour, including the unemployed.

Supply side policy Any policy that helps to improve a country's productive potential.

Tax A compulsory payment to the government.

Tertiary sector All activities in an economy that involve the idea of a service.

Total cost All the costs of the firm added together.

Total revenue The total income of a firm from the sale of its goods or services

Unemployment Occurs when workers able and willing to work at the current wage rates are unable to find employment.

Unitary supply When the percentage change in quantity is the same as the percentage change in price.

Unlimited wants The infinite desire for goods or services consumers would like to have.

Wealth The market value of all the assets owned by a person, group or country at a specific point in time. Wealth is a stock of assets, e.g. money, houses and land, whereas income is a flow over time.

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Authors

Jan Miles-Kingston is an economics teacher and an examiner. She has worked on exam board resources and has been an advisor on economics specifications. She has also worked on textbooks for over 20 years.

Clive Riches was for many years a director of commercial activities and head of economics and business. More recently, he has worked as an education consultant. He is an author of several previous books and numerous articles. He has been an examiner for 40 years.

Christopher Bancroft is a former head of economics and business studies in a large comprehensive school. He is an author of two previous books and various articles, and is an experienced examiner.

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