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Cambridge IGCSE® and O Level

Economics

Second edition

Paul Hoang
Margaret Ducie

DYNAMIC LEARNING

HODDER EDUCATION

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The authors would like to dedicate this book to their children: Salvador, Gino and Isidora Boon
Jake and Luke Hoang

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The Student eTextbook version of this book contains interactive quizzes. Note that these quizzes are not exam-style questions.

The questions, example answers, marks awarded and/or comments that appear in this book were written by the authors. In examination, the way marks would be awarded to answers like these may be different.

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Contents

Introduction

This book has been written for all students of Cambridge IGCSE® and O Level Economics. It carefully and precisely follows the syllabus from Cambridge Assessment International Education. It provides the detail and guidance that are needed to support you throughout the course and help you prepare for your examinations. It will also be of great use to anyone who wants to learn more about the key concepts of economics.

This book will be valuable to students of economics whether you are:

- studying the subject for the first time at school or college and need a comprehensive and clearly written textbook
- revising the subject before your examinations and need a study guide to help you with key definitions, techniques and examination advice
- studying the subject on your own through distance or open learning and need a complete programme of supportive questions and activities with suggested answers.

Building on the successful formula of the previous edition, this second edition updates all existing chapters. Material that is no longer covered by the syllabus has been removed and new subject material has been added, with additional chapters and new features.

This book has been written with the international student in mind. It explains economic theory using real-life examples and case studies from around the world.

How to use this book

To make your study of economics as rewarding and successful as possible, this Cambridge-endorsed textbook offers the following important features:

Learning objectives

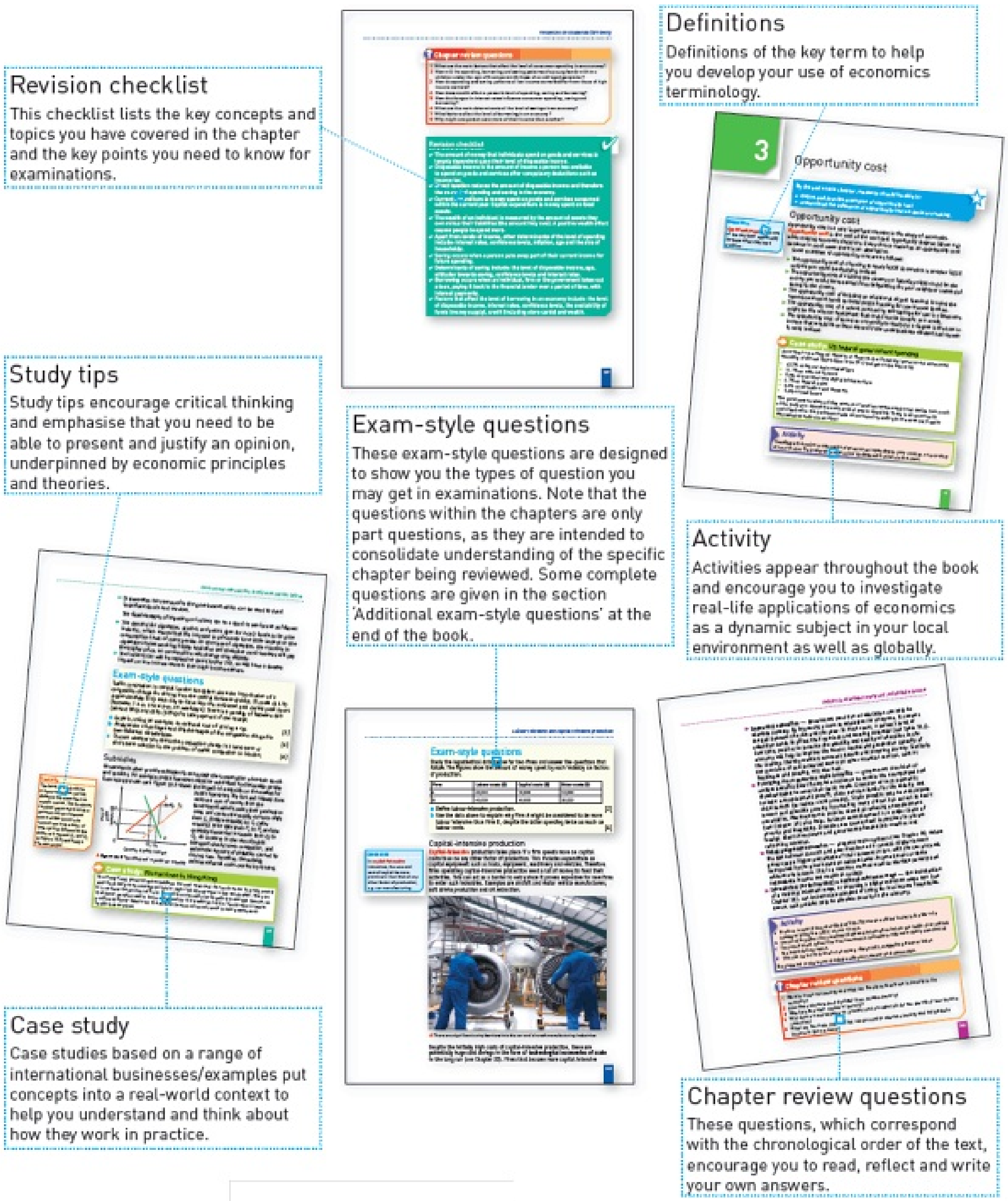
Each chapter starts with an outline of the subject material to be covered and ends with a checklist to confirm what you should have learned and understood.

Organisation

The content is in the same order as the syllabus: chapter titles and chapter section headings match those of the Cambridge IGCSE® and O Level Economics syllabuses.

Approach

The subject material is written in an informative yet lively way that allows complete understanding of each topic to be gained.



Answers

Answers to the exam-style and chapter review questions are available in the accompanying online Teacher Guide.

Exam preparation and technique

Revision

You should be able to perform to the best of your ability if you:

- ensure that you have worked through all the activities and examination-style questions in this book
- revise thoroughly before your examination — allow plenty of time for this and avoid leaving it until the last minute.

You can also help yourself greatly if you take the following steps.

- Obtain a copy of the syllabus. You should also be able to obtain past examination papers and mark schemes. It is important that you check the progress of your learning and revision by ticking off each topic against the syllabus content.
- Make sure that you know the number and length of each of the papers you will have to sit. The style and nature of the questions often differ between papers, so you must be clear about the types of question that are likely to appear on each paper.

For Cambridge IGCSE® and O Level Economics the examination papers are:

	Length	Type of paper	Type of questions
Paper 1	45 min	Data response	30 multiple-choice questions
Paper 2	2 hours 15 min	Structured questions	Students answer one compulsory questions and three questions from a choice of four

Make sure you check the instructions on the question paper, the length of the paper and the number of questions you have to answer.

Allocate your time sensibly between each question. Every year, good students let themselves down by spending too long on some questions and too little time (or no time at all) on others. You will be expected to spend longer writing an answer to a question worth 12 marks than you would when writing an answer worth 8 marks.

Remember that the most common command words are ‘identify’, ‘explain’, ‘consider’ and ‘justify’. The following guide should help you.

Key command words you need to know

Analyse — examine in detail to show meaning, identify elements and the relationship between them.

Calculate — work out from given facts, figures or information.

Define — give precise meaning.

Describe — state the points of a topic/give characteristics and main features.

Discuss — write about issue(s) or topic(s) in depth in a structured way.

Explain — set out purposes or reasons / make the relationships between things evident / provide why and/or how and support with relevant evidence.

Give — produce an answer from a given source or recall/memory.

Identify — name/select/recognise.

State — express in clear terms.

Finally…

Economics can help to explain real-world events, issues and problems, such as why:

- the most expensive can of Coca-Cola, made for astronauts, is $1250 per can
- one of the world’s fastest cars, the Bugatti Veyron, is priced at a cool $1.7 million (before taxes)
- the price of a bus fare is relatively low
- the average doctor, lawyer, pilot and dentist have high earnings
- private sector firms do not supply street lighting and public roads
- diamonds (a non-essential product) are expensive, whereas water (a vital good) is not
- farm workers (who harvest products essential for life) are paid low wages whereas bankers (who produce nothing of real substance) are paid high salaries

Economics helps to explain everyday issues that occur in a constantly changing global environment. It is a ‘live’ subject and you are encouraged to watch the news and read newspapers to refresh the case studies you learn in class.

Enjoy the course and using this book!

Paul Hoang and Margaret Ducie

SECTION 1

The basic economic problem

Chapters

3 Opportunity cost

4 Production possibility curve

This section of the syllabus introduces students to the fundamental economic problem: scarce resources but infinite wants (desires). You will learn about the introductory concepts that underpin the study of economics including the basic economic problem, scarcity, choice, factors of production, economic goods and free goods, opportunity cost and production possibilities.

1 The nature of the economic problem

By the end of this chapter, students should be able to:

- understand the nature of the economic problem
- explain finite resources and unlimited wants
- distinguish between economic and free goods.

The nature of the economic problem: finite resources and unlimited wants

In every country, resources are limited in supply and decisions have to be made by governments, firms (businesses) and individuals about how to allocate scarce resources to satisfy their unlimited needs and wants. This is known as the **basic economic problem**, which exists in every economy: how best to allocate scarce resources to satisfy people's unlimited needs and wants. Essentially, economics is the study of how resources are allocated to satisfy the unlimited needs and wants of individuals, governments and firms in an economy.

Figure 1.1 The real cause of the economic problem

Definition

The **basic economic problem** is concerned with how best to allocate scarce resources in order to satisfy people's unlimited needs and wants.

The three main **economic agents** (or decision makers) in an economy are:

- individuals or households
- firms (businesses which operate in the private sector of the economy)
- the government.

The three basic economic questions addressed by economic agents are:

1. What to produce?
2. How to produce it?
3. For whom to produce it?

Definitions

Economic agents are households (private individuals in society), firms that operate in the private sector of an economy and the government (the public sector of an economy).

Private sector refers to economic activity of private individuals and firms. The private sector's main aim is to earn profit for its owners.

Public sector refers to economic activity directly involving the government, such as the provision of state education and healthcare services. The public sector's main aim is to provide a service.

Firms and individuals produce goods and services in the **private sector** of the economy and the government produces goods and services in the **public sector**. For example, the government might provide education and healthcare services for the general public. All economic agents (governments, firms and individuals) produce and consume goods and services.

Activity

Discuss how a private firm producing running shoes would answer the three basic economic questions.

Goods are physical items that can be produced, bought and sold. Examples are furniture, clothing, toothpaste and pencils. **Services** are non-physical items that can be provided by firms and paid for by customers. Examples are haircuts, bus journeys, education, concerts, telephone calls and internet access.

Definitions

Goods are physical items such as tables, cars, toothpaste and pencils.

Services are non-physical items such as haircuts, bus journeys, telephone calls and internet access.

Activities

1. Make a list of the goods and services provided by the public sector of your economy.
2. Identify the goods and services which are free to individuals and those for which you have to pay.
3. List which goods/services could be provided by a private firm as well as by the public (government) sector.
4. Compare and contrast the aims and objectives of a government-funded swimming pool and a private health and leisure club.

Needs are the essential goods and services required for human survival. These include nutritional food, clean water, shelter, protection, clothing and access to healthcare and education. All individuals have a right to have these needs met and this is stated in Articles 25 and 26 of the United Nations Universal Declaration of Human Rights, drafted in December 1948.

Definitions

Needs are goods and services that are essential for survival.

Wants are goods and services that are not necessary for survival but are demanded by economic agents to fulfil their desires.

Article 25

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical *care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.*

Article 26

Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

Wants are goods and services that are not necessary for survival but are human desires — that is, things we would like to have. Wants are unlimited as most people are rarely satisfied with what they have and are always striving for more. Wants are a matter of personal choice and part of human nature.

World Bank figures suggest that over 3 billion of the world's inhabitants live on less than $2.50 per day and more than 1.3 billion live in extreme poverty (less than $1.25 a day). These figures suggest that their basic needs are not being met. In contrast, the ten richest people on the planet have wealth equivalent to the poorest half of the world's population. The study of economics can help to explain why this happens and offer possible solutions to the basic economic problem.

Activities

1. Make a list of your top 10 wants and needs.
2. Are there any 'needs' that you could actually survive without?
3. Are there any wants that might be considered as needs?
4. Identify a shortage of any good or service in your economy. Explain why the shortage has occurred.

Economic goods and free goods

An **economic good** is one which is limited in supply, such as oil, wheat, cotton, housing and cars. It is scarce in relation to the demand for the product, so human effort is required to obtain an economic good.

Free goods are unlimited in supply, such as the air, sea, rain water, sunlight and (to some extent) public domain webpages. There is no opportunity cost in the production or consumption of free goods.

Definitions

Economic goods are those which are limited in supply.

Free goods are goods which are unlimited in supply, such as air and seawater. Hence, there is no opportunity cost in terms of their output.

A free good is not the same as a good that is provided without having to pay (such as education or healthcare services provided by the government). The latter has an opportunity cost (the money could have been spent on the provision of other goods and services) and is funded by taxpayers' money.

Activity

Make a list of ten goods which are limited in supply (economic goods) and a second list of goods which are unlimited in supply (free goods). How many goods did your class think of that are unlimited in supply?

An example of 'free goods'

Exam-style questions

1 What is the basic economic problem faced by all societies?

[1]

A Achieving happiness
B An inefficient economic system
C Rewarding factors of production
D Scarcity of resources

2 Which product is **most** likely to be classified as a free good? [1]

A Birthday presents
B Public transportation
C Seawater
D State (government-funded) education

Chapter review questions

1 What is economics the study of?
2 What is the difference between a need and a want?
3 What is meant by the basic economic problem?
4 What is meant by economic agents?
5 What are the three fundamental questions that all economies face?
6 What is the difference between goods and services?
7 What is the difference between the private and public sector?
8 How do economic goods differ from free goods?

Revision checklist

- ✔ Economics is the study of how resources are allocated to satisfy the unlimited needs and wants of individuals, governments and firms in an economy.
- ✔ The basic economic problem is concerned with how best to allocate scarce resources in order to satisfy people's unlimited needs and wants.
- ✔ Three fundamental questions arise from the basic economic problem: what, how and for whom should production take place?
- ✔ Economic agents comprise: individuals (households), businesses

(firms) and the government.

- ✔ Firms and individuals produce goods and services in the private sector, whereas the government operates in the public sector.
- ✔ Goods are physical items that can be produced, bought and sold. Services are non-physical items that can be provided by firms and governments, and are usually paid for by customers.
- ✔ Needs are the essential goods and services required for human survival.
- ✔ Wants are goods and services that are not necessary for survival but are human desires. These are infinite.
- ✔ Economic goods are limited in supply, whereas free goods are unlimited in supply and so have no opportunity cost in terms of output and consumption.

2 The factors of production

By the end of this chapter, students should be able to:
- define and provide examples of the factors of production
- outline the rewards for the factors of production
- explain the influences on the mobility of factors of production
- understand the causes of changes in the quantity and quality of factors of production.

Factors of production

Production of any good or service requires resources, known as the **factors of production**, which are divided into four categories:

Definition

The **factors of production** refer to the resources required to produce a good or service, namely land, labour, capital and enterprise.

- **Land** — the natural resources required in the production process, such as oil, coal, water, wood, metal ores and agricultural products.
- **Labour** — the human resources required in the production process, including skilled and unskilled labour.
- **Capital** — the manufactured resources required in the production process, such as machinery, tools, equipment and vehicles.
- **Enterprise** — the skills a business person requires to combine and manage the other three factors of production successfully.


Factors of production: land, labour, enterprise and capital

For example, the factors of production required to produce cans of Coca-Cola are as follows:

- **Capital** — a factory building, machinery, computers, tools, and trucks to transport the drinks to warehouses and retailers.
- **Enterprise** — the risk-taking and business skills necessary to organise the production process successfully, and to motivate workers so they work to the best of their ability, in the pursuit of profit.
- **Labour** — people to work on the production line, perform administrative tasks, promote the drinks effectively to customers and manage the company.
- **Land** — the natural resources required to make Coca-Cola, such as sugar, water and caffeine.

Study tip

The first letter of each of the four factors of production spells the word **CELL**. This is a useful way of remembering the four factors of production.

Activity

Consider the resources (factors of production) required to deliver an IGCSE Economics lesson. Discuss whether it is possible to know which of the four factors of production is the most important for economic activity.

What resources are used to deliver a lesson?

Rewards for factors of production

As the factors of production are productive resources, each has a reward for its use in the production process:

- The reward for land is called **rent**. Rental income comes from the ownership of property, such as physical and related assets, and is paid by the tenants of the land resources.
- The reward for labour is called **wages and salaries**. Wages are paid to workers on an hourly basis, such as those who earn a national minimum wage (see Chapter 18). Salaried staff are paid a fixed amount per month.
- The reward for capital is called **interest**. If the interest rate (see Chapter 27) is high, it becomes less worthwhile for businesses and households to borrow money for production purposes because the cost of borrowing is high, and vice

versa.

- The reward for enterprise is called **profit**. This is the return for the entrepreneur’s good business ideas and for taking the risks in starting up and running the organisation. Profit is what remains after all business costs are paid, including payment to the other factors of production.

Collectively, the four rewards for the factors of production are known as **income**.

The mobility of factors of production

The mobility of factors of production refers to the extent to which resources can be changed for one another in the production process. For example, farming can be very traditional in some parts of the world and rely heavily on labour resources. However, in other countries, farming is predominantly mechanised, with a heavy reliance of capital resources.

Economists usually talk about labour mobility, although factor mobility can apply to any factor of production. For example:

- Land might be used for various competing purposes, such as to grow certain fruits and/or vegetables, or to construct buildings such as housing, hospitals or schools.
- Capital equipment might be used for different purposes too. For example, the same machinery in the Coca-Cola factory can be used to produce Coca-Cola, Sprite and/or Fanta.
- Entrepreneurs can also be mobile. For example, Meg Whitman, chief executive officer (CEO) of Hewlett-Packard, was previously a vice president of the Walt Disney Company and CEO of eBay.

Labour mobility can be broken down into two categories.

Geographical mobility

Geographical mobility refers to the willingness and ability of a person to relocate from one area to another for employment purposes. Some people may not be geographically mobile for the following reasons:

- **Family ties and related commitments** — people may not want to relocate as they want to be near their family and friends. There may be other commitments such as schooling arrangements for children (it can be highly disruptive to the education of children who have to move to a new school in a new town or country).

- **Costs of living** — the costs of living vary between regions and countries, so may be too high in another location, making it uneconomical for a person to relocate. For example, a bus driver may find it impossible to relocate from the countryside to the city because house prices are much higher in the city and he or she therefore cannot afford to purchase a home in the city. By contrast, a banker may be offered a relocation allowance to move to another country and the potential earnings are much higher, so the banker has greater geographical mobility than the bus driver.

Definition

Geographical mobility refers to the extent to which labour is willing and able to move to different locations for employment purposes.

Occupational mobility

Occupational mobility refers to the ease with which a person is able to change between jobs. The degree of occupational mobility depends on the cost and length of training required to change profession. Developing and training employees to improve their skills set improves labour occupational mobility (as workers can perform a greater range of jobs).

Definition

Occupational mobility refers to the extent to which labour is able to move between jobs. Retraining and upskilling help workers to improve occupational mobility.

Generally, the more occupationally and geographically mobile workers are in a country, the greater its international competitiveness and economic growth are likely to be.

Exam-style question

In some countries around the world there are shortages of people with particular skills. For example:

- There is a global shortage of doctors and nurses.

- Belgium and the UK have a shortage of chefs.
- Nordic countries have a shortage of psychologists.

In 2013 there were 200 million international migrants, including nurses trained in the Philippines, who were prepared to relocate to take advantage of employment opportunities.

a Give two reasons why there is a global shortage of doctors and nurses.

[4]

b Analyse the reasons why nurses trained in the Philippines may relocate to take advantage of employment opportunities.

[6]

c Analyse how countries can attract individuals to professions in which they have a shortage of workers.

[6]

Activity

Use the BBC Interactive Guide (http://goo.gl/YJjCK) to investigate global employment opportunities in selected countries around the world.

Causes of changes in the quantity and quality of factors of production

The quantity and quality of factors of production will change if there is a change in the demand for and/or supply of land, labour, capital or enterprise. Possible changes include the following:

- Changes in the costs of factors of production — for example, higher labour costs caused by an increase in the national minimum wage would tend to reduce the demand for labour.
- Government policies can affect the costs of production, such as through the use of taxes and subsidies (see Chapter 15). For example, lower income taxes can help to create incentives to work, thus increasing the quantity of labour resources. Complying with regulations will also tend to increase costs of

production. By contrast, subsidies help to reduce production costs, thereby increasing output of goods and services.

- New technologies allow firms to produce more output. Higher productivity also enables firms to cut their average costs of production.
- Net migration of labour (see Chapter 34) will affect the quantity of labour in the economy. If more people migrate to a country than emigrate to other countries, the quantity of labour will increase, **ceteris paribus** (Latin for 'all other things remaining equal').
- Improvements in education and healthcare will improve the quality of labour as workers become more valuable to firms. This helps to boost production.
- Unfavourable weather conditions (such as severe droughts or flooding) will reduce the supply of agricultural products. Conversely, good weather conditions will increase supply, thus increasing agricultural output.

Activity

In class, discuss why all four factors of production are required in a) the construction of roads and b) haircuts.

Exam-style questions

1 Which option is not an example of capital as a resource?

[1]

A Computers
B Factory
C Machinery
D Natural resources

2 Which event is **most** likely to cause an increase in the average wage of labour?

[1]

A A decrease in the national minimum wage
B An increase in the national minimum wage
C Government tax policies
D Net migration of labour into the country

Chapter review questions

1 What is meant by the term ‘factors of production’?
2 What are the four factors of production?
3 What are the various rewards for the factors of production?
4 What is the collective name for the four returns on the factors of production?
5 What is meant by the mobility of factors of production?
6 How does geographical mobility of factor resources differ from occupational mobility?
7 What are the various causes of changes in the quantity and quality of factors of production?

Revision checklist

✔ Factors of production refer to the resources required to produce a good or service, namely land, labour, capital and enterprise.

✔ The return on the four factors of production are rent (land), wages and salaries (labour), interest (capital) and profit (enterprise). Collectively, the rewards are called income.

✔ Geographical mobility refers to the extent to which a person is willing and able to move to different locations for employment purposes.

✔ Occupational mobility refers to the extent to which a person is able to switch between different jobs (occupations).

✔ The quantity and quality of factors of production will change if there is a change in the demand for and/or supply of land, labour, capital or enterprise.

3 Opportunity cost

By the end of this chapter, students should be able to:

- define and provide examples of opportunity cost
- understand the influence of opportunity cost on decision making.

Opportunity cost

Opportunity cost is a very important concept in the study of economics. **Opportunity cost** is the cost of the next best opportunity forgone (given up) when making economic decisions. Every choice made has an opportunity cost because in most cases there is an alternative.

Definition

Opportunity cost is the cost of the next best opportunity forgone when making a decision.

Some examples of opportunity cost are as follows:

- The opportunity cost of choosing to study IGCSE Economics is another IGCSE subject you could be studying instead.
- The opportunity cost of visiting the cinema on Saturday night could be the money you would have earned from babysitting for your neighbour instead of going to the cinema.
- The opportunity cost of building an additional airport terminal is using the same government funds to build public housing for low-income families.
- The opportunity cost of a school purchasing 100 laptops for use in classrooms might be the science equipment that could not be bought as a result.
- The opportunity cost of going to university to study for a degree is the loss in income that would have been earned if the undergraduate student had chosen to work instead.

Case study: US federal government spending

According to the Federal Ministry of Finance, the US federal government announced spending of almost $329 billion in its 2017 budget on the following:

- 42.2% on labour and social affairs
- 11.1% on national defence
- 8.2% on transport and digital infrastructure
- 6.1% on federal debts
- 5.3% on education and research
- 4.6% on healthcare

The government raises a finite amount of taxation revenue and must decide how much of the budget to allocate to each area of public spending. There is an opportunity cost attached to the decisions made as increased spending in one area may lead to decreased spending in another.

Activity

Investigate the major components of government spending in your country, or a country of your choice. Be prepared to share your findings with others in the class.

The influence of opportunity cost on decision making

Opportunity cost directly influences the decisions made by consumers, workers, producers and governments. Referring to the basic economic problem (see Chapter 1), there are competing uses for the economy's scarce resources. Thus, there is an opportunity cost when allocating scarce resources.

- Consumers have limited incomes, so whenever they purchase a particular good or service, they give up the benefits of purchasing another product.
- Workers tend to specialise (see Chapter 18) — for example, as secondary school teachers, accountants, doctors and lawyers. By choosing to specialise in

a particular profession, workers give up the opportunity to pursue other jobs and careers.

- Producers need to choose between competing business opportunities. For example, Toyota has to decide how best to allocate its research and development expenditure in terms of developing its petrol-fuelled cars or its hybrid electric cars.
- Governments constantly face decisions that involve opportunity cost. If a government chooses to spend more money on improving the economy's infrastructure (such as improving its transportation and communications networks), it has less money available for other uses (such as funding education and healthcare).

In general, decision makers will choose the option that gives them the greatest economic return. For example, a government might prioritise welfare benefits over its expenditure on national defence or repaying the national debt.

Activity

Discuss whether quantitative or qualitative factors play a bigger role in economic decision making.

To what extent does the concept of opportunity cost apply to your own decisions about post-16 and university education?

Exam-style questions

1 The opportunity costs for a farmer in terms of corn and wheat production are shown in the following table.

Corn production (units)		Wheat production (units)
65	plus	30
55	plus	35

Calculate the opportunity cost for the farmer of producing 1 unit of wheat.

[2]

2 Juke bought a new Xbox One games console for $295 but has never

used it. The second-hand value of his Xbox One is $195. What is the opportunity cost of Juke owning the games console?

[1]

A $0
B $100
C $195
D $295

3 What is the opportunity cost to the economy if the government decides to build a new motorway (highway)?

[1]

A The cost of relocating and compensating residents in order to build the motorway
B The money spent on building the motorway
C The other projects that could have been undertaken had the motorway not been built
D The overall cost to taxpayers of financing the motorway project

Activity

Discuss the costs and benefits of the government building a new airport. What are the key opportunity costs of such a decision?

Chapter review questions

1 How is the term ‘opportunity cost’ defined?
2 What might be the opportunity cost of a student studying IGCSE Economics?
3 Why do consumers face opportunity costs in decision making?
4 Why do workers face opportunity costs in decision making?
5 Using an example, explain why producers (firms) face opportunity costs in decision making.
6 Using an example, explain why governments face opportunity costs in decision making.

Revision checklist

- ✔ Opportunity cost is a very important concept in the study of economics as it affects the decision making of consumers, workers, producers and governments.
- ✔ Opportunity cost is the cost of the next best opportunity forgone when making a decision.
- ✔ Opportunity cost arises because economic agents have to make competing choices due to finite resources. Thus, there is an opportunity cost when allocating scarce resources.

4 Production possibility curve

By the end of this chapter, students should be able to:

- define a production possibility curve (*PPC*)
- draw and interpret appropriate *PPC* diagrams
- explain the significance of the location of production points on *PPC* diagrams
- explain the causes and consequences of shifts and movements of the *PPC*.

Production possibility curve diagrams

The **production possibility curve (*PPC*)** shows the maximum combination of any two categories of goods and services that can be produced in an economy, at any point in time. Essentially, it shows the productive capacity of the economy.

Definition

The **production possibility curve (*PPC*)** represents the maximum combination of goods and services which can be produced in an economy, i.e. the productive capacity of the economy.

Assume a country can only produce two types of goods: wooden furniture and olive oil. It has a limited amount of land, labour and capital. In Figure 4.1, if producers wish to increase production of olive oil from O_1 to O_2 then the amount of wooden furniture manufactured will have to decrease from W_1 to W_2. The opportunity cost of producing the extra O_1 to O_2 litres of olive oil is therefore W_1 to W_2 tonnes of wooden furniture.

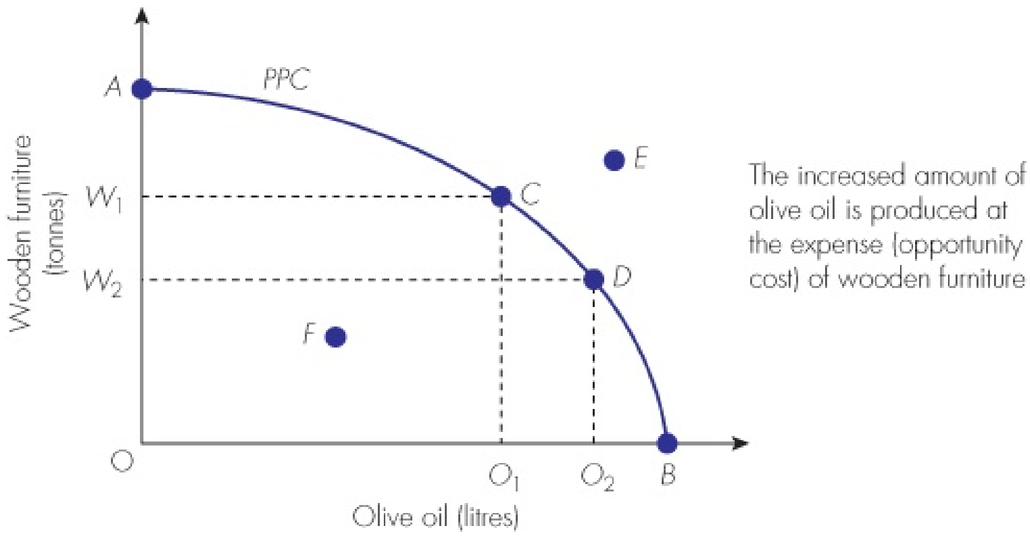


Figure 4.1 The production possibility curve (*PPC*) diagram

Definition

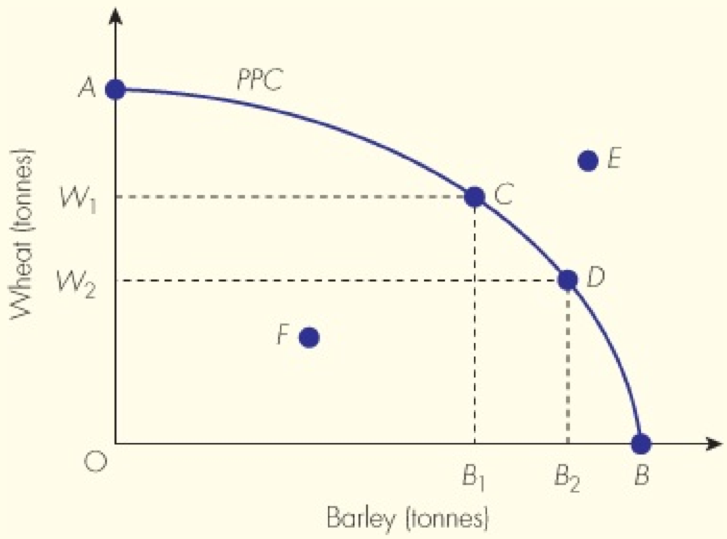
The **PPC diagram** is a graphical representation of the maximum combination of the amounts of goods and services that can be produced in an economy, per period of time.

Students need to be aware of the significance of the location of production points, and be able to explain points under, on and beyond a *PPC*. The production points in Figure 4.1 are as follows:

- Point *A* — all resources are dedicated to the production of wooden furniture.
- Point *B* — all resources are dedicated to the production of olive oil.
- Point *C* — W_1 tonnes of wooden furniture are produced along with O_1 litres of olive oil.
- Point *D* — W_2 tonnes of wooden furniture and O_2 litres of olive oil are produced.
- Point *E* — this point is beyond the production possibility curve and lies outside the productive capacity of the economy, so it is currently unattainable.
- Point *F* — this point is within the productive capacity of the economy, so the production of both olive oil and wooden furniture can increase without any opportunity cost as some factors of production are currently not being used.

Exam-style questions

Study the diagram below, which shows the production possibility curve diagram for Country Y. It produces only two products: wheat and barley.



1 If Country Y wishes to increase the production of wheat from W_2 to W_1, what is the opportunity cost?

[1]

- **A** An increase in barley production from B_1 to B_2
- **B** An outward shift of the *PPC* towards point *E*
- **C** A reduction in barley production from B_2 to B_1
- **D** *C* to *D*

2 At which point is there spare capacity in the economy?

[1]

- **A** Point *C*
- **B** Point *D*
- **C** Point *E*
- **D** Point *F*

Causes and consequences of shifts and movements of the *PPC*

Movements along the curve

For a country to be on its *PPC* two conditions have to be met:

- All resources are used — there is no unemployment of factors of production.
- There is efficiency in the use of resources — factors of production are allocated to their best use/purpose.

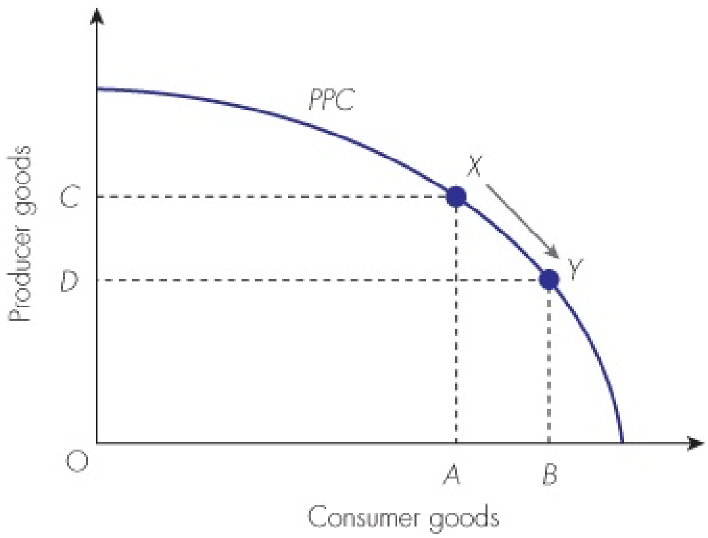


Figure 4.2 Movements along the *PPC*

A movement along a *PPC* results in an opportunity cost. This means that to produce more of one product, there must be less of another product. In Figure 4.2, a movement along the *PPC* from point *X* to point *Y* means more consumer goods are produced (from *A* to *B*), but at the expense of fewer producer goods (from *C* to *D*).

Shifts of the curve

For a country to shift its *PPC* outwards, as shown in Figure 4.3, there must be economic growth (see Chapter 29). This can come about in the following ways:

- An increase in the quality of factors of production (see Chapter 2), such as more highly skilled labour achieved through investments in education, research and training. Increased productivity can also be caused by technological advances and improved production techniques.
- An increase in the quantity of factors of production, such as the discovery of new resources, the reclamation of land, or net migration of labour into a country.

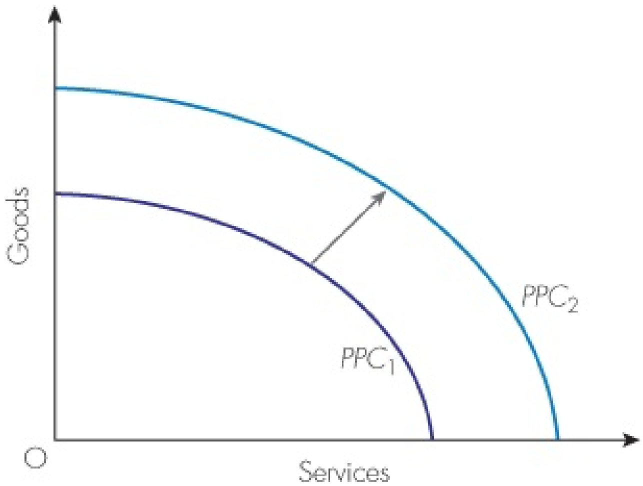


Figure 4.3 An outward shift of the *PPC*

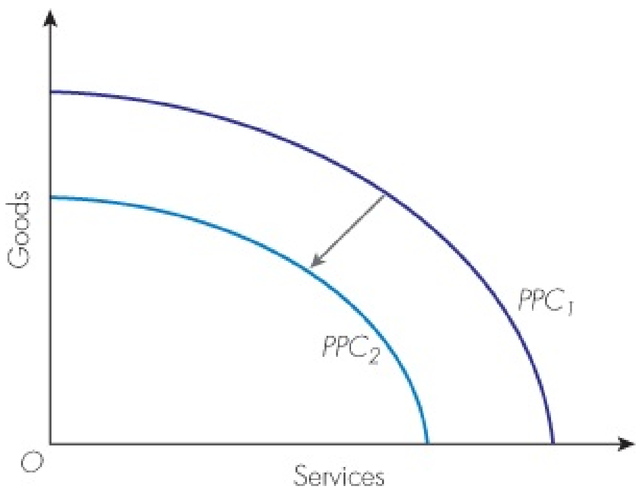


Figure 4.4 An inward shift of the *PPC*

In Figure 4.3, economic growth causes an outward shift of the *PPC* from PPC_1 to PPC_2. This means the economy can produce more goods *and* services, without necessarily incurring an opportunity cost.

Economies strive to increase their productive capacity. For example, advances in technology will result in higher productivity and output for an economy. This means that even with the same amount of factors of production, more can be produced, resulting in an outward shift of the *PPC*.

By contrast, detrimental changes can cause the *PPC* to shift inwards. These changes might include a powerful storm, a natural disaster or a war that destroys a large proportion of the economy's farmland, factories and infrastructure. In Figure 4.4, the *PPC* shifts inwards from PPC_1 to PPC_2 and represents a decrease in the productive capacity of the economy.

Activity

Low-lying areas of Bangladesh are prone to flooding each year. Crops are lost and thousands of people lose their homes. During times of severe flooding, roads and railways are damaged and farmers find it impossible to get their dwindled crops to market.

1. Draw a relevant PPC diagram and explain the impact of flooding on the productive capacity of Bangladesh.
2. On the diagram, draw and label a point where some of the factors of production will be idle.
3. On the diagram, draw and label a point that is unattainable.

Exam-style question

Which of the following is most likely to cause an inwards shift of a country's production possibility curve?

[1]

A A natural disaster in the economy

B An increase in the quantity of factors of production

C Better quality factors of production

D Higher opportunity costs of production

Activity

Discuss why an outwards shift of the PPC is not always good for the economy.

Chapter review questions

1. What is meant by productive capacity?
2. What does a production possibility curve diagram show?
3. How is the concept of opportunity cost shown on a *PPC* diagram?
4. Which two conditions must hold for an economy to be operating on its *PPC*?

5 What are the causes of a shift of the *PPC*?

Revision checklist

- ✔ The production possibility curve (*PPC*) shows the maximum combination of any two categories of goods and services that can be produced in an economy.
- ✔ The *PPC* diagram is a graphical representation of the maximum combinations of amounts of goods and services that can be produced in an economy.
- ✔ For a country to be on its *PPC* two conditions have to be met: full use of all factors of production and efficient use of all resources.
- ✔ Movements along a *PPC* incur an opportunity cost.
- ✔ Economies strive to increase their productivity capacity, as shown by an outward shift of the *PPC*.
- ✔ Detrimental changes, such as natural disasters or war, can cause the *PPC* to shift inwards.

SECTION 2

The allocation of resources

Chapters

This is the largest section of the syllabus, and examines the fundamental principles of resource allocation through the price mechanism in a market economy. Economics tries to address three key questions about resource allocation: what, how and for whom to produce. At the heart of resource allocation are the market forces of demand and supply, which determine market equilibrium and disequilibrium. You will need to be able to draw and interpret demand and supply schedules and curves, used to identify (dis)equilibrium prices, shortages and surpluses in different markets. The important concepts of price elasticity of demand and price elasticity of supply are examined in a real-world context. Finally, the topic of market failure is studied, in relation to the existence of external costs and benefits. Government intervention to correct market failures is needed to ensure a more efficient allocation of resources.

5 Microeconomics and macroeconomics

By the end of this chapter, students should be able to:

- distinguish between microeconomics and macroeconomics
- explain the decision makers involved in microeconomics and macroeconomics.

Microeconomics

Microeconomics is the study of particular markets and sections of the economy (rather than the economy as a whole). It is concerned with the economic factors that affect choices and the effects of changes in these factors on decision makers. Microeconomics studies the economic behaviour of individuals, households and firms in relation to these factors.

Definition

Microeconomics is the study of particular markets and sections of the economy, rather than the economy as a whole.

Topics covered in microeconomics include:

- factors of production (Chapter 2)
- demand (Chapter 7)
- supply (Chapter 8)
- price elasticity of demand (Chapter 11)
- market failure (Chapter 14)
- economies and diseconomies of scale (Chapter 20)
- firms' costs, revenues and objectives (Chapter 22)
- market structure (Chapter 23).

Microeconomics attempts to explain what is likely to happen if certain economic factors change. For example, if the demand for a fashionable product increases, this will tend to raise its prices. If there is a major discovery of gold, its price will tend to fall because gold supply is increased. Microeconomics tends to use theory, rather than empirical evidence, to explain changes in individual markets and industries.

Gold bars

Macroeconomics

Macroeconomics is the study of economic behaviour and decision making in the whole economy, rather than individual segments of the economy. It looks at aggregate variables, such as the demand for all goods and services in the economy (national output) and the general level of prices in the economy (inflation and deflation).

Definition

Macroeconomics is the study of economic behaviour and decision making in the whole economy, rather than individual markets.

Topics covered in macroeconomics include:

- the role of government (Chapter 24)

- redistribution of income (Chapter 25)
- fiscal policy (Chapter 26)
- monetary policy (Chapter 27)
- supply-side policies (Chapter 28)
- economic growth (Chapter 29)
- employment and unemployment (Chapter 30)
- inflation and deflation (Chapter 31).

Macroeconomics attempts to explain what is likely to happen to the economy as a whole if certain economic factors change. For example, a prolonged recession (see Chapter 29) will cause unemployment in many industries, and result in negative economic growth for the economy as a whole. Macroeconomics places greater emphasis on using empirical data as evidence to explain changes in the economy, such as booms and recessions (see Chapter 29).

Unemployment is a fundamental macroeconomic topic

Decision makers in microeconomics

Microeconomics is concerned with decision making by individuals, households and firms, such as:

- an entrepreneur considering which type of business to start
- a farmer deciding how best to allocate farmland to different crops or the rearing of farm animals

- firms investigating the prices being charged by their rivals in order to set their own prices
- firms considering the economic profits of difference choices before making a decision
- firms deciding on the best combination of factors of production to use in the production process
- how internal and external economies of scale can affect a firm's scale of operations
- consideration of the different reasons for firms to adopt labour-intensive or capital-intensive production methods (see Chapter 21)
- the advantages and disadvantages of small firms (see Chapter 20) versus the advantages and disadvantages of different types of merger (horizontal, vertical and conglomerate)
- a household considering the economic costs of raising a child
- workers deciding how to allocate their time and energy based on consideration of opportunity costs
- the influence of wage differentials on labour markets (see Chapter 18)
- third parties losing out from the misallocation of resources through the over-consumption of demerit goods (see Chapter 14) and the under-consumption of merit goods
- consideration of the advantages and disadvantages of trade unions from the viewpoint of workers, firms and the government (see Chapter 19).

Decision makers in macroeconomics

Macroeconomics is concerned with decision making for the economy as a whole. Examples include:

- government decisions regarding which products to tax, such as tobacco, alcohol and petrol — this has a macroeconomic impact not only on these industries but also on the wider economy (see Chapter 14)
- government policies to achieve economic growth, stable inflation, employment, balance of payments stability and redistribution of income (see Chapter 25)
- government decisions to improve market efficiencies and the productive capacity of the economy, such as through education and training, labour market reforms, deregulation, improving incentives to work and invest, and

privatisation (see Chapter 28)

- the government setting different rates of progressive taxation (see Chapter 26) to ensure those who earn more pay a greater proportion of income tax, without creating disincentives to work
- government decisions and policies regarding the eradication of poverty (see Chapter 33)
- government decisions about immigration and emigration (see Chapter 34)
- government decisions about protectionism, such as the use of tariffs and import quotas to limit competition from international rivals (see Chapter 37)
- the decision of the population in how they allocate their income between savings and expenditure (household consumption)
- decision making of consumers, workers, savers, lenders and firms due to the consequences of inflation (see Chapter 31)
- the economy's decision about the degree of international specialisation (see Chapter 36)
- the role of speculators and multinational companies in the determination of exchange rates (see Chapter 38).

Activity

Take a look at today's newspaper (use an online version if you prefer). Find three news stories that are microeconomic topics and another three that are macroeconomic topics. Be prepared to share these with the rest of the class, and make sure you can explain your reasoning.

Exam-style questions

1 Which topic is not studied in microeconomics? [1]

A Economic growth
B Monopoly and competition
C Price elasticity of supply
D Production possibility curves

2 Which option is not studied in macroeconomics? [1]

A The consequences of a higher interest rate

B The effects of a lower exchange rate

C The impacts of price changes in the market for smartphones

D The impacts of progressive taxation

Chapter review questions

1 What is meant by microeconomics?

2 What is meant by macroeconomics?

3 Who are the main decision makers in microeconomics and how does this differ from the decision makers in macroeconomics?

4 Who are the decision makers affected by microeconomics?

5 Who are the decision makers affected by macroeconomics?

Revision checklist

✔ Microeconomics is the study of particular markets and sections of the economy, rather than the economy as a whole.

✔ Microeconomics tends to use theory, rather than empirical evidence, to explain changes in individual markets and industries.

✔ Microeconomics is concerned with decision making by individuals, households and firms.

✔ Macroeconomics is the study of economic behaviour and decision making of the whole economy, rather than individual markets.

✔ Macroeconomics places greater emphasis on using empirical data as evidence to explain changes in the economy, such as booms and recessions.

✔ Macroeconomics is concerned with decision making for the economy as a whole.

6 The role of markets in allocating resources

By the end of this chapter, students should be able to:

- define the market system
- explain the key questions about resource allocation in a market system
- explain how the price mechanism allocates resources.

The market system

The **market system** refers to the method of allocating scarce resources through the market forces of demand and supply. Markets consist of buyers (who have demand for a particular good or service) and sellers (suppliers of a particular good or service). Also known as the **price mechanism**, the market system establishes **market equilibrium** where demand equals supply, as shown in Figure 6.1. At this position, the market is cleared of any shortages or surpluses.

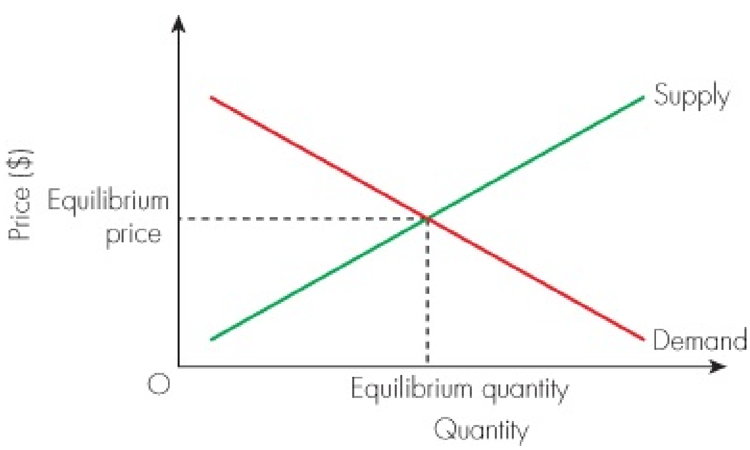


Figure 6.1 Market equilibrium

The demand curve (see Chapter 7) shows that consumers will tend to buy more as the price falls. The supply curve (see Chapter 8) shows that firms will tend to offer more for sale as the price rises. When the opposing market forces of demand and supply are in balance, an equilibrium price and quantity are established, where all products offered for sale at that price are bought by consumers.

Market disequilibrium occurs when the market price is either above or below the equilibrium price. If the price of a product is above the equilibrium price, the product is deemed to be too expensive for consumers, so the quantity supplied will exceed the quantity demanded. To sell off this excess supply, the price must be reduced.

By contrast, if the price of a product is below the equilibrium price, the product is deemed to be too cheap to attract sufficient supply, so the quantity demanded will exceed the quantity supplied. To create an incentive to supply more, the price must be raised. Hence, the market system will tend to get rid of market disequilibrium in the long run.

Definitions

The **market system** refers to the method of allocating scarce resources through the market forces of demand and supply.

Market equilibrium exists when the demand for a product matches the supply, so there is no excess demand (shortage) or excess supply (surplus).

Market disequilibrium exists if the price for a product is too high (resulting in excess supply, or a surplus) or too low (resulting in excess demand, or a shortage).

Prices are reduced to get rid of excess supplies

Case study: Thai rice

In 2017, the export price of Thai rice rose from $365 a tonne to $425 a tonne in a matter of weeks, driven by a sharp surge in the global demand for rice, and lower rice supply. Thailand is the world's second-largest exporter of rice with around 23 per cent of total rice exports (India accounts for about 29 per cent of the world's total rice exports).

Activity

Discuss how the significant increase in the price of rice is likely to affect the Thai economy. Which stakeholder group(s) win or lose from this?

Key decisions about resource allocation

All economies face the basic economic problem of scarcity of resources. All economic systems (see also Chapters 13 and 15) must address three key economic questions about determining resource allocation:

1 **What production should take place?** This question is about deciding which goods and services should be provided in the economy. For example, is it better for the economy to have more roads and airports or to have more schools and hospitals? As resources are limited in supply, decision makers realise there is an opportunity cost (see Chapter 3) in answering this question.

2 **How should production take place?** This question is about the methods and processes used to produce the desired goods and services. For example, decision makers will have to decide which combination of factors of production (land, labour, capital and enterprise) should be used in the production process.

3 **For whom should production take place?** This question is about which economic agents receive goods and services. For example, should any goods and services be provided free to everyone in the economy, irrespective of their willingness and ability to pay for them? Or should goods and services only be produced for those who can pay?

In a market system, the decision about what, how and for whom production should take place is determined by the forces of demand and supply. See Chapter 13 for more details on this.

Exam-style question

Which option is **not** a key economic question that is addressed by the market economy?

[1]

A For whom should production take place?

B How should production take place?

C Why should production take place?

D What production should take place?

Exam-style question

With the use of a relevant example, explain how prices are determined in a market system.

[4]

Introduction to the price mechanism

The **price mechanism** refers to the system of relying on the market forces of demand and supply to allocate resources. In this system, the private sector (see Chapter 13) decides on the fundamental questions of what, how and for whom production should take place. For example, wage rates are determined by the forces of demand for labour (by private sector firms) and supply of labour (by workers who offer their labour services)

Definition

The **price mechanism** refers to the system of relying on the market forces of demand and supply to allocate resources.

Features of the price mechanism include the following:

- There is no government interference in economic activities. Resources are owned by private economic agents who have the economic freedom to allocate scarce resources without interference from the government.
- Goods and services are allocated on the basis of price — a high price encourages more supply whereas a low price encourages consumer spending. Goods and services are sold to those who have the willingness and ability to pay.
- The allocation of factor resources is based on financial incentives — for example, agricultural land is used for harvesting crops with the greatest financial return, while unprofitable products are no longer produced.
- Competition creates choice and opportunities for firms and private individuals. Consumers can thus benefit from a variety of innovative products, at competitive prices and of high quality.

Study tip

To better understand the concept of the price mechanism, refer to Chapters 7 and 8 on demand and supply.

Exam-style question

Which option is not a feature of the price mechanism?

[1]

A Competition creates choice and opportunities for firms and private individuals.

B Goods and services are allocated on the basis of price.

C Resources are owned by private economic agents who have the economic freedom to allocate scarce resources.

D Rules and regulations are imposed to correct market failures, such as the overconsumption of demerit goods.

Chapter review questions

1 What is meant by the market system?

2 What is meant by market equilibrium?

3 How does market disequilibrium occur?

4 What are the three key economic questions that all economies must address?

5 What is the price mechanism?

6 What are the key features of the price mechanism?

Revision checklist

✔ The market system refers to the method of allocating scarce resources through the market forces of demand (buyers) and supply (sellers).

✔ Market equilibrium is established where the demand for a product is equal to the supply of the product.

✔ Market disequilibrium occurs when the market price is either above (creating surpluses) or below (creating shortages) the equilibrium price.

✔ All economies must address three key economic questions about determining resource allocation: what, how and for whom should production take place?

✔ The price mechanism refers to the system of relying on the market forces of demand and supply to allocate resources.

✔ Features of the price mechanism include: no government interference in economic activity, the allocation of resources based on price and financial incentives, and competition creating choice and opportunities for firms and private individuals.

7 Demand

By the end of this chapter, students should be able to:
- define demand
- draw and interpret appropriate demand diagrams
- explain movements (contractions and expansions) along a demand curve
- explain the link between individual and market demand
- explain the causes of shifts in a demand curve.

Demand

Demand refers to both the *willingness* and the *ability* of customers to pay a given price to buy a good or service. This is sometimes referred to as **effective demand** to distinguish genuine demand from a desire to buy something.

Definition

Demand refers to the willingness *and* the ability of customers to pay a given price to buy a good or service. The higher the price of a product, the lower its demand tends to be.

The amount of a good or service demanded at each price level is called the **quantity demanded**. In general, the quantity demanded falls as price rises, while the quantity demanded rises at lower prices. Hence, there is an inverse relationship between the price of a good or service and the quantity demanded. This rule is known as the **law of demand**. There are two reasons for this relationship:

- As the price of a good or service falls, the customer's real income rises — that is, with the same amount of income, the customer is able to buy more products at lower prices.
- As the price of a good or service falls, a higher number of customers are able to pay, so they are more likely to buy the product.

Activity

Choose an item that you can buy in your country.

1 What are the factors that affect the demand for this product?
2 Which factor is the most important? Why?

Produce your findings in an A3 poster format for displaying in the classroom.

Determinants of demand

Although price is regarded as the key determinant of the level of demand for a good or service, it is not the only factor that affects the quantity demanded. Other determinants of demand can be remembered by the acronym HIS AGE:

- **Habits, fashions and tastes** — changes in habits, fashions and tastes can affect the demand for all types of goods and services. When products become fashionable (such as smartphones) this leads to an increase in demand for them, whereas those that become unfashionable (such as last season's clothes) have a reduced level of demand.

Study tip

Some of the non-price determinants of demand can be remembered by the acronym **MISC**: **m**arketing, **i**ncome, **s**ubstitutes and **c**omplements.

Fashionable products experience an increase in demand

- **Income** — higher levels of income mean that customers are able and willing to buy more goods and services. For example, the average person in the USA will have a higher level of demand for goods and services than the average person in Vietnam or Turkey.
- **Substitutes and complements** — **substitutes** are goods or services that can be used instead of each other, such as Coca-Cola or Pepsi and tea or coffee. If the price of one product falls, then it is likely the demand for its substitute will also fall. **Complements** are products that are jointly demanded, such as tennis balls and tennis racquets or cinema movies and popcorn. If the price of one product increases, then the demand for its complement is likely to fall.
- **Advertising** — marketing messages are used to inform, remind and persuade customers to buy a firm's products. Companies such as McDonald's, Apple and Samsung spend hundreds of millions of dollars each year on their advertising budgets in an attempt to increase the demand for their products.
- **Government policies** — rules and regulations such as the imposition of taxes on tobacco and alcohol will affect the demand for certain products. Sales taxes cause prices to increase, thereby reducing the level of demand. By contrast, government subsidies for educational establishments and energy-efficient car makers help to encourage more demand for education and environmentally friendly cars due to the relatively lower prices.
- **Economy** — the state of the economy (for example, whether it is in an economic boom or a recession) has a huge impact on the spending patterns of the population. The global financial crisis of 2008, for example, caused the demand for most goods and services around the world to decline as households and businesses lacked confidence in the economy. By 2013, the financial crisis had caused unemployment to exceed 26 per cent in both Greece and Spain — the highest unemployment figures ever experienced in the European Union. This undoubtedly reduced the level of demand for goods and services in these countries.

Definitions

Substitutes are goods or services that can be used instead of each other, e.g. tea or coffee.

Complements are products that are jointly demanded, e.g. tennis balls and tennis racquets.

There are other factors that can influence the level of demand for a particular good or service. For example, the **weather** can affect the demand for ice cream, beach resort holidays, winter jackets and umbrellas. The size and the demographics of the **population** (such as age, gender, ethnicity and religious beliefs) can also have an effect on the level of demand for goods and services. For example, adults and children have different buying habits.

Price and demand

Diagrammatically, the demand curve is shown as a downward-sloping curve to indicate the inverse relationship between price and quantity demanded (see Figure 7.1).

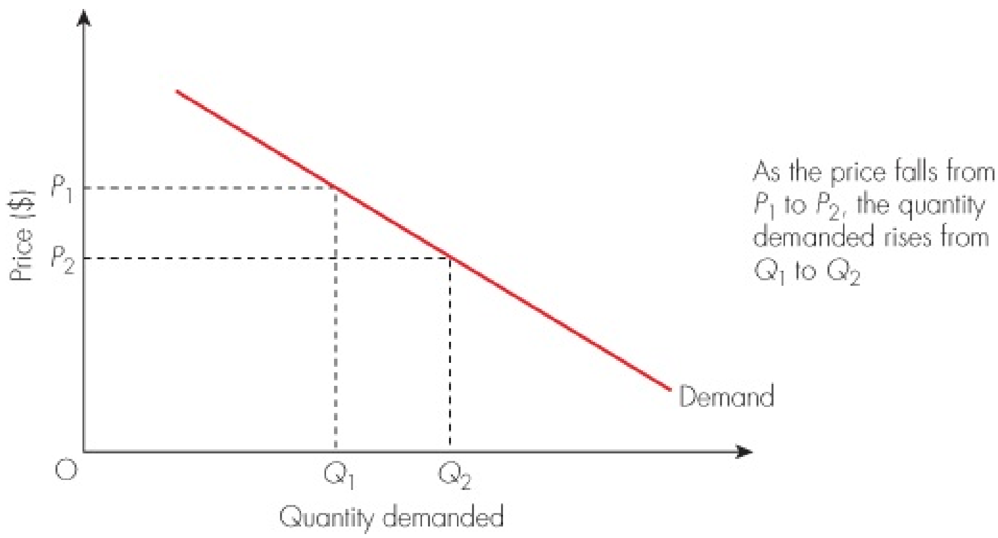


Figure 7.1 The demand curve

Movements along a demand curve

A change in the price of a good or service causes a **movement along** the demand curve. A price rise will cause a **contraction** in demand for the product — that is, the quantity demanded falls. By contrast, a reduction in price will cause an **extension** in the quantity demanded, as shown in Figure 7.2.

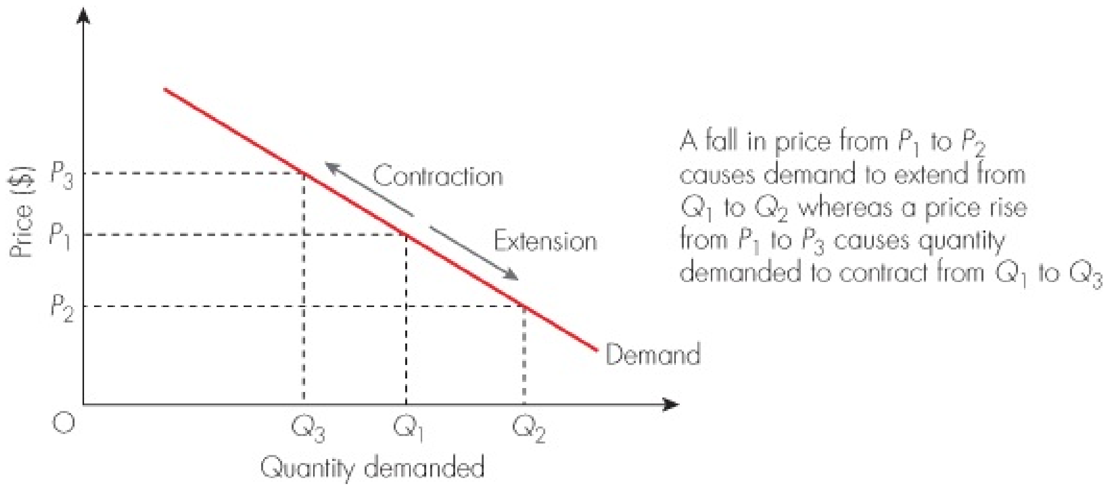


Figure 7.2 Movements along the demand curve

Individual demand and market demand

The **market demand** refers to the aggregation of all individual demand for a product. It is found by adding up all individual demand at each price level (see Figure 7.3). For instance, suppose that a cinema charges $10 for its movie tickets and the demand from male customers totals 500 per week while 400 females purchase tickets at that price per week. The market demand for cinema tickets at $10 per ticket is therefore 900 tickets per week.

Definitions

A **contraction** in demand means a fall in the quantity demanded for a product following an increase in its price.

An **extension** in demand means an increase in the quantity demanded for a product following a fall in its price.

The **market demand** is the sum of all individual demand for a particular product.

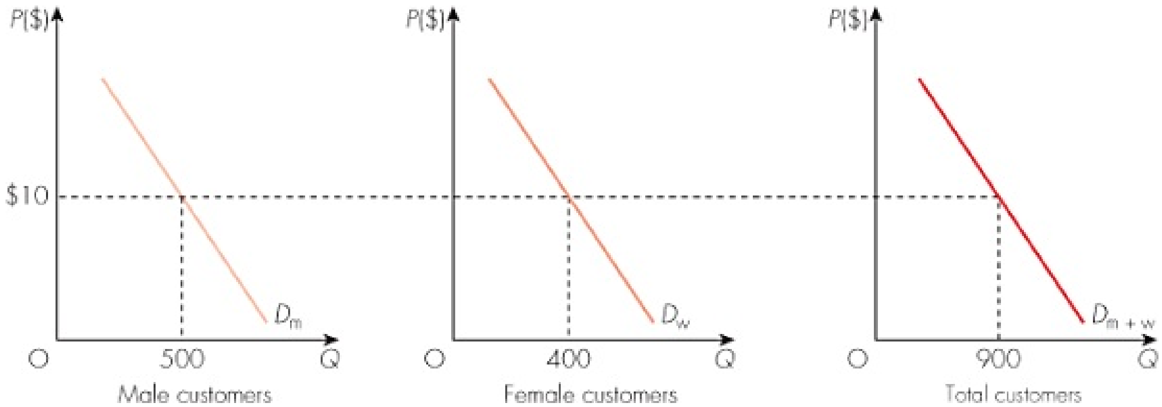


Figure 7.3 The market demand curve

Conditions of demand

While a movement in demand is caused by price changes only, a change in all other (non-price) factors that affect demand, such as income, will cause a **shift in demand**.

An **increase in demand** (rather than an increase in the quantity demanded) is represented by a rightward shift in the demand curve from D_1 to D_3 in Figure 7.4. For example, BMW recorded higher than expected profits in 2017 due to increasing demand for its cars in Europe, the USA and Asia. Hence, the demand for BMW's cars was higher at all price levels. In Figure 7.4, when the demand curve shifts from D_1 to D_3 at a price of P_1 the quantity demanded increases from Q_1 to Q_3.

By contrast, a **decrease in demand** (rather than a fall in the quantity demanded) is shown by shifting the demand curve to the left, from D_1 to D_2 in Figure 7.4, resulting in less quantity demanded at all price levels. At the price of P_1, demand falls from Q_1 to Q_2. For example, financial problems and rising unemployment in the economy will decrease the demand for cars.

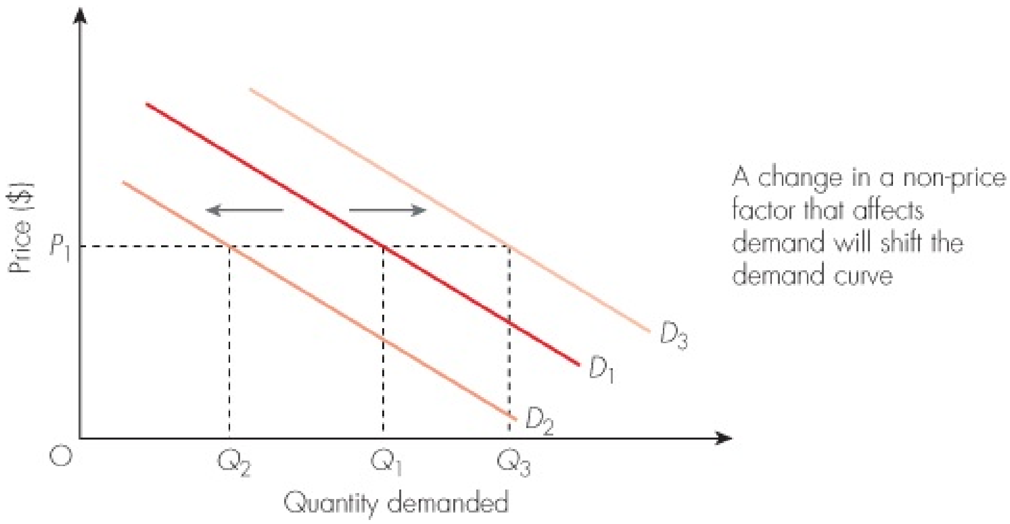


Figure 7.4 Shifts in the demand curve

Study tip

Remember the difference between *changes in demand* and *changes in the quantity demanded*.

- A shift in demand is caused by changes in non-price factors that affect demand.
- A movement along a demand curve is caused by changes in the price of the product.

BMW saw record profits when increasing demand in China and other emerging markets boosted its car sales

Activity

France is the most visited tourist country in the world, with over 80 million visitors each year; the USA is second with 63 million visitors.

1. Investigate the most popular tourist cities in Europe.
2. Using demand theory, explain the factors that make these cities so popular.

Activity

Using an appropriate demand diagram, explain the impact on the demand for Apple smartphones in the following cases.

1. An increase in the price of Apple smartphones.
2. An increase in the price of Samsung smartphones.
3. An increase in consumer incomes.
4. A successful advertising campaign promoting Samsung's latest smartphones.

Exam-style questions

1 What is the law of demand?

[1]

- **A** The assumption that both price and non-price factors affect the level of demand for a good or service
- **B** The influence of non-price factors on the demand for a good or service
- **C** The inverse relationship between the price of a good or service and the quantity demanded of that product
- **D** The positive relationship between the price of a good or service and the quantity demanded of that product

2 What does a rightwards shift of the demand curve for a good or service show?

[1]

- **A** A higher level of demand at all given price levels
- **B** A highly successful advertising campaign for the product
- **C** A lower price charged for the product
- **D** A reduction in the demand for the good or service

Chapter review questions

1 What is meant by demand?
2 What is the law of demand?
3 What are the two reasons for the inverse relationship between price and quantity demanded?
4 What are the main determinants of demand?
5 How does a movement along a demand curve differ from a shift in the demand curve?
6 How does a contraction in demand differ from an extension in demand?
7 What is meant by market demand?

8 How does a fall in quantity demanded differ from a fall in demand?

Revision checklist

- ✔ Demand refers to the *willingness* and the *ability* of customers to pay a given price to buy a good or service.
- ✔ The amount of a good or service demanded at each price level is called the quantity demanded.
- ✔ The law of demand states there is an inverse relationship between the price of a good or service and the quantity demanded.
- ✔ The determinants of demand can be remembered by 'HIS AGE': Habits, tastes and fashions; Income levels; Substitutes and complements (price and availability); Advertising; Government policies (such as taxes, regulations and subsidies); and the state of the Economy (for example, boom or recession).
- ✔ The demand curve is drawn as downward sloping from left to right, showing the inverse relationship between price and quantity demanded.
- ✔ A change in the price of a good or service causes a movement along the demand curve.
- ✔ A price rise causes a contraction in demand whereas a reduction in price causes an extension in demand for the product.
- ✔ The market demand refers to the sum of all individual demand for a product.
- ✔ A change in all other (non-price) factors that affect demand will cause a shift in demand.

8 Supply

By the end of this chapter, students should be able to:

- define supply
- draw and interpret appropriate supply diagrams
- explain movements (contractions and extensions) along a supply curve
- explain the link between individual and market supply
- explain the causes of shifts in a supply curve.

Supply

Supply is the *ability* and *willingness* of firms to provide goods and services at given price levels. Firms will have more incentives to supply their products at higher prices — the higher the price, the greater supply tends to be. There are two reasons for this positive relationship between price and supply:

- Existing firms can earn higher profits if they supply more.
- New firms are able to join the market if the higher price allows them to cover their production costs.

Definition

Supply is the ability and willingness of firms to provide goods and services at given price levels.

Activity

Visit your nearest shopping mall.

1 Investigate the number of stores which cater specifically (or primarily) for women and compare this with the number of stores which cater only (or mainly) for men.

2 Using demand theory, explain why there is such a difference.

Activities

1 Investigate the factors that affect the supply of one of the following products:

   a coffee
   b chocolate
   c tea
   d sugar
   e oil

2 Organise your findings as a PowerPoint document and be prepared to present it to the class.

Determinants of supply

Although price is regarded as the key determinant of the level of supply of a good or service, it is not the only factor that affects the quantity supplied. Non-price factors that affect the level of supply of a product can be remembered by the acronym TWO TIPS:

- **Time** — the shorter the time period in question, the less time suppliers have to increase their output, so the lower the supply tends to be. For example, it is not possible for a farmer to increase the supply of agricultural products in a short time period, even if they are offered a higher price. Over time, output can be increased.
- **Weather** — the supply of certain goods and services can depend on the weather: for example, favourable weather conditions will shift the supply of agricultural output to the right. Some service providers, such as airline carriers, may also limit or close their operations during adverse weather conditions, thereby shifting the supply curve to the left.
- **Opportunity cost** — price acts as a signal to producers to allocate their resources to the provision of goods and services with a greater level of profits. For example, if the market price of corn falls while the price of apples increases, then farmers are likely to reduce their supply of corn (due to the

higher opportunity cost) and raise their supply of apples.

- **Taxes** — taxes imposed on the supplier of a product add to the costs of production. Therefore, the imposition of taxes on a product reduces its supply, shifting the supply curve to the left.
- **Innovations** — technological advances such as automation and wireless internet technologies mean that there can be greater levels of output at every price level. Hence, innovations will tend to shift the supply curve to the right.
- **Production costs** — if the cost of raw materials and other factors of production falls, then the supply curve will shift to the right, ceteris paribus. Hence, there is an increase in supply at each price level. A rise in production costs will reduce supply at each price.
- **Subsidies** — subsidies are a type of financial assistance from the government to help encourage output by reducing the costs of production for firms. Subsidies are usually given to reduce the costs of supplying goods and services that are beneficial to society as a whole, such as education, training and healthcare.

Study tip

Some of the non-price determinants of supply can be remembered by using the acronym WITS: **w**eather, **I**CT (technology), **t**axes and **s**ubsidies.

Price and supply

The **law of supply** states that there is a positive relationship between price and the quantity supplied of a product. Hence, a supply curve is drawn as upward sloping from left to right. In Figure 8.1, as the price increases from P_1 to P_2, the quantity supplied rises from Q_1 to Q_2.

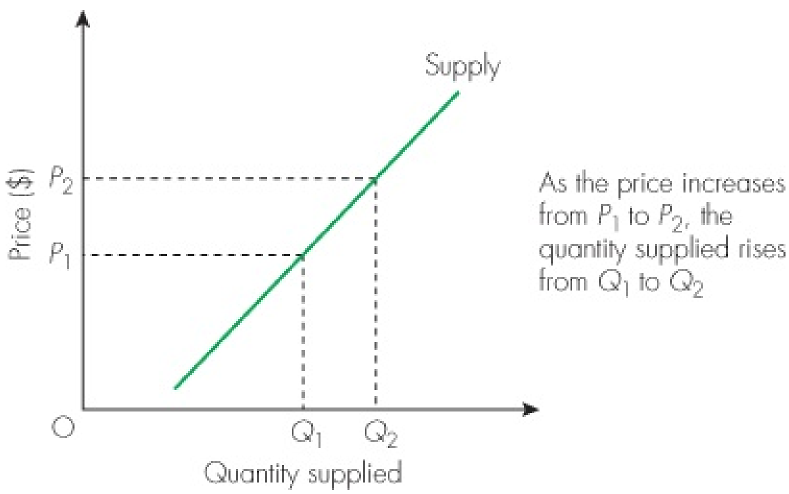


Figure 8.1 The supply curve

Movements along a supply curve

A **movement along** a supply curve occurs only if the price of the product changes. A change in price alone causes a change in the **quantity supplied**. There is an **extension** in supply if price increases. A **contraction** in supply occurs if the price of the product falls (see Figure 8.2). For example, higher prices for Apple's iPhone in China led to an extension in supply as the company opened its 40th Apple Store in China in 2017.

Definitions

An **extension** in supply means an increase in the quantity supplied of a product following an increase in its price.

A **contraction** in supply means a fall in the quantity supplied of a product following a fall in its price.

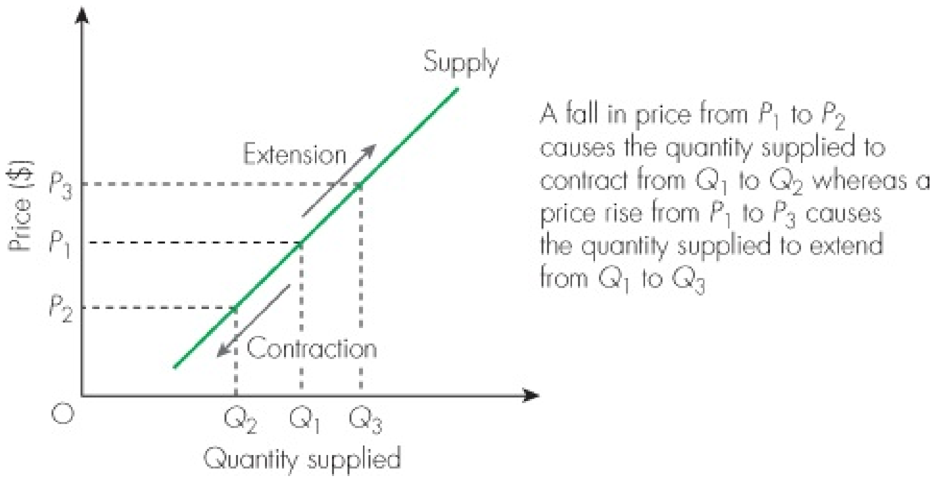


Figure 8.2 Movements along the supply curve

Individual supply and market supply

The **market supply** curve is the aggregation of all supply at each price level, as shown in Figure 8.3. Suppose that at a price of $300,000 per unit Airbus is willing and able to supply 300 aircraft and its rival Boeing supplies 320 aircraft, per time period. At this price, the total market supply is 620 aircraft. Hence, the market supply is found by adding up all individual supply at each price level.

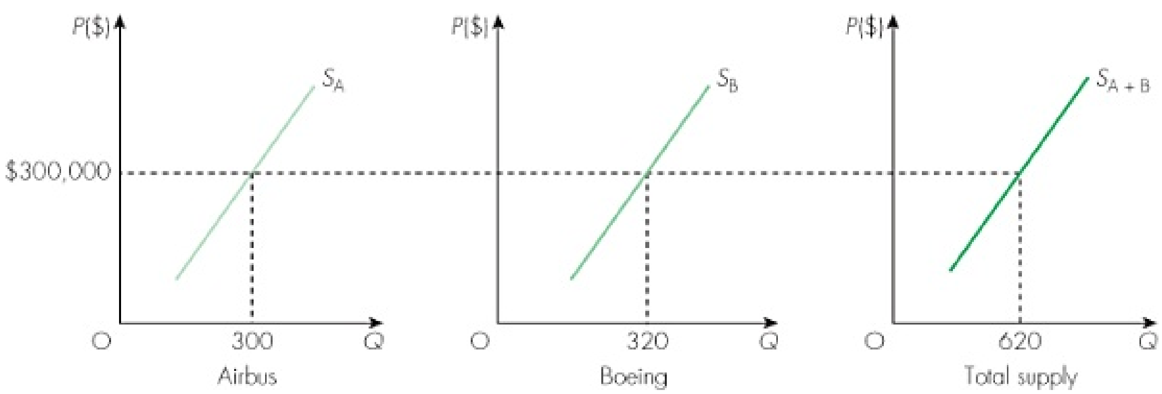


Figure 8.3 The market supply curve

Conditions of supply

A change in any of the non-price factors that affect the supply of a good or service will cause a **shift** in the supply curve. In Figure 8.4, a rightward shift of the supply curve from S_1 to S_2 is described as an **increase in supply** (rather than an increase in the quantity supplied). By contrast, a leftward shift of the supply curve from S_1 to S_3, results in a **decrease in supply** (rather than a fall in the quantity supplied). For example, Japan's tsunami in March 2011, the country's worst natural disaster, reduced the supply of major manufacturers such as Sony, Panasonic, Toyota and Honda.

Activity

Discuss as a class how supply theory can be used to explain the way natural disasters, such as the tsunami in Japan, affect the output of manufactured goods, such as Toyota cars.

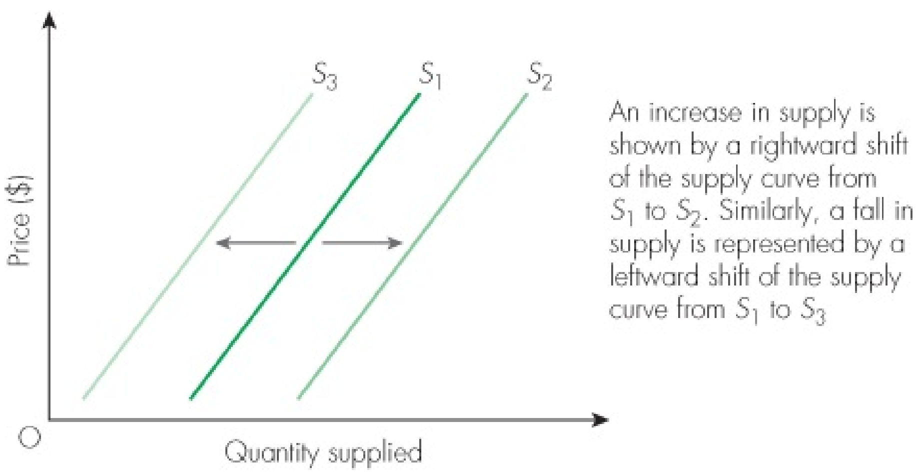


Figure 8.4 Shifts in the supply curve

Study tip

- A *shift* in supply is caused by changes in non-price factors that affect supply, such as taxes and adverse weather.
- A *movement along* a supply curve is caused only by changes in prices.

Activities

1 Using an appropriate supply diagram, explain the impact on the supply of educational computer games in the following cases.

   a The government provides subsidies to producers of educational computer games.

b There is an increase in the rate of commission paid to creators and distributors of educational computer games.

c The government introduces a 15 per cent sales tax on all computer games.

d There are technological advances in the production of educational computer games.

2 Using an appropriate diagram, explain how the following changes affect the supply or the quantity supplied in each scenario:

a The Chinese government raises the minimum wage for factory workers by 20 per cent.

b Drought causes vegetable prices to soar in France.

c New technology boosts productivity at Tata Motors, India's largest car maker.

d The US government subsidises the output of hybrid cars.

e South Korea's Samsung launches new tablet computers to rival Apple's iPad.

Chapter review questions

1 What is meant by supply?
2 Why is the supply curve upward sloping?
3 What are the main determinants of supply?
4 What is the law of supply?
5 How does a contraction in supply differ from an extension in supply?
6 How does market supply differ from individual supply?
7 What is the difference between a movement along a supply curve and a shift in a supply curve?
8 What are the causes of shifts in the supply curve?

Revision checklist

✔ Supply refers to the ability and willingness of firms to provide goods and services at given price levels.

✔ The determinants of supply can be remembered by the acronym

TWO TIPS: Time, Weather, Opportunity cost of production options, Taxes, Innovations, Production costs, and Subsidies.

- ✔ The law of supply says there is a positive relationship between price and the quantity supplied of a product.
- ✔ A movement along a supply curve is caused by a change in price.
- ✔ A contraction in supply means a lower quantity supplied due to a fall in price.
- ✔ An extension in supply means a higher quantity supplied due to an increase in price.
- ✔ The market supply curve is the sum of all supply at each price level.
- ✔ A change in non-price factors affecting the supply of a good or service will cause a shift in the supply curve.

9 Price determination

By the end of this chapter, students should be able to:

- define market equilibrium
- draw and interpret demand and supply schedules and curves to establish equilibrium
- define market disequilibrium
- draw and interpret diagrams to show shortages (excess demand) and surpluses (excess supply).

Market equilibrium

Market equilibrium refers to the position where the demand for a product is equal to the supply of the product. At this point, an **equilibrium price** (also known as the **market clearing price**) is established. At the equilibrium price, there is neither excess quantity demanded nor excess quantity supplied (see Figure 9.1), and thus the equilibrium quantity is determined.

Diagrammatic representation of market equilibrium

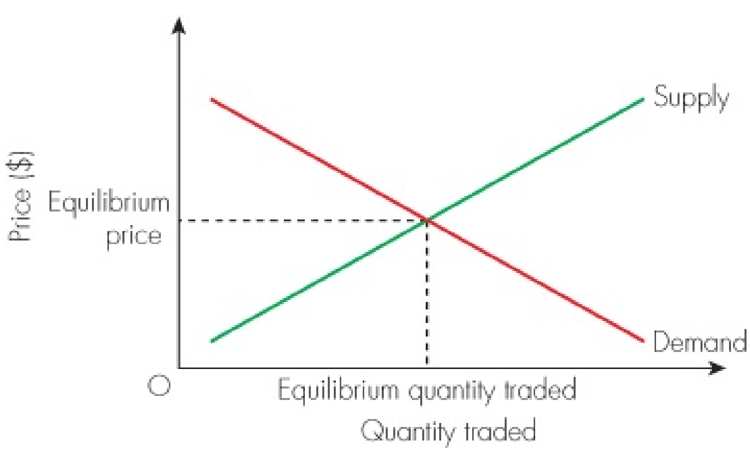


Figure 9.1 Market equilibrium

Market disequilibrium

Market disequilibrium occurs when the quantity demanded for a product is either higher or lower than the quantity supplied. Disequilibrium is inefficient as it means there are either shortages or surpluses.

Shortages

If the selling price of a product is set too low (that is, below the equilibrium price), then demand will exceed supply (see Figure 9.2). This **excess demand** creates a **shortage** in the market. At a price of P_1, demand is $Q_{d,}$ while supply is only Q_s. Hence, demand exceeds supply at this price. The excess demand will tend to cause price to rise back towards the equilibrium price of P_e.

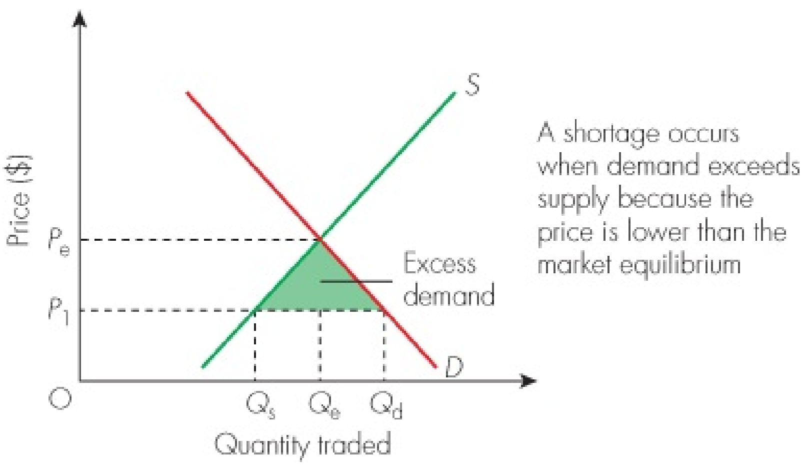


Figure 9.2 Excess demand (shortage)

Definitions

Market equilibrium occurs when the quantity demanded of a product is equal to the quantity supplied of the product, i.e. there are no shortages or surpluses.

Equilibrium price is the price at which the demand curve for a product intersects the supply curve for the product. The market is therefore cleared of any excess demand or supply.

Market disequilibrium occurs when the quantity demanded of a product is unequal to the quantity supplied of the product, i.e. there are shortages or surpluses.

Excess demand refers to a situation where the market price is below the equilibrium price, thus creating a shortage in the market.

A **shortage** occurs when demand exceeds supply because the price is lower than the market equilibrium.

Surpluses

If the price is set too high (above the market clearing price), then supply will exceed demand, as shown in Figure 9.3. This results in a **surplus**, known as **excess supply**. In order for firms to get rid of their excess supply (shown by the distance between Q_s and Q_d at each price level above the equilibrium price), they will need to reduce price (from P_1 to P_e). This is a key reason why leftover stocks of Christmas cards are reduced in price after 25 December and why unsold summer clothes go on sale during the autumn.

Definitions

A **surplus** is created when supply exceeds demand because the price is higher than the market equilibrium price.

Excess supply refers to a situation where the market price is above the equilibrium price, thus creating a surplus in the market.

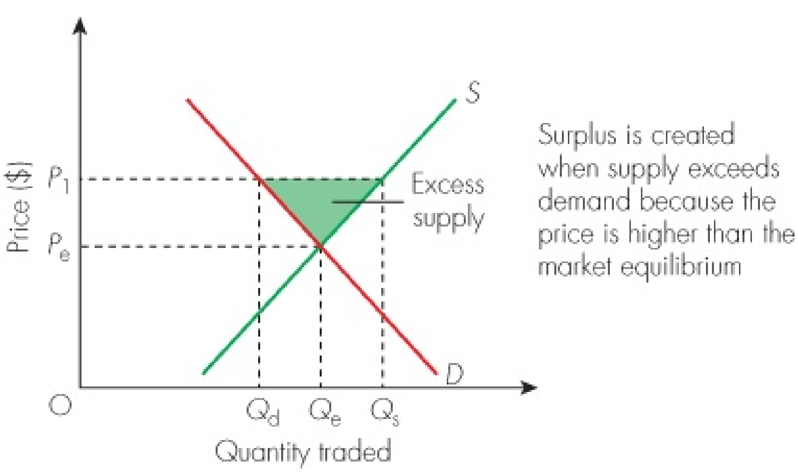


Figure 9.3 Excess supply (surplus)

Activity

The table below shows the demand and supply schedule for a particular product.

P ($)	Q_d (000s)	Q_s (000s)
0	80	0
10	60	20
20	40	40
30	20	60
40	0	80

a Identify the equilibrium price.

b Calculate and identify the value of excess demand or supply if the price is $10.

c Calculate and identify the value of excess demand or supply if the price is $40.

Exam-style questions

Study the demand and supply schedule below and answer the questions that follow.

Price ($)	Quantity demanded (units per week)	Quantity supplied (units per week)
15	9,000	2,000
20	8,000	4,000
25	7,000	6,000
30	6,000	8,000
35	5,000	10,000

a At a price of $25, what situation does the market show?

A Market equilibrium
B Excess supply
C Excess demand
D Stockpiling

[1]

b If the average price is $30 over a four-week period of trading, how much excess will suppliers accumulate?

A 2000 units
B 8000 units
C 24,000 units
D 32,000 units

[1]

Exam-style question

Mexico is the world's biggest producer of avocados, supplying about 45% of the planet's avocados. In 2017, avocado prices reached a record high due to reduced harvests from major producers in Mexico, Peru and California. Prices also surged due to global demand in places like the US, Europe and China. The industry has become very profitable for Mexican farmers, with avocados being nicknamed Mexico's green gold.

a Define the term *supply*.

[2]

b Using a demand and supply diagram, explain why reduced harvests caused avocado prices to reach a record high in 2017.

[4]

c Analyse the reasons why the global demand for avocados may have increased.

[6]

Activity

Investigate the economic reasons behind the European Union's Common Agricultural Policy for EU farmers. Why does this policy tend to encourage excess supply of agricultural output?

Activity

Using demand and supply theory, discuss the reasons why property prices are extremely high in cities such as Hong Kong, London and Tokyo.

Chapter review questions

1 What is meant by market equilibrium?
2 What is meant by equilibrium price?
3 What is meant by market disequilibrium?
4 What is the difference between excess demand and excess supply?
5 When do surpluses occur?
6 When do shortages occur?

Revision checklist

✔ Market equilibrium refers to the position where the demand for a product is equal to the supply of the product.

✔ At the equilibrium price, there is neither excess quantity demanded nor excess quantity supplied.

✔ Market disequilibrium occurs when the quantity demanded for a product is either higher or lower than the quantity supplied.

✔ Excess demand refers to a situation where the market price is below the equilibrium price. This results in shortages.

✔ Excess supply refers to a situation where the market price is above the equilibrium price. This results in surpluses.

10 Price changes

By the end of this chapter, students should be able to:

- explain the causes of price changes
- discuss the consequences of price changes.

Causes and consequences of price changes

Changes in non-price factors that affect demand or supply will cause a change in the equilibrium price and quantity traded. For example, in Figure 10.1, a sales tax imposed on tobacco products will shift the supply curve of cigarettes to the left. This raises the market equilibrium price from P_1 to P_2 and reduces the equilibrium quantity traded from Q_1 to Q_2.

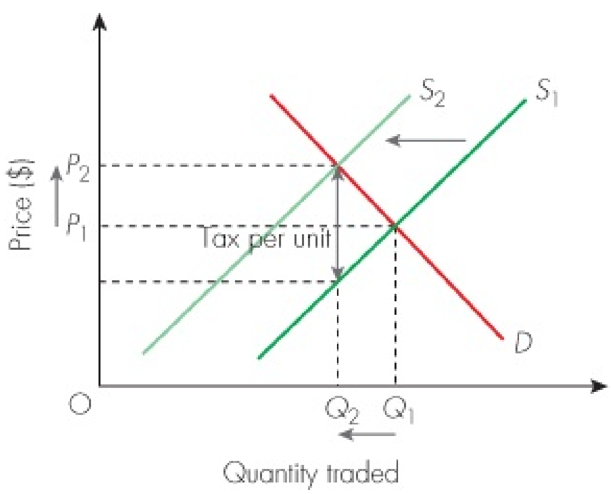


Figure 10.1 Impact of an imposition of a sales tax

Figure 10.1 could represent any factor that shifts the supply curve to the left (see Chapter 8). For example, adverse weather conditions could reduce the level of agricultural output and subsequently force up the equilibrium price.

By contrast, any factor that shifts supply to the right can be represented by Figure 10.2. For example, a subsidy for farmers or favourable weather conditions will shift the supply of agricultural output to the right. This reduces the equilibrium price of agricultural output from P_1 to P_2 but increases the quantity traded from Q_1 to Q_2.

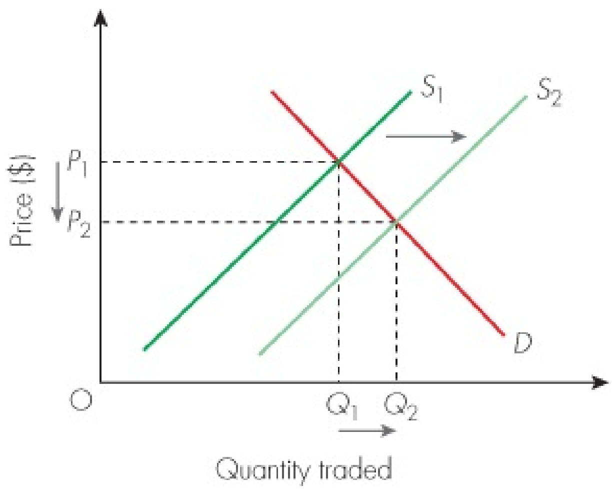


Figure 10.2 Impact of favourable weather on agricultural output

Price changes can also occur due to shifts in demand (see Chapter 7). For example, any factor that shifts the demand curve to the right — such as higher levels of disposable income or effective persuasive advertising — will lead to higher prices as well as higher levels of quantity demanded. In Figure 10.3, higher household incomes lead to an increase in the demand for new cars, thus shifting the demand curve from D_1 to D_2. This results in a higher equilibrium price of P_2 and a higher equilibrium quantity of Q_2.

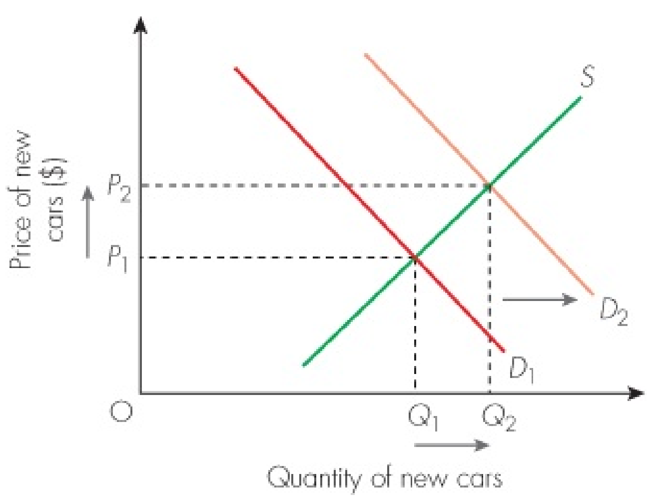


Figure 10.3 Impact of higher household income on the market for new cars

By contrast, a fall in demand — perhaps due to negative publicity, lower prices of substitute products or lower household income due to a recession (see Chapter 29) — will cause the demand curve to shift to the left. This will result in a fall in price and a fall in the quantity traded. In Figure 10.4, mass unemployment in the economy leads to a fall in the demand for helium balloons. This causes the equilibrium quantity traded to fall to Q_2 and the equilibrium price to fall to P_2.

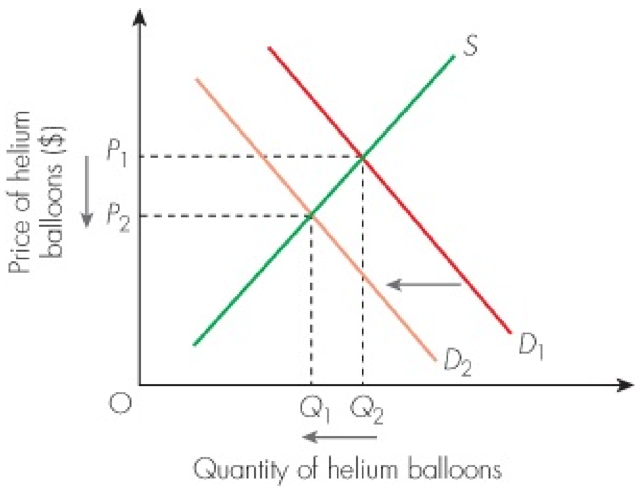


Figure 10.4 Impact of mass unemployment on the market for helium balloons

Activity

Investigate the various ways that different governments use to reduce the demand for cigarettes. You could compare and contrast the different levels of sales taxes used in countries such as Japan, China, the UK and Australia.

Activity

Using an appropriate demand and supply diagram, explain the impact on the market price and quantity traded in each of the following cases.

a The market for air travel following the imposition of higher fuel taxes.

b The market for Pepsi Cola following a fall in price of Coca-Cola.

c The market for Japanese sushi following a successful marketing campaign promoting the health benefits of eating rice and fish.

d The market for Samsung smartphones following new technologies that improve productivity in its factories.

Exam-style questions

In 2012, Danish toy maker LEGO launched LEGO Friends to appeal primarily to girls. The products included mini-doll figures, pink and purple coloured scheme toy sets, and pets. Founded in 1949, LEGO's popular toy construction bricks had traditionally been targeted mainly at boys with theme sets such as Lego Racers, Lego Star Wars, Lego Batman and Lego Ninjago. In early 2013, the *San Francisco Chronicle* reported that LEGO had sold twice as many of the LEGO Friends toys as had been expected. The company said that **demand** from children and their families was overwhelmingly positive. *BusinessWeek* reported that LEGO had spent $40 million in its global marketing of LEGO Friends. According to LEGO, boys accounted for 90 per cent of its customers before the launch of LEGO Friends.

a Define the term 'demand'. [2]

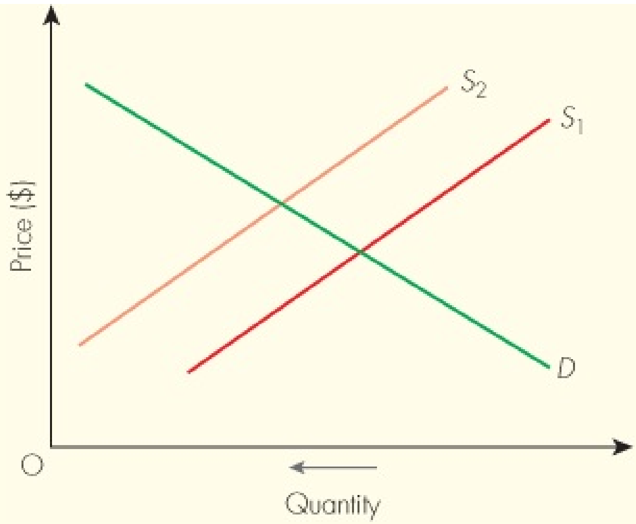
b Explain two possible reasons for the higher-than-expected demand for LEGO Friends toy construction bricks. [4]

Exam-style questions

1 Which statement explains why there might be a decrease in the demand for petrol (oil)? [1]

- **A** An increasing number of drivers buy electric-powered cars
- **B** Demand for new cars has increased
- **C** New technologies reduce the time needed to extract oil
- **D** There is an increase in world oil supplies

2 The diagram below shows a change in the market for agricultural output. What is likely to have caused the change in supply? [1]



A An increase in income tax rates

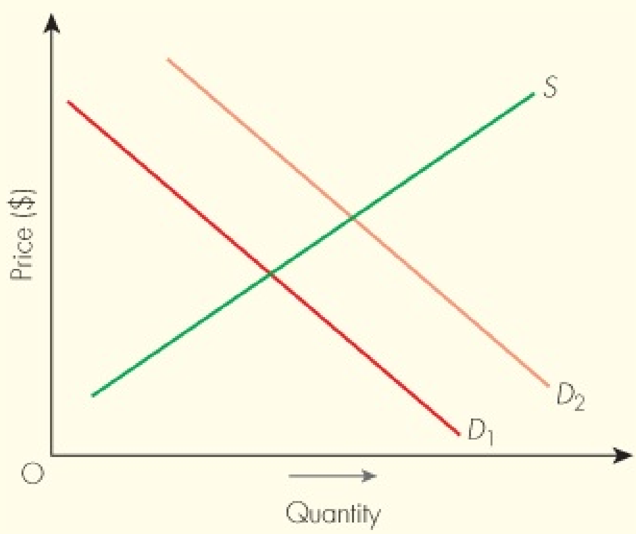
B Favourable weather conditions

C Higher cost of fertilisers

D Subsidies provided to farmers

3 The diagram below shows a change in the market for smartphones. What is likely to have caused the change in demand?

[1]



A A fall in the price of laptops

B A lower sales tax on goods

C A reduction in income tax rates

D A significant fall in the price of smartphones

Chapter review questions

1 Which factors cause a change in the equilibrium price and quantity traded?

2 What is the consequence of sales taxes on equilibrium price and quantity?

3 What is the impact of favourable weather conditions on the equilibrium price and quantity of agricultural output?

4 State three factors that can shift the demand curve.

5 State three factors that can shift the supply curve.

Revision checklist

- ✔ Changes in non-price factors that affect demand or supply will cause a change in the equilibrium price and quantity.
- ✔ Price changes can occur due to shifts in supply, such as changes in costs of production.
- ✔ Lower supply causes equilibrium quantity to fall and equilibrium price to rise. An increase in supply causes equilibrium quantity to rise, thus causing equilibrium price to fall.
- ✔ Price changes can also occur due to shifts in demand, such as changes in incomes.
- ✔ Lower demand causes equilibrium quantity to fall and the price to fall. By contrast, higher demand causes both equilibrium price and quantity to rise.

11 Price elasticity of demand

By the end of this chapter, students should be able to:

- define and calculate price elasticity of demand (PED)
- draw and interpret demand curve diagrams to show different PED
- understand the determinants of PED
- explain the relationship between PED and total revenue
- demonstrate the significance of PED for decision makers.

Price elasticity of demand

The law of demand (see Chapter 7) states that as the price of a product increases, the quantity demanded will tend to fall. However, the responsiveness of change in the quantity demanded may vary depending on the customer's degree of ability and willingness to pay. For example, a rise in the price of a product with plenty of substitutes (such as bananas, greetings cards or chocolate bars) will have a larger impact on its level of demand than a price rise of a product that has fewer substitutes (such as petrol, toothpaste or haircuts).

Price elasticity of demand (PED) measures the degree of responsiveness of the quantity demanded of a product following a change in its price. If a price change causes a relatively small change in the quantity demanded, then demand is said to be **price inelastic** — that is, buyers are not highly responsive to changes in price. For example, if the price of rice increases slightly, it is unlikely to have a large effect on the demand for rice in countries like China, Vietnam and Thailand.

By contrast, demand is said to be **price elastic** if there is a relatively large change in the quantity demanded of a product following a change in its price — that is, buyers are very responsive to changes in price. For example, a small rise in the price of Pepsi Cola is likely to reduce its demand quite drastically as customers switch to buying rival brands such as Coca-Cola.

Definitions

Price elasticity of demand (PED) measures the extent to which demand for a product changes due to a change in its price.

Price inelastic demand describes demand for a product that is unresponsive to changes in price, mainly because of the lack of substitutes for the product.

Price elastic demand describes demand for a product that is responsive to changes in price, usually due to substitutes being available.

Demand for soft drinks is price elastic because there are many substitute products

As a staple food for billions of people, rice is highly price inelastic in Asia and the West Indies

Activity

Explain whether the price elasticity of demand (PED) for the following products is likely to be elastic or inelastic. Justify your answers.

a Pineapples
b Tobacco
c Overseas holidays
d Textbooks

Calculation of price elasticity of demand

Price elasticity of demand is calculated using the formula:

$$\frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

or annotated as:

$$\frac{\%\Delta Q_D}{\%\Delta P}$$

For example, if a cinema increases its average ticket price from \$10 to \$11 and this leads to demand falling from 3500 to 3325 customers per week, then the PED for cinema tickets is calculated as:

- Percentage change in quantity demanded = [(3325 − 3500)/3500] × 100 = −5%
- Percentage change in price = [(11 – 10/10)] × 100 = +10%
- *PED* = −5/10 = −0.5

Worked example

Calculating PED

Assume the demand for football match tickets at \$50 is 50,000 per week. If the football club raises its price to \$60 per ticket and demand subsequently falls to 45,000 per week, what is the value of price elasticity of demand?

- First, calculate the percentage change in the quantity demanded: demand falls by 10% from 50,000 to 45,000 match tickets per week.
- Next, calculate the percentage change in the price of match tickets: prices rise by 20% from \$50 to \$60 per match ticket.
- Then, substitute these figures into the PED formula: 10/20 = (−)0.5

As the PED for match tickets is less than 1 (ignoring the minus sign), the demand for match tickets is price inelastic, i.e. football fans are not very responsive to the increase in match ticket prices. Subsequently, there is a smaller fall in the quantity demanded compared to the price rise.

Interpreting demand curve diagrams and price elasticity of demand

So what does a PED value of −0.5 actually mean? The above example suggests that the demand for cinema tickets is *price inelastic* — that is, relatively unresponsive to changes in price. This is because a 10 per cent increase in the price (from $10 to $11) only caused quantity demanded to drop by 5 per cent (from 3500 tickets per week to 3325).

The value of PED is negative due to the **law of demand** (see Chapter 7) — an increase in the price of a product will tend to reduce its quantity demanded. The inverse relationship between price and quantity demanded also applies in the case of a price reduction — a price fall tends to lead to an increase in the quantity demanded.

The calculation of PED generally has two possible outcomes:

- If the PED for a product is less than 1 (ignoring the minus sign), then demand **price inelastic** — that is, demand is relatively unresponsive to changes in price. This is because the percentage change in quantity demanded is smaller than the percentage change in the price (see Figure 11.1).

- If the PED for a product is greater than 1 (ignoring the minus sign), then demand is **price elastic** — that is, demand is relatively responsive to changes in price. This is because the percentage change in quantity demanded is larger than the percentage change in the price of the product (see Figure 11.2).

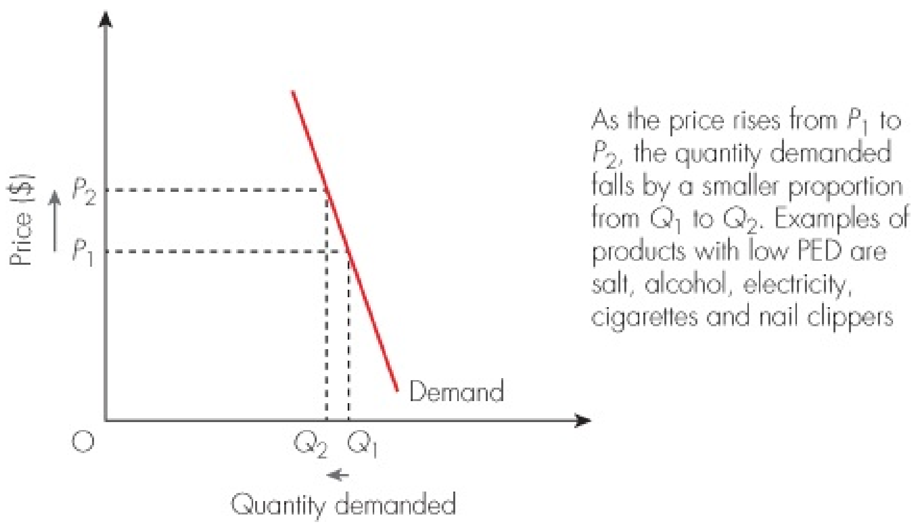


Figure 11.1 A price inelastic demand curve

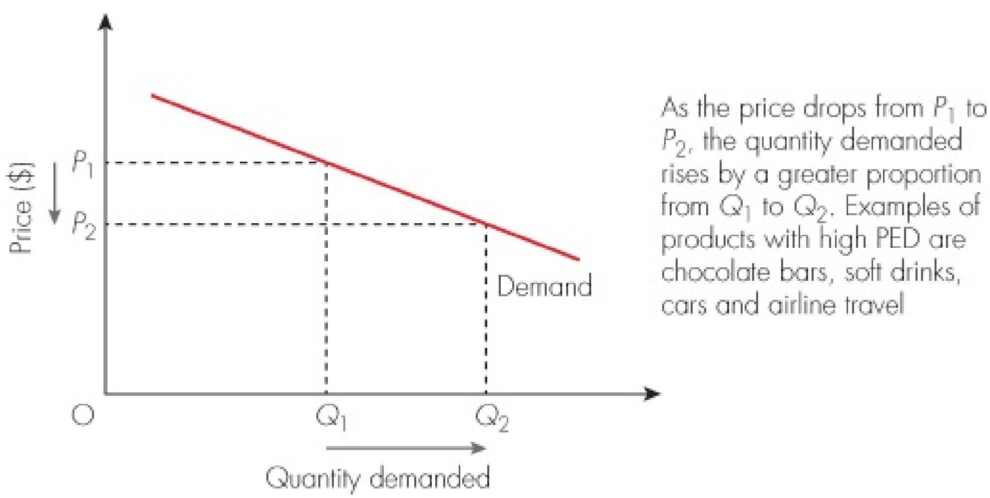


Figure 11.2 A price elastic demand curve

However, there are three special cases which are theoretical possibilities:

- If the PED for a product is equal to 0, then demand is **perfectly price inelastic** — that is, a change in price has no impact on the quantity demanded. This suggests that there is absolutely no substitute for such a product, so suppliers can charge whatever price they like (see Figure 11.3).

- If the PED for a product is equal to infinity (∞) then demand is **perfectly price elastic** — that is, a change in price leads to zero quantity demanded. This suggests that customers switch to buying other substitute products if suppliers raise their price (see Figure 11.4).
- If the PED for a product is equal to 1 (ignoring the minus sign), then demand has **unitary price elasticity** — that is, the percentage change in the quantity demanded is proportional to the change in the price (see Figure 11.5).

Definition

Unitary price elasticity occurs when the percentage change in the quantity demanded (or supplied) is proportional to the change in the price, so there is no change in the sales revenue.

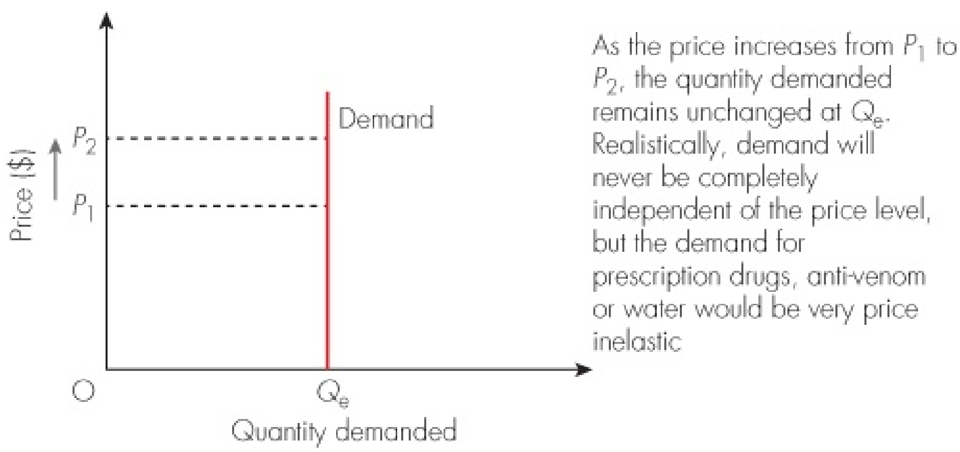


Figure 11.3 The perfectly price inelastic demand curve

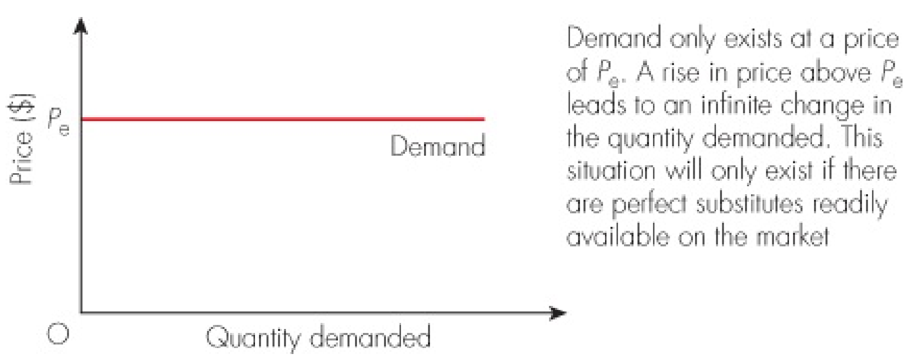


Figure 11.4 The perfectly price elastic demand curve

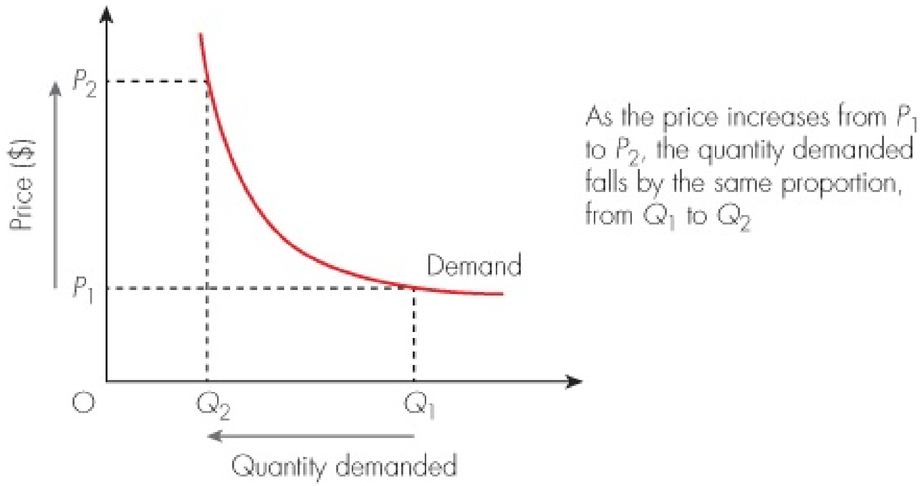


Figure 11.5 The unitary price elasticity demand curve

Exam-style questions

1 Assume the price of a sack of rice falls from $25 to $24, resulting in an increase in quantity demanded from 850 sacks to 875 sacks per month.

a Calculate the value of price elasticity of demand for the product. [2]

b Explain your finding. [2]

2 Explain two reasons why the demand for rice is price inelastic in countries like India, Vietnam and China. [4]

Activity

Many governments around the world regularly raise the taxes on tobacco, alcohol and petrol. In small groups, discuss the economic reasons for doing so. Use the concept of price elasticity of demand in your arguments.

Determinants of price elasticity of

demand

There are many interlinked determinants of the PED for a product. These factors include the following:

- **Substitution** — this is the key determinant of the PED for a good or service. In general, the greater the number and availability of close substitutes there are for a good or service, the higher the value of its PED will tend to be. This is because such products are easily replaced if the price increases, due to the large number of close substitutes that are readily available. By contrast, products with few substitutes, such as toothpicks, private education and prescribed medicines, have relatively price inelastic demand.
- **Income** — the proportion of a consumer's income that is spent on a product also affects the value of its PED. If the price of a box of toothpicks or a packet of salt were to double, the percentage change in price would be so insignificant to the consumer's overall income that quantity demanded would be hardly affected, if at all. By contrast, if the price of an overseas cruise holiday were to rise by 25% from $10,000 to $12,500 per person, this would discourage many customers because the extra $2,500 per ticket has a larger impact on a person's disposable income (even though the percentage increase in the price of a cruise holiday is much lower than that of a box of toothpicks or a packet of salt). Therefore, the larger the proportion of income that the price of a product represents, the greater the value of its PED tends to be. Of course, those on extremely high levels of income (such as Bill Gates, Jeff Bezos and Warren Buffet — the three richest men on the planet) are probably not responsive to any change in the market price of goods and services!
- **Necessity** — the degree of necessity of a good or service will affect the value of its PED. Products that are regarded as essential (such as food, fuel, medicines, housing and transportation) tend to be relatively price inelastic because households need these goods and services, and so will continue to purchase them even if their prices rise. By contrast, the demand for luxury products (such as Gucci suits, Chanel handbags and Omega watches) is price elastic as these are not necessities for most households. The degree of necessity also depends on the timeframe in question. For example, demand for fresh flowers on Valentine's Day and on Mothers' Day is relatively price inelastic compared to other days. The same applies to peak and off-peak times. For example, many countries operate public transport systems that charge more for travelling during peak time. This is partly due to overcrowding problems during such times, but also because the transport operators know that

peak-time travel is more of a necessity than off-peak travel.

- **Habits, addictions, fashions and tastes** — if a product is habit forming (such as tobacco) or highly fashionable, its PED tends to be relatively price inelastic. Similarly, people who are extremely devoted to a particular hobby (such as sports or music) are more willing to pay, even at higher prices. Hence, the demand from these people is less sensitive to changes in price.
- **Advertising and brand loyalty** — marketing can have a huge impact on the buying habits of customers. Effective advertising campaigns for certain products not only help to shift the demand curve outwards to the right, but can also reduce the price elasticity of demand for the product. Customers who are loyal to particular brands are less sensitive to a change in their prices, partly because these brands are demanded out of habit and personal preference — in other words, they are the default choice over rival brands. Examples of brands with a loyal customer following include Coca-Cola, Apple, Samsung, Chanel, Toyota and Mercedes-Benz.
- **Time** — the period of time under consideration can affect the value of PED because people need time to change their habits and behavioural norms. Over time, they can adjust their demand based on more permanent price changes by seeking out alternative products. For example, parents with children in private fee-paying schools are unlikely to withdraw their children from school if these establishments raise school fees because this would be very disruptive to their children's learning. Similarly, owners of private motor vehicles are not likely to get rid of their vehicles simply because of higher fuel prices. However, if there is a continual hike in prices over time, both parents and vehicle owners may seek alternatives. Hence, demand tends to be more price elastic in the long run.
- **Durability** — some products, such as fresh milk, are perishable (do not last very long) but need to be replaced, so they will continue to be bought even if prices rise. By contrast, if the price of consumer durable products (such as household furniture, 4K televisions and motor vehicles) increases, then households may decide to postpone replacing these items due to the high prices involved in such purchases. Therefore, the more durable a product is, the more price elastic its demand tends to be.
- **The costs of switching** — there may be costs involved for customers who wish to switch between brands or products. In the case of high switching costs, the demand for the product is less sensitive to changes in price — that is, it tends to be price inelastic. For example, manufacturers of smartphones, laptops and digital cameras make it more difficult for their customers to switch

between rival brands by supplying different power chargers, memory cards and software. Similarly, mobile phone users and satellite television subscribers are bound by lengthy contracts, so that switching between rival brands or services is made less easy. Such barriers to switching therefore make customers less responsive to higher product prices.

- **The breadth of definition of the product** — if a good or service is very broadly defined (such as food rather than fruit, meat, apples or salmon), then demand will be more price inelastic. For example, there is clearly no real substitute to food or housing, so demand for these products will be very price inelastic. However, it is perhaps more useful to measure the price elasticity of demand for specific brands or products, such as carbonated soft drinks, Australian beef and IGCSE textbooks.

Demand for fresh flowers on special days like Valentine's Day and Mother's Day is relatively price inelastic compared with other days

Study tip

Although there are many determinants of PED, the key factors can be remembered by THIS acronym:

- Time
- Habits, addictions and tastes
- Income
- Substitutes (availability and price of)

Exam-style question

The price elasticity of demand for a product known to be –0.3. The product is most likely to be:

[1]

A Breakfast cereal
B Electricity
C Running shoes
D Soft drinks

Case study: Toyota Motor Corporation

Japanese car maker Toyota has seen its fair share of troubles in recent times. It has had to deal with several cases of global product recalls for its cars due to safety concerns. The global financial crisis of 2008 also harmed global sales for several years. On top of that, much of the world's largest car maker's stocks of new cars were destroyed in the tsunami of March 2011.

Nevertheless, customer loyalty remains strong in the USA, China and many other parts of the world. Toyota's closest rival, General Motors (GM), estimated the value of customer loyalty at $700 million for every percentage point of improvement in customer retention rates.

Market research from *Experian Automotive* revealed that 47.3 per cent of Toyota's current customers from the USA would purchase a

Toyota, Scion or Lexus model as their next car. Globally, this figure stands at 58 per cent for Toyota and 52 per cent for GM.

Toyota's use of marketing slogans such as 'The best built cars in the world' can certainly go a long way to reassure Toyota's loyal customers about their cars.

Sources: adapted from *Wall Street Journal* and *TIME Business*

Activity

Discuss how the concept of price elasticity of demand and its determinants can help to explain why Toyota Motor Corporation is the world's largest car maker.

The relationship between price elasticity of demand and total revenue

Knowledge of the price elasticity of demand for a product can be used to assess the impact on consumer expenditure and therefore sales revenues following changes in price. **Sales revenue** is the amount of money received by a supplier from the sale of a good or service. It is calculated by multiplying the price charged for each product by the quantity sold:

Sales revenue = price × quantity demanded

Note that this is not the same as **profit**, which is the numerical difference between a firm's sales revenues and its total costs of production.

Definitions

Sales revenue (or **total revenue**) is the sum of money received from the sale of a good or service. It is calculated by the formula: $P \times Q$.

Profit is the difference between a firm's total revenues and its total costs. It is calculated using the formula: $TR - TC$.

For example, if a retailer sells 5000 laptops at $700 each, then its sales revenue is $3.5 million. Suppose the retailer reduces its price to $650 and quantity demanded rises to 5500 units in the following quarter. Was this a good business decision? A quick calculation of PED reveals that the demand for the laptops is price elastic:

- Percentage change in quantity demanded = (5500 – 5000)/5000 = +10%
- Percentage change in price = ($650 – $700)/$700 = −7.14%
- Thus, PED = −1.4

This means the PED for the laptops is price elastic. Hence a fall in price causes a relatively large increase in the quantity demanded, so sales revenues should increase. This can be checked as follows:

Original sales revenue	$= \$700 \times 5000$	$= \$3,500,000$
New sales revenue	$= \$650 \times 5500$	$= \$3,575,000$
Difference in sales revenue	$= \$3.575\text{m} - \$3.5\text{m}$	$= +\$75,000$

Given that demand for laptops in the above example is price elastic, a reduction in price was a sensible business decision. Therefore, it can be seen that knowledge of PED for a product can inform firms about their pricing strategy in order to maximise sales revenues.

The relationship between PED and revenue is summarised in Table 11.1 and Figures 11.6 and 11.7.

Table 11.1 The relationship between PED and sales revenues

Price change	Inelastic demand	Unitary demand	Elastic demand
Increase price	Revenues rise	No change in revenues	Revenues fall
Reduce price	Revenues fall	No change in revenues	Revenues rise

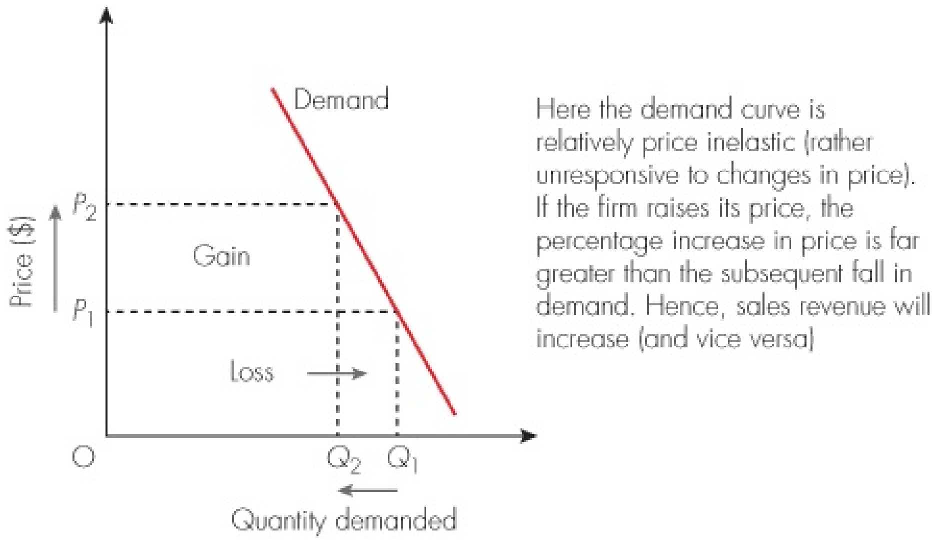


Figure 11.6 Price inelastic demand and sales revenue

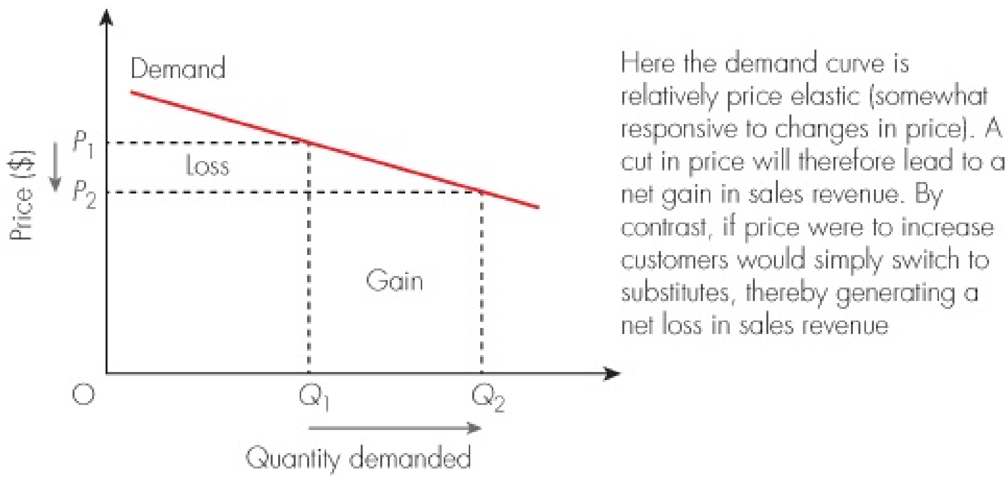


Figure 11.7 Price elastic demand and sales revenue

The significance of price elasticity of demand for decision makers

Knowledge of PED has implications for decision making by consumers, producers and the government. Essentially, it can provide valuable information about how the demand for different products is likely to change if prices are adjusted. This information can be used in several ways, such as the following:

- **Helping producers to decide on their pricing strategy** — for example, a business with price inelastic demand for its products is likely to increase prices, knowing that quantity demanded will hardly be affected. Therefore, the firm will benefit from higher sales revenue when selling its products at a higher price.

Theme parks charge different prices for essentially the same service. The difference is explained by PED

- **Predicting the impact on producers following changes in the exchange rate** (see Chapter 38) — for instance, firms that rely on exports will generally benefit from lower exchange rates, as exports become cheaper and thus they become more price competitive. This assumes that the PED for exports is price elastic, of course.
- **Price discrimination** — this occurs when firms charge different customers different prices for essentially the same product because of differences in their PED. For example, theme parks charge adults different prices from children and they also offer discounts for families and annual pass holders.
- **Deciding which products to impose sales taxes on** — taxing price inelastic products ensures the government can collect large sums of tax revenue without seriously affecting the overall demand for the product (so there is minimal impact on sales revenues and jobs). Producers can also decide how much of the tax can be passed onto customers. For example, products such as alcohol, tobacco and petrol are price inelastic in demand, so government taxes on these products can quite easily be passed onto customers without much impact on the quantity demanded.
- **Determining taxation policies** — knowledge of PED can help governments to determine taxation policies. For example, the government can impose heavy taxes on **demerit goods** (see Chapter 14), such as petrol and cigarettes, knowing that the demand for these products is price inelastic. As demerit

goods are harmful to society as a whole, the government needs to impose very high level of taxes on such products in order to reduce the quantity of demand.

Definition

Price discrimination occurs when firms charge different customers different prices for essentially the same product due to differences in PED.

Exam-style questions

Suppose Sharma Fabrics sells 1350 units of wool per month at $4.00 each. Following an increase in price to $4.60 per unit, the firm discovers that the quantity demanded falls to 1215 units per month.

a Calculate the price elasticity of demand for wool sold at Sharma Fabrics.

[2]

b Explain how knowledge of price elasticity of demand can be of use to Sharma Fabrics.

[4]

Activity

In small groups, discuss why firms use peak and off-peak pricing strategies, such as airline tickets being far more expensive during school holidays. How many examples of price discrimination based on time (peak and off-peak) can your group come up with? Does your group believe that price discrimination is beneficial? Justify your argument.

Chapter review questions

1 What is meant by price elasticity of demand (PED) and how is it calculated?

2 Why should firms raise prices for products with price inelastic

demand, and reduce prices for products with price elastic demand?

3 Use a diagram to show the difference between perfectly price elastic demand, unitary PED and price inelastic demand.

4 What are the key determinants of PED?

5 How might knowledge of PED be of value to producers (firms)?

6 How might knowledge of PED be of value to the government?

Revision checklist

- ✔ Price elasticity of demand (PED) measures the degree of responsiveness of the quantity demanded of a product following a change in its price.
- ✔ PED is calculated using the formula: $\%\Delta Q_D / \%\Delta P$
- ✔ Demand is price elastic if there is a relatively large change in the quantity demanded of a product following a relatively small change in its price. Hence, if demand is price elastic, firms will tend to reduce prices to increase sales revenue.
- ✔ Demand is price inelastic if there is a relatively small change in the quantity demanded for a product following a relatively large change in its price. Hence, if demand is price inelastic, firms will tend to raise prices to increase sales revenue.
- ✔ Determinants of PED include: time, habits and tastes, income and substitution.
- ✔ Knowledge of PED enables producers to determine their pricing strategies (to maximise sales revenues) and governments to determine their tax policies (to maximise tax revenues).
- ✔ Knowledge of PED also enables firms to determine whether they can use price discrimination (charge different customers different prices for essentially the same product because of differences in their PED).

12 Price elasticity of supply

By the end of this chapter, students should be able to:

- define and calculate price elasticity of supply (PES)
- draw and interpret supply curve diagrams to show different PES
- understand the determinants of PES
- demonstrate the significance of PES for decision makers.

Price elasticity of supply

Price elasticity of supply (PES) measures the degree of responsiveness of quantity supplied of a product following a change in its price. Supply is said to be price elastic if producers can quite easily increase supply without a time delay if there is an increase in the price of the product. This can help to give such firms a competitive advantage as they are able to respond to changes in price. By contrast, supply is price inelastic if firms find it difficult to change production in a given time period due to a change in the market price.

Definition

Price elasticity of supply (PES) measures the degree of responsiveness of the quantity supplied of a product following a change in its price.

Calculating price elasticity of supply

Price elasticity of supply is calculated using the formula:

$$\frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

or annotated as:

$$\frac{\%\Delta Q_S}{\%\Delta P}$$

For example, if the market price of beans increases from $2 per kilo to $2.20 per kilo, causing quantity supplied to rise from 10,000 units to 10,500 units then the PES is calculated as:

- Percentage change in quantity supplied = (10,500 – 10,000)/10,000 = +5%
- Percentage change in price = ($2.20 – $2)/$2 = +10%
- PES = +5%/+10% = 0.5

What this means is that the supply of beans is hardly affected by the change in price — that is, supply is relatively price inelastic. Note that the value of PES is positive due to the law of supply — an increase in price tends to increase the quantity supplied (and vice versa).

Interpreting supply curve diagrams and price elasticity of supply

The value of PES reveals the degree to which the quantity supplied of a product responds to changes in price. The calculation of PES generally has two possible outcomes:

- If PES is greater than 1, supply is price elastic — that is, quantity supplied is responsive to changes in price. This is because the percentage change in quantity supplied is greater than the percentage change in price (see Figure 12.1).
- If PES is less than 1, supply is price inelastic — that is, quantity supplied is relatively unresponsive to changes in price. This is because the percentage change in quantity supplied is less than the percentage change in price (see Figure 12.2).

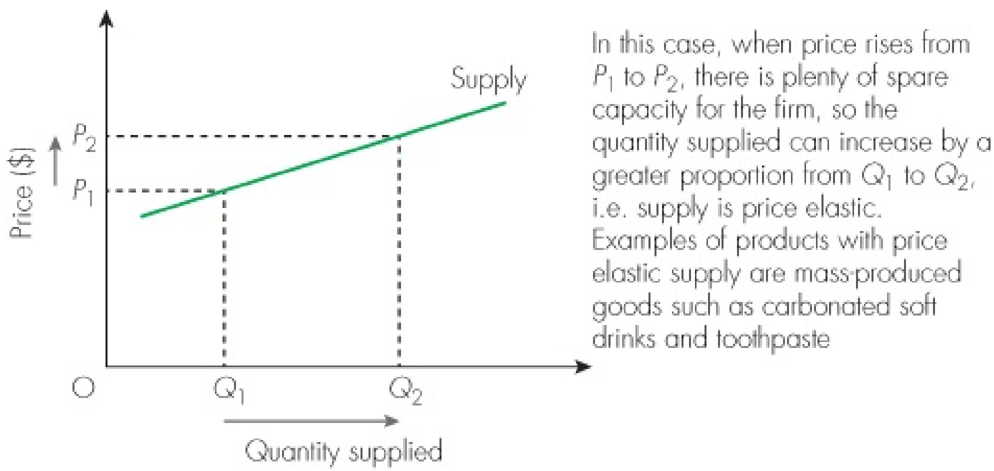


Figure 12.1 A price elastic supply curve

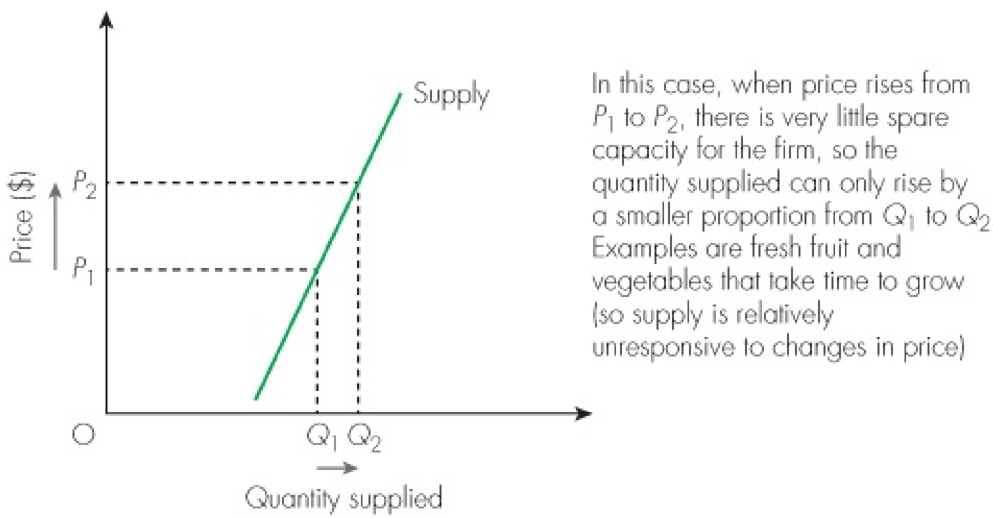


Figure 12.2 A price inelastic supply curve

However, there are three special cases which are theoretical possibilities for PES:

- If the PES of a product is equal to 0, then supply is **perfectly price inelastic** — that is, a change in price has no impact on the quantity supplied. This suggests that there is absolutely no spare capacity for suppliers to raise output, irrespective of increases in price (see Figure 12.3).
- If the PES of a product is equal to infinity (∞) then supply is **perfectly price elastic** — that is, the quantity supplied can change without any corresponding change in price. For example, a software developer selling products online can very easily increase supply to match higher levels of demand, without any impact on the price level. Due to the spare capacity that exists, suppliers are able to raise output at the current price level (see Figure 12.4).

- If the PES for a product is equal to 1 then supply has **unitary price elasticity** — that is, the percentage change in the quantity supplied matches the percentage change in price (see Figure 12.5). Any upward-sloping supply curve that starts at the origin will have unitary price elasticity.

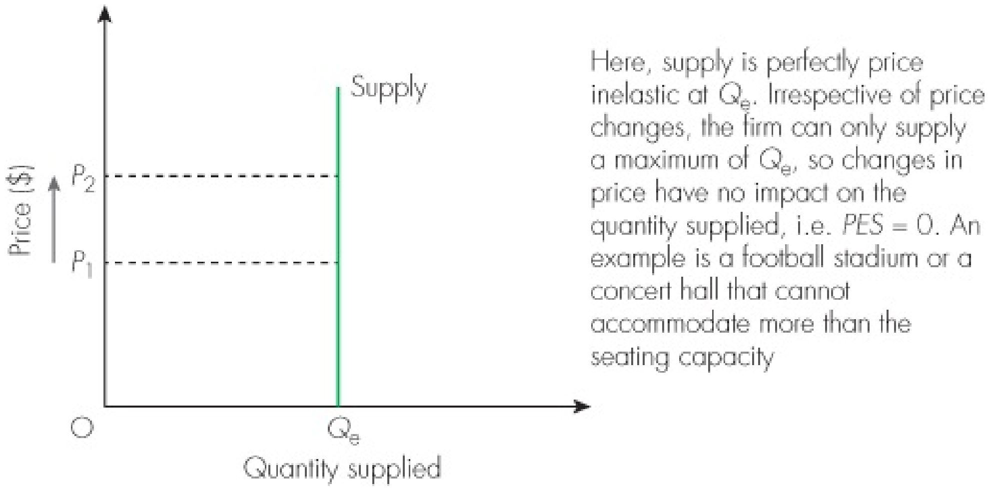


Figure 12.3 The perfectly price inelastic supply curve

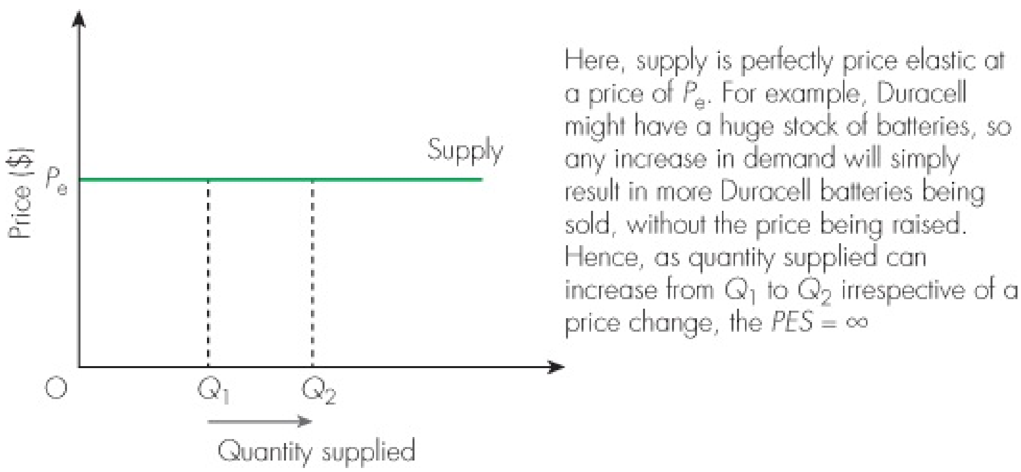


Figure 12.4 The perfectly price elastic supply curve

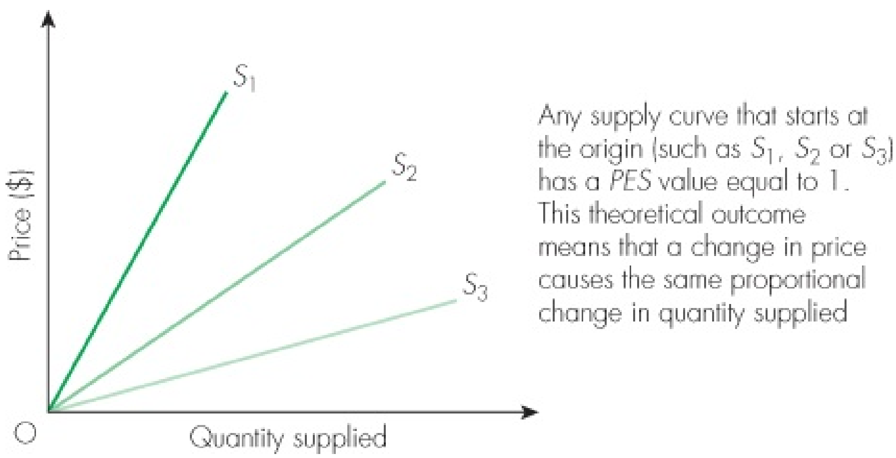


Figure 12.5 The unitary price elasticity supply curve

Activity

Discuss in pairs why the price elasticity of supply of the following products will differ:

a Smartphones
b Organic vegetables
c Fresh flowers
d Hotels
e Ferrari cars

Study tip

In reality, supply curves are likely to be non-linear, so will have a different PES value at different points. Supply is more elastic at lower prices and more inelastic at higher prices.

Exam-style questions

Angry Birds is a highly popular video game created by Finnish company Rovio in December 2009 for the iPhone. Since then, over 300 million customers have paid $0.99 each to download the game from Apple's App Store. The game has become available for other platforms such as Android and Windows operating systems and available for both video games consoles and personal computers. Rovio has since launched variations of the video game, such as *Angry Birds Seasons*, *Angry Birds Rio*, *Angry Birds Space* and *Angry Birds Star Wars*. According to its website, 200 million people play *Angry Birds* every month, and the *Angry Birds* games have been downloaded over 3 billion times across all platforms, making it the most downloaded app of all time.

a With the use of an appropriate diagram, explain why the high level of demand for *Angry Birds* games has no effect on the selling price. [6]

b Analyse how knowledge of price elasticity of supply can help businesses such as Rovio. [6]

Determinants of price elasticity of supply

There are several interlinked determinants of the PES for a product. These factors include the following:

- **The degree of spare productive capacity** — if a firm has plenty of spare capacity then it can increase supply with relative ease, without increasing its costs of production. This means that supply is relatively price elastic. For example, Coca-Cola's bottling plants can produce 10,000 bottles of water in just 60 seconds, so it is very easy for the world's largest beverage company with plenty of spare productive capacity to respond to changes in price. In general, the supply of goods and services is highly price elastic during an economic recession (see Chapter 29) when there are spare (unused) resources such as land, capital and labour.

- **The level of stocks** — if a firm has unused raw materials, components and finished products (collectively known as **stocks** or **inventories**) that are available for use, then the firm is more able to respond quickly to a change in price as it can supply these stocks on to the market. Not all inventories are sold to consumers — raw materials and components (parts used in the production process, such as gearboxes and motors for cars) are used in the production process. In addition, some types of stock (such as pencils and ball bearings) are easier to store than others (such as fresh milk or organic vegetables), so it will be easier to increase their supply if prices increase. This means that the higher the level of stocks of finished goods (such as cars) that are ready for sale, the more price elastic supply tends to be.

Definition

Stocks (or **inventories**) are the raw materials, components and finished goods (ready for sale) used in the production process.

- **The number of producers in the industry** — the more suppliers of a product there are in the industry, the easier it tends to be for firms to increase their output in response to a price increase. For example, there is plenty of competition in the restaurant trade, so suppliers will be highly responsive to increases in price. Hence, the greater the number of firms in an industry, the more price elastic supply tends to be. By contrast, high barriers to entry in the pharmaceutical industry mean that there are very few suppliers in the industry, so supply tends to be price inelastic.
- **The time period** — in the short run, most firms are not able to change their factor inputs, such as the size of their workforce or the fixed amount of capital equipment they employ. For example, in agricultural farming, the supply of fresh fruit and vegetables is dependent on the time it takes to harvest the products and climatic conditions beyond the control of the suppliers. Hence, supply is less responsive to changes in price in the short run. Supply is more

likely to be price elastic in the long run because firms can adjust their levels of production according to price changes in the market.

- **The ease and cost of factor substitution** — this refers to the extent to which it is possible to introduce factor resources (such as labour and capital) to the production process. If capital and labour resources are occupationally mobile, this means they can be substituted easily in the production process. For example, capital is occupationally mobile in a publishing company that can switch production quite easily between printing textbooks, magazines, trade journals, calendars and greetings cards. This means the ease of factor substitution in the publishing firm makes supply highly price elastic. By contrast, the PES for a product where capital equipment and labour cannot easily be switched, as the production process is inflexible, will be very low.

Activity

Explain whether the price elasticity of supply (PES) of the following products is relatively price elastic or price inelastic in supply.

a Bananas
b Fresh flowers
c Computers
d Coal

The significance of price elasticity of supply for decision makers

In general, it is preferable for producers to have a high PES — that is, to be highly responsive to changes in price (and other market conditions). This can help to make firms more competitive and therefore to generate more sales revenue and profits. Firms can become more responsive to changes in market price in several ways, including:

- creating spare capacity
- keeping large volumes of stocks (inventories)
- improving storage systems to prolong the shelf-life of products
- adopting or upgrading to the latest technology
- improving distribution systems (how the products get to the customers)

- developing and training employees to improve labour occupational mobility (to perform a range of jobs).

Inelastic PES means that higher demand for a product simply causes a significantly higher increase in price, as producers cannot respond immediately by supplying more on the market. This increases profit margins, but does not necessarily benefit the economy if there is competition (alternative suppliers) from overseas firms.

The government is also interested in PES. For example, in many countries inelastic supply of new housing in response to rising demand for housing results in higher property prices. This can widen the wealth gap between those who can afford to own their own homes and those who find housing unaffordable. The government may therefore need to intervene in the market to ensure everyone has access to affordable housing.

The government is also interested in PES in labour markets, which is a key factor explaining differences in wages. Governments may seek to encourage an inflow of migrant workers, to help relieve shortages of labour and improve the PES in the labour market.

Chapter review questions

1. What is meant by price elasticity of supply (PES) and how is it calculated?
2. Use a diagram to show the difference between perfectly price elastic supply, unitary PES and price inelastic supply.
3. Use a diagram to distinguish between price elastic PES and price inelastic PES.
4. What are the key determinants of PES?
5. If a product has a PES value of 0, what does this actually mean? What about PES = 1 and PES = ∞?
6. What is the difference between perfectly elastic and perfectly inelastic supply?
7. How might knowledge of PES be of value to producers (firms)?
8. How might knowledge of PES be of value to the government?

Revision checklist

- ✔ Price elasticity of supply (PES) measures the degree of responsiveness of the quantity supplied of a product following a change in its price.
- ✔ PES is calculated using the formula: $\%\Delta Q_S/\%\Delta P$.
- ✔ PES is positive due to the law of supply — that is, the positive relationship between price and quantity supplied.
- ✔ If PES is greater than 1, supply is price inelastic — that is, quantity supplied is responsive to changes in price.
- ✔ If PES is less than 1, supply is price inelastic — that is, quantity supplied is relatively unresponsive to changes in price.
- ✔ If the PES of a product is equal to 0, supply is perfectly price inelastic — a change in price has no impact on the quantity supplied.
- ✔ If the PES of a product is equal to infinity (∞), supply is perfectly price elastic — the quantity supplied can change without any corresponding change in price.
- ✔ Determinants of PES include: spare capacity, inventory (stock) levels, the number of firms in the industry, the ease and the cost of factor substitution, and the time period.

13 Market economic system

By the end of this chapter, students should be able to:
- define the market economic system
- explain the advantages of the market economic system
- explain the disadvantages of the market economic system.

The market economic system

An **economic system** describes the way in which an economy is organised and run, including alternative views of how scarce resources are best allocated. A key question in economics is the extent to which a government should intervene in the economy or leave **economic agents** (households and firms) to operate freely.

There are three main types of economic system (see Figure 13.1).

Figure 13.1 Economic systems

1. **Market economy** — this economic system relies on the market forces of demand and supply (in the **private sector**) to allocate resources with minimal government intervention. Hong Kong is the world's freest market economy. Singapore and New Zealand are also considered market economies.
2. **Planned economy** — this economic system relies on the government (in the **public sector**) allocating resources. It is often associated with a communist political system that strives for social equality. Examples are North Korea, Venezuela and Cuba.
3. **Mixed economy** — as its name suggests, this economic system is a combination of the planned and market economic system, with some resources being owned and controlled by private individuals and firms, while others are owned and controlled by the government in the public sector. Examples are Japan, Italy and Spain.

Hong Kong is widely accepted as the world's freest market economy

Definitions

The **private sector** refers to economic activity of private individuals and firms. The private sector's main aim is to earn profit for its owners.

The **public sector** refers to economic activity directly involving the government, such as the provision of state education and healthcare services. The public sector's main aim is to provide a service.

The market economy is central to **supply-side economics** (see Chapter 28) and the associated gains from free international trade (see Chapter 37).

The Heritage Foundation compiles an annual index of economic freedom for all countries. Hong Kong has topped the league table as the world's freest economy since records began in 1995, with Singapore being ranked second during the same time period (see Figure 13.2).

Figure 13.2 The 'freest' economies

According to the Heritage Foundation, there is a high correlation between a country's level of economic freedom and its standard of living (see Chapter 32). Its research data suggest that market economies substantially outperform others in terms of economic growth, healthcare, education, protection of the environment and the reduction of poverty.

Advantages of the market economic system

The market economic system benefits from the following advantages:

- **Efficiency** — competition helps to ensure private individuals and firms pay attention to what customers want. This helps to stimulate innovation, thereby making market economies more responsive and dynamic.
- **Freedom of choice** — individuals can choose which goods and services to purchase and which careers to pursue, without being restricted by government regulations.
- **Incentives** — the profit motive for firms and the possibility for individuals to

earn unlimited wealth create incentives to work hard. This helps to boost economic growth and living standards in the country.

Disadvantages of the market economic system

The market economic system suffers from the following disadvantages:

- **Income and wealth inequalities** — in a market economic system, the rich have far more choice and economic freedom. Production is geared to meet the needs and wants of the wealthy, thus basic services for the poorer members of society may be neglected.
- **Environmental issues** — there are negative consequences of economic prosperity under the market economic system, such as resource depletion (especially of non-renewable resources), pollution and climate change.
- **Social hardship** — the absence of government control means that public goods (see Chapter 14), such as street lighting, public roads and national defence, may not be provided. Relief of poverty in society might only be done through voluntary charities.
- **Wasteful competition** — competitive pressures can mean that firms use up unnecessary resources, such as excess packaging and advertising clutter, to gain competitive advantages over their rivals. Consumers might be exploited by marketing tactics, such as pester power (see the Activity below). The lack of government involvement could also mean that products are less safe for consumers.

Activity

Pester power is the marketing term used to describe the ability that children have to persuade their parents to make certain purchasing decisions, perhaps by constant nagging or annoyance.

Use the internet to find examples of pester power and be prepared to share your findings with the class.

Study tip

To better understand the contents of this topic, also read Chapters 14 (Market failure) and 15 (Mixed economic system).

The USA is often given as an example of running a market economic system. However, in reality the state and federal governments do get involved in providing some basic services. In effect, the USA is a mixed economic system (see Chapter 15) but with a much larger private sector than many other nations.

Chapter review questions

1 What is meant by an economic system?
2 What are the three main types of economic system?
3 What are the key features of the market economic system?
4 What are the advantages of operating a market economy?
5 What are the disadvantages of operating a market economy?

Exam-style questions

1 Which economic system enables individuals and firms to pursue their own best interests?

[1]

A Command economic system
B Free market economic system
C Mixed economic system
D Planned economic system

2 What is an advantage of the market economic system?

[1]

A Government provision of essential services

B Incentives to work
C Maximum prices
D Minimum prices

Activity

Refer to the countries in Figure 13.2. Research the latest data on the real gross domestic product per capita of these countries. Discuss whether there is a correlation between their real GDP per capita and the level of economic freedom.

Revision checklist

- ✔ An economic system refers to the way in which an economy is organised in terms of how it best allocates scarce resources.
- ✔ There are three main types of economic system: market economy, planned economy and mixed economy.
- ✔ Advantages of the market economy include: efficiency in the use and allocation of resources, freedom of choice and incentives to work.
- ✔ Disadvantages of the market economy include: income and wealth inequalities, environmental degradation, depletion of non-renewable resources, social hardship and wasteful competition.

14 Market failure

By the end of this chapter, students should be able to:
- define the concept of market failure
- explain the causes of market failure
- discuss the consequences of market failure.

Market failure

Market failure occurs when the production and/or consumption of a good or service causes additional positive or negative side-effects to a third party not involved in the economic activity. In other words, the market forces of demand and supply fail to allocate resources efficiently. For example, in a free market the following situations may arise:

- Education and healthcare services are only provided to those who are willing and able to pay, despite the benefits these bring to society as a whole.
- Street lighting and public roads are underprovided as producers cannot exclude those who do not pay from benefiting from the provision of these services.
- Tobacco, alcohol and gambling are overprovided as there is a lack of government intervention to regulate production and consumption levels in these markets.
- Extraction of oil and the construction of office buildings cause damage to the physical environment and a loss of green space.
- Monopolists (see Chapter 23) can abuse their market power, charging customers higher prices or supplying lower quantities than if they were faced with competition.

Private and social costs

The **private costs** of production and consumption are the actual costs of an individual firm, household or government. For example, the driver of a car pays for the insurance, licence, petrol and cost of purchasing the car.

The **external costs** are the negative **spillover effects** (or side-effects) of production or consumption incurred by third parties for which no compensation is paid. For example, a car driver does not pay for the cost of the congestion and air pollution created when driving the car. This is an example of market failure as the private costs (of driving) do not represent the true costs (of driving) to society. The true cost of an economic activity is called the **social cost**.

Definitions

Market failure occurs when the market forces of demand and supply are unsuccessful in allocating resources efficiently and cause external costs or external benefits.

Private costs of production and consumption are the actual costs of a firm, individual or government.

External costs are the negative side-effects of production or consumption incurred by third parties for which no compensation is paid.

Social costs are the true (or full) costs of consumption or production to society as a whole, i.e. the sum of private costs and external costs.

Social costs = private costs + external costs

For example, food production from the raising of cattle and other livestock is blamed for causing about a quarter of all greenhouse gas emissions (which create global warming). Such emissions are becoming an increasing problem and create external costs as people become wealthier and eat more meat.

Other examples of external costs are:

- air pollution caused by fumes from a factory
- noise pollution from a nightclub
- cigarette smoke
- advertising clutter (which causes visual blight)
- litter.

Litter is an example of an external cost

Private and social benefits

Private benefits are the benefits of production and consumption experienced by an individual firm, household or government. For example, a car owner gains the benefit of driving the car and owning a means of private transportation. Similarly, a person who owns a garden enjoys the personal benefits of having green space and plants, flowers and possibly vegetables.

External benefits are the positive side-effects of production or consumption experienced by third parties for which no money is paid by the beneficiary. For example, the sight and smell of a well-kept garden gives pleasure to a neighbour or a person walking past. The plants and trees also absorb carbon dioxide and therefore are good for the natural environment. Other examples of services with external benefits are education, training, law enforcement and vaccinations.

When a person has a vaccination against tuberculosis, for example, they receive the private benefit of being immune to the disease but third parties and society as a whole are also protected from this highly contagious virus. To eradicate diseases, many governments make it a legal requirement for children to be vaccinated against certain diseases before they can start school. Many governments provide vaccines free of charge to children due to the external benefits the vaccinations bring.

This is an example of market failure as there are external benefits to society of vaccination programmes. If vaccinations were left to the choice of individuals, they would be under-consumed, mainly due to the price that would be charged for such vaccinations in the free market. The true benefit of the vaccination is called the **social benefit**.

Definitions

Private benefits are the benefits of production and consumption enjoyed by a firm, individual or government.

External benefits are the positive side-effects of production or consumption experienced by third parties for which no money is paid by the beneficiary.

Social benefits are the true (or full) benefits of consumption or production, i.e. the sum of private benefits and external benefits.

Social benefit = private benefit + external benefit

Another example is training programmes, such as first-aid or coaching skills for employees, which create benefits that can be enjoyed by others in society.

Activity

Discuss with a partner which of the following are examples of products that incur social costs or social benefits. Make sure you can explain your answers to each other.

- Dental health check-ups
- Art museums
- Consumption of soda/fizzy drinks
- Overuse of antibiotics
- A person driving while smoking or eating
- Family planning clinics
- Smartphones

Causes and consequences of market failure

The free market fails to allocate resources efficiently in relation to public goods, merit goods, demerit goods, the abuse of monopoly power and factor immobility. The existence of these things in an economy causes market failure.

Public goods

The private sector fails to provide certain goods and services due to a lack of a profit motive. Such goods and services are known as **public goods**. Examples are:

- street lighting
- road signs
- law and order
- flood control systems
- national defence
- public fireworks displays
- lighthouses
- online search engines
- public roads.

Public goods are non-excludable and non-rivalrous in consumption. This means those who do not pay can still enjoy access to the product and there is no competition to purchase or use the product.

Merit goods

Merit goods are deemed to have social benefits yet are under-provided and under-consumed without government intervention or provision. Consumption of merit goods creates positive spillover effects for a third party. Hence, the social benefits of producing and consuming merit goods outweigh the private benefits. Examples are:

- education
- healthcare services
- vaccinations
- research and development
- work-related training schemes
- subsidised housing
- museums
- public libraries.

Definitions

Public goods are goods and services that are non-excludable and non-rivalrous, and which are a cause of market failure as there is a lack of a profit motive to produce them.

Merit goods are goods or services which when consumed create positive spillover effects in an economy.

Both the public and private sectors of the economy provide merit goods and services. For example, there are private independent schools and people can buy their own private healthcare insurance.

Exam-style questions

1 Explain the difference between public goods and merit goods. [4]

2 Analyse the reasons why a government might choose to provide public goods and merit goods. [6]

Demerit goods

Demerit goods are goods or services which when produced or consumed cause negative spillover effects in an economy. They are a source of market failure because, without government intervention, demerit goods are over-produced and over-consumed. Examples of demerit goods are:

- cigarettes
- alcohol
- recreational drugs
- junk food
- soda/sugary drinks
- gambling.

Definition

Demerit goods are goods or services which when consumed cause negative spillover effects in an economy.

Case study: Social cost of drones

In May 2017, it was reported that over 240 flights were disrupted in southwestern China because of drones interrupting operations at Chongqing Jiangbei International Airport. The drones caused 40 flights to land in nearby cities, over 60 flights had to be cancelled, and another 140 flights were delayed. This affected over 10,000 passengers and was the tenth such case in China over a three-month period.

Activity

Discuss whether you think that drones are demerit goods.

Abuse of monopoly power

The existence of a monopoly market (see Chapter 23) can also cause market failure. Without government control, certain private sector firms could grow to become monopolies and exploit their market power by charging higher prices or reducing supply. In general, profit-maximising monopolists lack incentives to be competitive, so create inefficiencies in the market.

Factor immobility

A final cause of market failure is **factor immobility**. This occurs when it is difficult for factors of production (see Chapter 2) to move or switch between different uses or locations. Factor immobility results in the free market being unable to provide an efficient allocation of resources. For example, capital immobility could be a result of the time and/or costs involved in changing or updating machinery, tools and equipment. There are two types of factor immobility: geographical and occupational.

- **Geographical immobility** — this occurs when it is difficult to move a factor of production from one geographical location to another. For example, workers (labour) might not be willing to move to another part of the country due to family and social ties.

- **Occupational immobility** — this occurs when it is difficult to move a factor of production from one type of work or job role to another. For example, a skills mismatch can lead to structural unemployment (see Chapter 30).

See Chapter 15 to read about government intervention to address market failures.

Case study: The Deepwater Horizon disaster

On 20 April 2010, an explosion on an oil rig owned by the multinational company BP caused approximately 4 million barrels of oil to spill into the Gulf of Mexico. Eleven oil rig workers died in the accident. The impact on the natural environment, people and businesses in the area was immense. Many people, including fishermen, dock workers, restaurant owners and their employees, lost their livelihoods and jobs. The damage to the surrounding coastline and wildlife was dramatic. There were endangered species of turtles and a rare species of sea horse which lived in the area, so measures had to be taken to ensure their survival. Around 100,000 people have attempted to claim compensation from BP and many claims are still unresolved today. BP estimated that total damages would cost the firm $42 billion.

Case study: The Brazilian rainforests

According to Greenpeace, Brazilian supermarkets have banned the sale of meat produced from animals raised in rainforests. This is a move to reduce the amount of rainforest used for pasture for animals and soy plantations.

Activity

Read the case studies on the Deepwater Horizon disaster and the Brazilian rainforests and identify as many examples of market failure and economic concepts as possible.

Activity

Discuss whether it is sustainable for supermarkets to put the planet before their own profits.

Exam-style question

Which item is not a public good?

[1]

A Lighthouse
B Museum
C Public road

D Street lighting

Chapter review questions

1 When and why does market failure occur?
2 Give three examples of market failure.
3 What are the differences between private external and social costs?
4 What are the differences between private external and social benefits?
5 What are public goods?
6 What are the differences between merit and demerit goods?
7 What are the social benefits of public provision of education?
8 What is meant by the abuse of monopoly power?
9 How does factor immobility cause market failure?
10 Distinguish between occupational and geographic mobility.

Revision checklist

- ✔ Market failure occurs when the production and/or consumption of a good or service causes positive or negative side-effects to a third party.
- ✔ Private costs (of production and consumption) are the actual costs of an individual firm, household or government.
- ✔ External costs are the negative spillover effects (or side-effects) of production or consumption incurred by third parties, without any compensation paid.
- ✔ The true cost of an economic activity is called the social cost, which comprises both private and external costs.
- ✔ Private benefits are the benefits of production and consumption experienced by an individual firm, household or government.
- ✔ External benefits are the positive side-effects of production or consumption experienced by third parties.
- ✔ The true value of an economic activity is called the social benefit, which comprises both private and external benefits.

- ✔ Causes of market failure include: public goods, merit goods, demerit goods, abuse of monopoly power and factor immobility.

15 Mixed economic system

By the end of this chapter, students should be able to:

- define the mixed economic system
- explain maximum and minimum prices
- discuss government intervention to address market failure.

Mixed economic system

The **mixed economic system** is a combination of both the planned economy and the market economy. The degree of public and private sector involvement in economic activity is determined by the government. Essential services, such as state education, healthcare and postal services, are provided by the public sector. The government exists to redistribute income and wealth by providing unemployment benefits and state pensions, for example. In the private sector, profit acts as the motive for firms to provide the goods and services demanded by consumers.

In the UK and France, the public sector accounts for around 45 per cent of their respective gross domestic product (GDP), so both are good examples of mixed economies. Other examples are Australia, Iceland, Sweden and Italy.

The mixed economic system achieves the best of both the planned and market economic systems (see Chapter 13). For example, necessary services are provided for everyone while most other goods and services are competitively marketed. Producers and workers have incentives to work hard, to invest and to save. There is large degree of economic freedom with plenty of choice for private individuals and firms.

The disadvantages of the extreme economic systems also apply to the mixed economy. For example, consumers still pay higher prices due to the profit motive of private sector businesses. Public sector activities must also be funded by taxes and other government fees and charges.

Exam-style questions

The Economist Intelligence Unit rankings of the world's top education systems, which combine international test results and data such as graduation rates, showed that two contrasting economies topped the league table: Finland and South Korea. The report concluded that while the amount of spending on education is important, it is less influential than an economy having a culture that is supportive of learning. Education in Finland is 100 per cent state funded and is rather unorthodox given that students don't start schooling until 7 and rarely have tests or homework until their teenage years. In South Korea, education is crucial for success, so there are huge pressures placed on students, who start school aged 3. Testing is regular and rigorous, making after-school private tuition classes extremely popular.

According to the report, the top 10 countries were ranked as follows:

1. Finland
2. South Korea
3. Hong Kong
4. Japan
5. Singapore
6. UK
7. Netherlands
8. New Zealand
9. Switzerland
10. Canada

a Explain how scarce resources are allocated in a mixed economy. [4]

b Discuss whether education should be funded by the government. [8]

Study tip

Rarely do countries fall perfectly into the categories of planned and market economies. In reality, most countries tend be mixed economies with a stronger element of either command or free-market policies.

Activity

Use the internet to find relevant economic data for two different countries (for example, North Korea and Hong Kong) to distinguish between the two main types of economic system. You might also find it useful to look at newspaper articles on current topics related to economic systems.

Maximum prices

A **maximum price** is a method of price control which involves the government setting the price *below* the market equilibrium price in order to make products more affordable and encourage consumption. It is also used to protect the interest of consumers from soaring prices, such as escalating rents or higher food prices.

Definition

A **maximum price** occurs when the government sets a price *below* the market equilibrium price in order to encourage consumption.

In Figure 15.1, the imposition of a maximum price of P_2 (below the market equilibrium price of P_e) reduces supply to S_1, while demand expands to D_1. This results in excess demand for the product — in other words, there is a shortage.

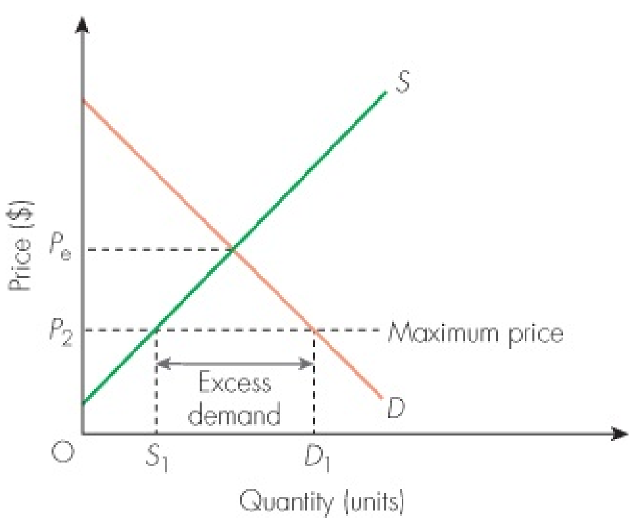


Figure 15.1 Imposition of a maximum price

Consumers can benefit from the lower price after the imposition of the maximum price. For example, they can benefit from the lower prices of food products or rent on housing. For exporters, a maximum price imposed on the exchange rate (see Chapter 38) can help to improve their international competitiveness.

However, price ceilings distort market forces and therefore can result in an inefficient allocation of scarce resources. For example, a maximum price to control residential rents would result in more demand (D_1) than is supplied at the lower price (P_2). This results in excess demand, as was shown in Figure 15.1. This shortage is made up by government supplying housing at a price of P_2 to stabilise rents in the economy.

In product markets, one drawback of imposing maximum prices is that they can cause unofficial or parallel markets to appear due to the resulting shortages in supply.

Minimum prices

A **minimum price** refers to the imposition of a price guarantee set *above* the market price to encourage supply of a certain good or service. For example, farmers could be offered prices above the market equilibrium to boost supply of agricultural output. Alternatively, workers could be offered a wage rate higher than the market rate to create incentives to work or to enable them to earn a liveable minimum wage.

Definition

A **minimum price** occurs when the government sets a price above the market equilibrium price in order to encourage output of a certain good or service.

In Figure 15.2, a minimum price is offered to agricultural farmers, giving them an incentive to supply more (S_1) than the market equilibrium (Q_e). At a price higher than the equilibrium, demand contracts from Q_e to D_1, but supply extends to S_1. This results in excess supply, as shown by the shaded area. The surplus is bought at a price of P_2 by the government to support the agricultural farmers, and released on to the market during times of bad harvests to stabilise food prices.

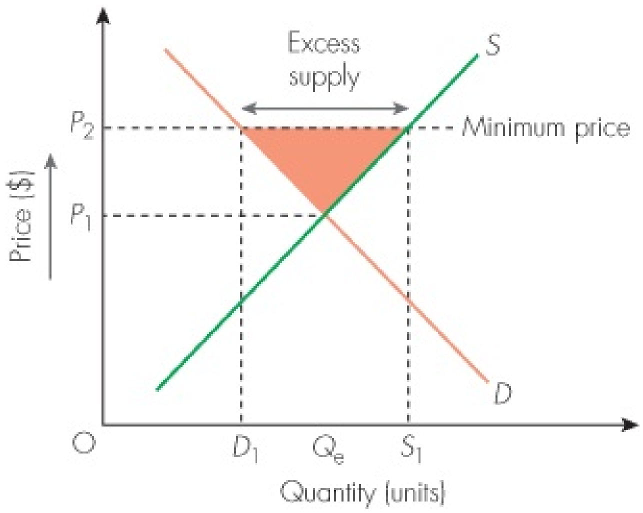


Figure 15.2 Imposition of a minimum price

This also applies in the labour market, where more workers supply their labour services if there is a minimum wage (see Figure 15.3). The national minimum wage (NMW) is imposed above the equilibrium wage rate, to ensure all workers have a decent liveable income. However, this results in the supply of labour (S_L) exceeding the demand for labour (D_L). The NMW results in higher costs of labour, which causes unemployment.

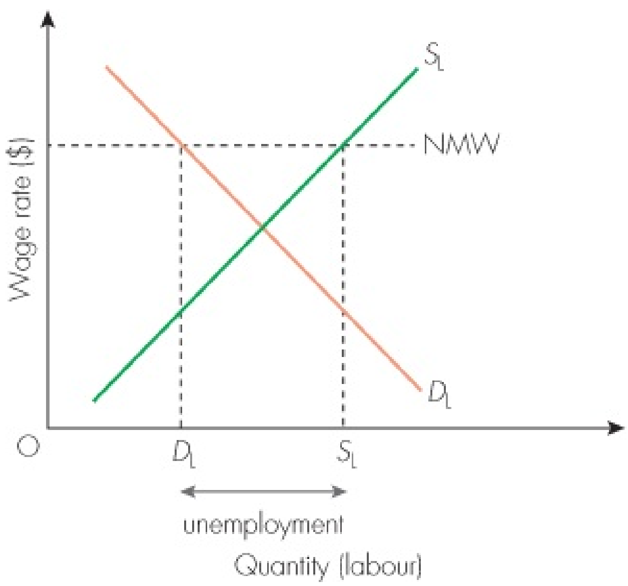


Figure 15.3 Consequences of a minimum wage in the labour market

Study tip

Whether an NMW causes unemployment is debatable and empirical studies are not conclusive. The higher wage rate fuels consumption in the economy, thereby creating employment opportunities in the long run. The government might also have other priorities, including to correct market failure in the labour market, such as the exploitation of low-skilled labour, to combat poverty in the economy or to create greater incentives to work.

Government intervention to address market failure

In addition to using maximum and minimum prices to correct market failures, governments can also use a combination of other methods: indirect taxation, subsidies, regulation, privatisation, nationalisation, and direction provision of goods and services.

Indirect taxation

One way to solve market failure is to place an indirect tax (see Chapter 26) on demerit goods, such as cigarettes, with the aim of reducing demand for these products.

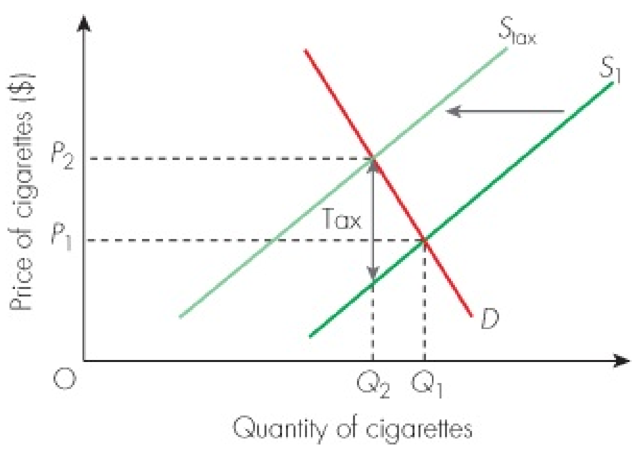


Figure 15.4 The impact of an indirect tax on cigarettes

In Figure 15.4, the indirect tax imposed on a packet of cigarettes causes the supply curve to shift from S_1 to S_{tax}. As a result, price increases from P_1 to P_2 and the quantity of cigarettes demanded decreases from Q_1 to Q_2. The demand for cigarettes tends to be price inelastic (see Chapter 11) and therefore the percentage change in quantity demanded is less than the percentage increase in price. This means the tax has to be very high to have any impact on reducing the consumption of cigarettes.

Study tip

Remember that the level of taxation is measured by the vertical distance between the two supply curves. The consumer pays the increase in price ($P_2 - P_1$) and the producer pays the remainder. The more price inelastic the demand for the product, the greater the proportion of the tax paid by the consumer.

The advantages of imposing an indirect tax on a good or service include the following:

- It increases the price, so should reduce the quantity demanded.
- It generates tax revenue for the government which can be used to fund important goods and services.

The disadvantages of imposing an indirect tax on a good or service are as follows:

- The demand for cigarettes, alcohol and petrol (gas for a car) tends to be price inelastic, which means that the increase in price may have little impact on the consumption level of many people. In the case of cigarettes, the nicotine in cigarettes makes smoking highly addictive and therefore most smokers will pay the higher price, so consumption will change only slightly.
- The indirect tax will be regressive (see Chapter 26), so will have a greater impact on low income earners than high income earners.

Exam-style questions

Traffic congestion in central London has fallen since the introduction of a congestion charge for driving into the central business district. It costs £11.50 (approximately $15) each day to drive into the restricted area during peak hours (between 7 a.m. and 6 p.m. on weekdays). There is a penalty of between £65 (around $85) and £195 ($250) for late payment of the charge.

a Explain, using an example, an external cost of driving a car. [2]

b Analyse the advantages and disadvantages of the congestion charge for two different stakeholders.

[6]

c Discuss whether you think the congestion charge is a long-term or short-term solution to the problem of traffic congestion in London.

[8]

Subsidies

Governments often provide subsidies to encourage the consumption of certain goods and services. For example, public transport might be subsidised to discourage people from using private cars. Figure 15.5 shows the impact of a subsidy on the market for public transport. The bus and railway firms receive a sum of money from the government which lowers their production costs and causes the supply curve to shift from S_1 (before subsidy) to S_2 (after subsidy). Price falls from P_1 to P_2 and the quantity demanded increases from Q_1 to Q_2. An increase in the use of public transport should lower congestion, and reduce the amount of pollution caused by driving cars. Therefore, the subsidy reduces external costs created by driving.

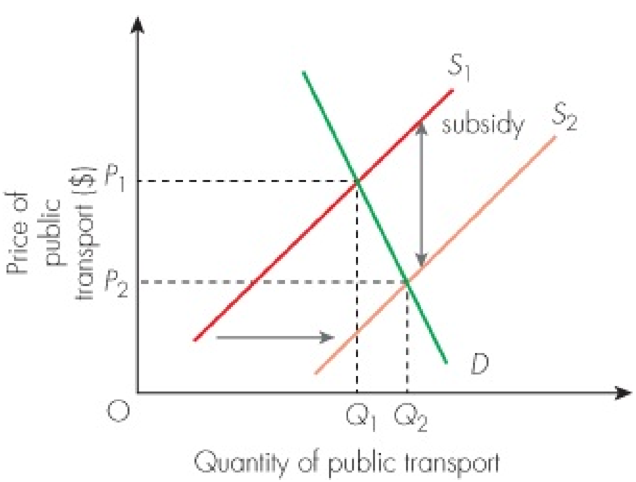


Figure 15.5 The effects of a producer subsidy

Study tip

The level of a subsidy is measured by the vertical distance between the two supply curves. The producer receives payment from the government and passes some of this income to consumers in the form of lower prices (shown by the distance between P_1 and P_2 in Figure 15.5) and keeps the remainder.

Case study: Flu vaccines in Hong Kong

The Hong Kong government subsidises the cost of annual flu vaccines for the very young and the elderly to encourage people in high-risk age groups to get vaccinated. The aim is to reduce the amount of flu in the wider community by targeting these age groups, so that fewer people need to be hospitalised for the treatment of flu. Vaccinations create positive spillover effects for the rest of the economy and result in less pressure on healthcare services.

Rules and regulations

Governments can also impose rules and regulations in an attempt to solve market failure. For example, imposing laws on the minimum age that people must be before they are legally allowed to purchase cigarettes or alcohol may reduce the consumption of such demerit goods. Laws can also restrict where people can smoke. In many countries, smoking is banned in public places such as shopping centres, bars, restaurants, airports, railways stations and even at the beach.

Laws restrict where people are allowed to smoke

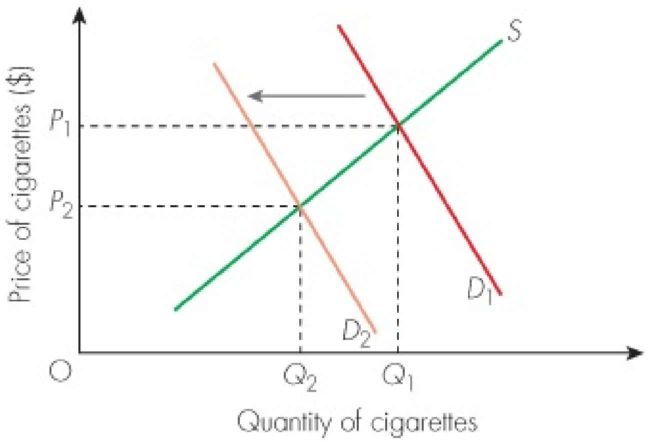


Figure 15.6 Impact of rules and regulations on the demand for cigarettes

Figure 15.6 illustrates the impact of a ban on smoking in public places. The inconvenience causes the demand curve for cigarettes to shift to the left from D_1 to D_2, resulting in the quantity of cigarettes demanded falling from Q_1 to Q_2.

Other examples of laws and regulations imposed to correct market failures are:

- laws regulating where people can drive, cycle and gamble
- regulations imposed to make sure children are vaccinated against certain diseases
- laws making it illegal for people to eat or to talk on a mobile phone while driving
- motorcyclists being made to wear a helmet and car passengers having to wear seat belts
- airport authorities regulating the number of night flights.

Activity

If alcohol has negative spillover effects, discuss why more countries do not ban the sale of alcohol.

Case study: Compulsory education

Parents in the UK are fined if they do not send their children to school. This rule is designed to improve the uptake of education. Since 2015, full-time education in the UK has been compulsory for children up to 18 years of age.

Activity

Investigate the laws and regulations in your country that are used to correct market failures. How effective have these laws and regulations been?

The advantages of imposing rules and regulations to correct market failures are as follows:

- Consumption of the good or service may be reduced.
- Awareness of the negative impacts of demerit goods (such as drinking and driving) can help to change the behaviour of people in the long term.
- Awareness of the positive impacts of consuming merit goods (such as education) is raised.

The disadvantages of imposing rules and regulations to correct market failures are as follows:

- Restrictions cause underground (illegal) markets to provide the good or service, often at a very high price.
- The government has no control over the quality of the goods produced in underground markets, which in some cases can be dangerous for consumption — for example, illegally distilled vodka or tainted baby milk powder.
- People break the rules — for example, under-age smokers and alcohol drinkers can bypass the law by obtaining false ID cards.
- The fine or punishment for ignoring the rules and regulations must be enforced and set sufficiently high to discourage consumption of the good or service.

Education

To correct market failures, the government can insist that schools educate students about the negative side-effects of smoking and passive smoking. In many countries, cigarette packets must carry a government health warning which clearly explains the dangers of smoking. The Australian government has made it a legal requirement for cigarettes to be sold in packets covered with negative images about smoking (see below). The images are graphic with the aim of educating and shocking people in order to discourage them from smoking. If these methods are successful, the raised awareness of the dangers of smoking should reduce the demand for cigarettes (or any other demerit good).

Cigarettes in Australia are sold in identical olive-brown packets with the same typeface and covered with graphic images and health warnings. In the UK, a ban on tobacco products being displayed in shops came into effect in 2012

Another example is the government using informative advertising and education to explain the benefits of eating at least five portions of fruits and vegetables each day. In Figure 15.7, the demand curve for fresh fruit and vegetables shifts from D_1 to D_2 and the equilibrium quantity increases from Q_1 to Q_2. Healthier people in the economy should mean less absence from work and school, resulting in improved productivity. Therefore, healthy eating produces an external benefit for society.

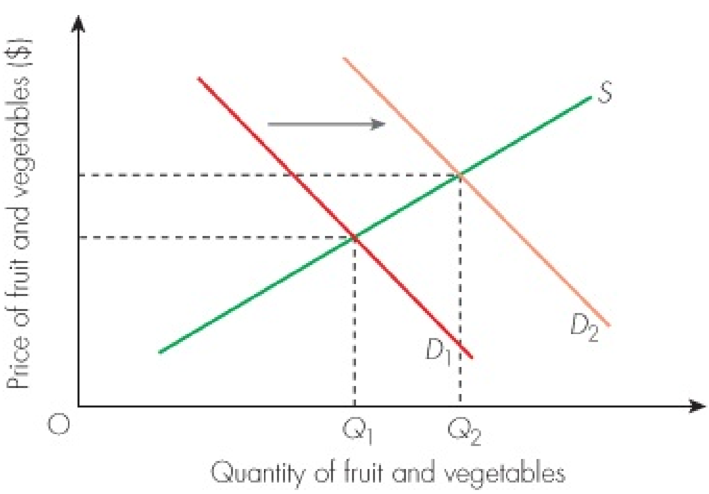


Figure 15.7 The impact of positive advertising on demand for fruit and vegetables

Schools around the world educate students about issues such as healthy eating, the negative impacts of driving gas/petrol-fuelled cars and the importance of conserving energy and recycling. Regulating such educational programmes should change the pattern of demand, thus helping to correct market failures.

Activity

Consider whether smoking is a problem in your country. Assess the degree of effectiveness of the measures taken by the government to reduce the number of smokers. What possible improvements could be made to the current situation? Take action by writing a letter to a local politician or a newspaper explaining your suggestions.

Privatisation and nationalisation

Privatisation refers to the transfer of the ownership of assets from the public sector to the private sector. For example, Hong Kong's MTRC was wholly owned by the government, but was privatised on 5 October 2000, raising U$1.22 billion from the sale to shareholders. This decision was part of the government's plan to wind down its interest in public utilities.

Definition

Privatisation is the transfer of the ownership of assets from the public sector to the private sector.

Case study: Privatisation in Hong Kong

The MTR Corporation Limited is a publically listed company on the Hong Kong Stock Exchange. The MTRC operates Hong Kong's railway services, as well as being a major property developer. The company was privatised in October 2000, having raised HK$9.4 billion (US$1.22bn) in its initial public offering. The MTRC also has investments in railways in Beijing, Hangzhou, London, Melbourne, Shenzhen, Stockholm and Sydney.

Advantages of privatisation include the following:

- The ability to earn one-off privatisation proceeds from the sale of state-owned assets.
- Privatisation helps to reduce government debt in three ways: the government no longer has to maintain the operation of state-owned enterprises, it earns revenue from the sale of the privatised business, and the private sector firm pays corporate taxes.
- It also reduces costs to taxpayers, who no longer have to pay to finance the operations of the business.
- Private sector businesses have the incentive to improve efficiency, as they need to remain competitive. This can also promote an enterprising culture of risk-taking and innovation.

Disadvantages of privatisation include the following:

- The process creates a private sector monopolist, which is not always a positive outcome for customers, who will face higher prices.
- To protect the public interest, privatisation may still require government regulation and intervention.
- There is a trade-off (opportunity cost) as state-owned enterprises can provide social benefits, such as education, housing, postal services and public transport.

Activities

1. In small groups, discuss whether countries should privatise their postal services and telecommunications services in the digital twenty-first century.
2. Do you think that all schools and universities in your country should be privatised? Consider the impact of privatising education on different stakeholders: consumers, workers, firms, the government and the economy (society) as a whole.

Despite the arguments in favour of privatisation, the 2008 global financial crisis caused many banks to be bailed out (nationalised), making nationalisation popular again as a method of correcting market failure and inefficiencies in the economy. **Nationalisation** is the purchase of private sector assets by the government, bringing them into the ownership and control of the public sector.

This can protect employment and promote economic stability in key industries. Industries that are usually nationalised include public transport, telecommunication networks, energy, utilities and natural resources. There is a rather large opportunity cost, however. For example, according to the *Guardian*, the UK spent around 20 per cent of its GDP on bank bailouts following the global financial crisis.

Definition

Nationalisation is the purchase of private sector assets by the government.

Direct provision

In many countries, governments provide certain goods and services free of charge to their citizens, even though people may have indirectly paid for these through income tax. Examples are: education, healthcare, public libraries, parks, museums, public roads and motorways (highways), garbage or refuse collection, street lighting, street signs and national defence.

Battleships are funded by the public sector from its national defence budget. HMS *Belfast* was used during the Second World War but has been decommissioned now and is used as a museum

There is a conflict between the provision of goods and services directly to people and asking them to pay for the goods and services. The law of demand (see Chapter 7) dictates that as the price of a good or service rises, less will be consumed. Healthcare and education are under-consumed in some countries because people cannot afford to pay. This has a negative effect on the quality of their lives in the short term, and in the long term causes a potential decrease in life expectancy and earning potential. This has a negative impact on the whole of society as human resources are not being used to their full capacity.

The advantages of direct government provision of goods and services are as follows:

- The goods and services are accessible to all people in society, regardless of their income or social status.
- Consumption of the good or service has private benefits for the individual and external benefits for third parties in society.

The disadvantages of government provision of goods and services are as follows:

- There is an opportunity cost as the money could have been spent on something else, such as paying off government debt or possibly reducing rates of taxation.
- Goods and services which are free of charge may be over-consumed, so long queues or shortages may arise — for example, the waiting list for hip replacement operations in a government hospital may be very long.
- In the case of a shortage of supply caused by excess demand, it can be difficult to decide who should be able to take advantage of the free government service.
- Some people (known as **free riders**) are able to take advantage of free goods and services without contributing to government revenue by paying taxes.

Chapter review questions

1. What is meant by a mixed economic system?
2. What are the advantages and disadvantages of operating a mixed economic system?
3. What is meant by a maximum price, and why might governments impose this?
4. What is meant by a minimum price, and why might governments impose this?
5. Why might a national minimum wage, set above the market equilibrium, cause unemployment?
6. How does indirect taxation work to correct certain market failures?
7. How might subsidies be used to correct certain market failures?
8. How might the use of rules and regulation help to correct certain market failures?
9. How might the use of education and advertising reduce the

consumption of cigarettes?

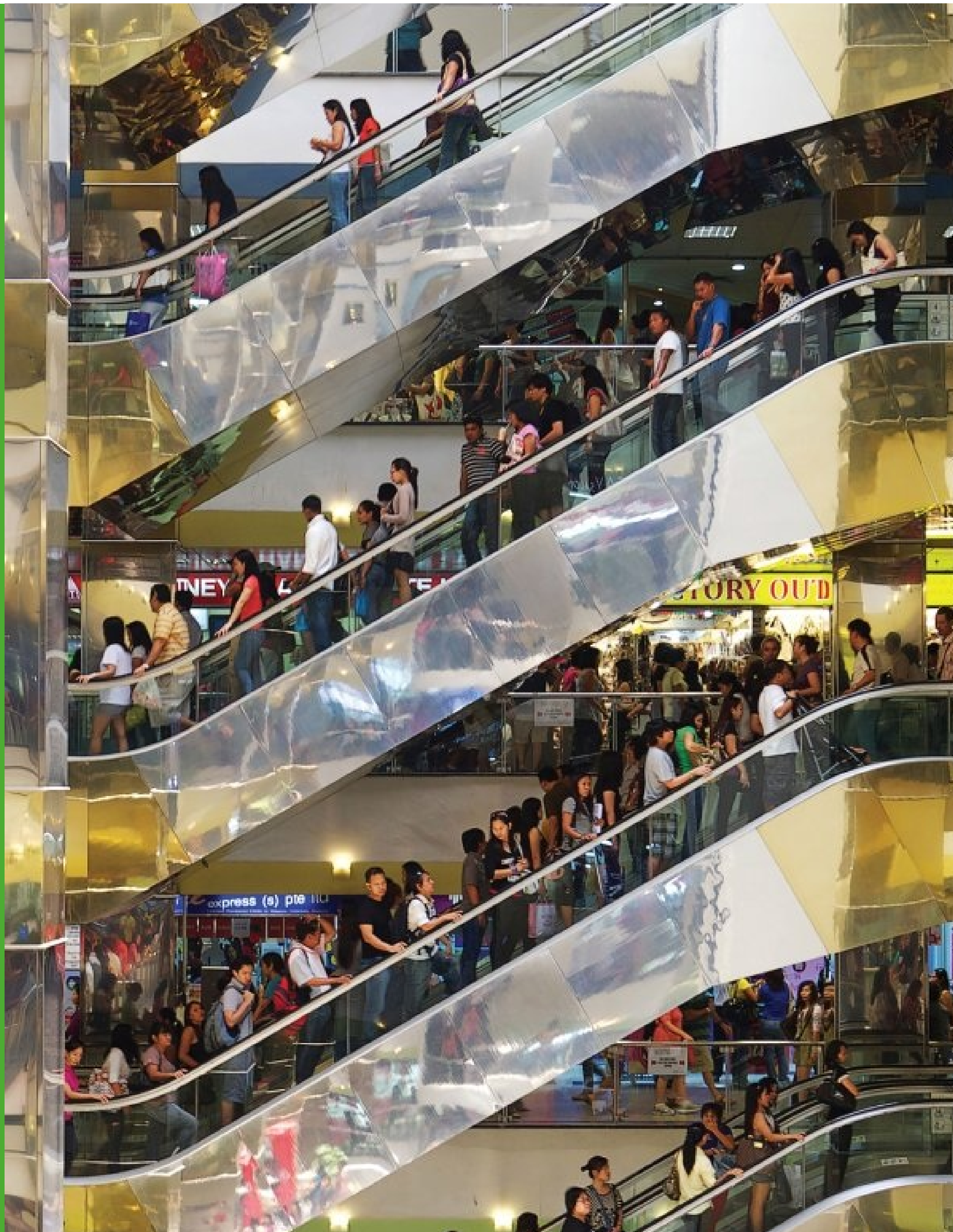
10 What is the difference between privatisation and nationalisation with regard to the correction of market failure?

Revision checklist

- ✔ The mixed economic system is a combination of both the planned economy and the market economy.
- ✔ A maximum price is a price control system that involves setting the price below the market equilibrium price in order to make products more affordable.
- ✔ A minimum price is the imposition of a price guarantee set above the market price to encourage supply of a certain good or service.
- ✔ Excess supply occurs when a minimum price is imposed above the market equilibrium price, as supply exceeds demand at higher prices.
- ✔ Consumers tend to pay higher prices if minimum prices are imposed.
- ✔ An indirect tax causes costs of production to increase, thereby shifting the supply curve of demerit goods to the left. This results in a higher equilibrium price and a contraction in demand.
- ✔ Subsidies can be used to lower the cost of providing merit goods and services. This helps to cut prices and encourage demand for such socially beneficial products.
- ✔ Rules and regulation can limit access to certain goods and services that have negative externalities, such as tobacco, alcohol and gambling.
- ✔ Privatisation is the transfer of the ownership of assets from the public sector to the private sector. It can help to correct market failures by making resource allocation more efficient as the private sector has incentives to be innovative and competitive.
- ✔ Nationalisation is the purchase of private sector assets by the government, bringing these into the ownership and control of the public sector. This can protect employment and promote economic stability in key industries.

SECTION 3

Microeconomic decision makers



Chapters

18 Workers

19 Trade unions

20 Firms

21 Firms and production

22 Firms' costs, revenue and objectives

23 Market structure

The micro economy is a vital area of study of economics. This section looks at the role of the major decision makers in the micro economy: households, workers, trade unions, banks and firms. Hence, topics studied in this section of the syllabus include: money and banking; influences on household spending, saving and borrowing; factors affecting an individual's choice of occupation; wage determination and wage differentials; the division of labour/specialisation; the role of trade unions in the economy; the various classification of firms; economies/diseconomies of scale; production and productivity; and market structures. Students will also be expected to carry out basic calculations of costs and revenues.

16 Money and banking

By the end of this chapter, students should be able to:

- understand the forms, functions and characteristics of money
- explain the role and importance of central banks
- explain the role and importance of commercial banks.

The meaning of money

Money refers to any commodity that can be used as a **medium of exchange** that is widely accepted for the purchase of goods and services. In today's modern society, money includes officially issued banknotes and coins (collectively called **legal tender**), gold and bank account deposits.

Definition

Money is any commodity that can be used as a medium of exchange for the purchase of goods and services, e.g. banknotes and coins.

Forms of money

Money, being a medium of change, can take different forms. Commodities such as cloth, shells and even salt have all been used as money in the past in different parts of the world. Today, the main forms of money include the following:

- **Cash** — banknotes and coins are a physical form of money. While cash is convenient for many transactions, it is inconvenient and risky to use cash for larger transactions. Hence, in the UK, for example, cash accounts for less than 3 per cent of the country's total money supply.
- **Bank deposits** — these are money reserves placed in commercial bank accounts. This form of money accounts for the vast majority of all money in modern economies. Commercial bank money is in electronic form, rather than physical form. Instead of carrying large amounts of cash, customers use credit and debit cards or make online bank transfers, which allow money to be

transferred electronically between bank accounts.

- **Central bank reserves** — these consist of the money held by the central bank and used by commercial banks to make payments between themselves. Like bank deposits, central bank reserves are electronic forms of money, rather than existing in physical form.

Study tip

Money is not simply cash (notes and coins) in circulation. In fact, most of an economy's money exists not in the form of cash, but as bank deposits and reserves.

Functions of money

There are four key functions of money:

- Money acts as a **medium of exchange** — money functions as a way to conduct trade. It is widely recognised and accepted as a means of payment for goods and services.
- Money is a **measure of value** (or **unit of account**) — it measures the market value of different goods and services. It is far more efficient for trading purposes to express the price of goods and services in dollars (or other currency) rather than using products such as cloth, shells, salt or livestock — all of which were ancient forms of money.
- Money is a **store of value** — it can be stored and used at some time in the future. In other words, money must be able to hold its purchasing power over time. Money therefore gives firms and households flexibility in the timing of their sales and their purchases, thus removing the urgency to trade straightaway.
- Money is a **standard of deferred payment** — this means that money is used as the standard for future (deferred) payments of debt. For example, loans taken out today are repaid in the foreseeable future. Thus, money is used as the standard to pay off debts.

Activity

To appreciate the need for money, try to explain why many economists argue that the invention of money is certainly one of the greatest inventions of all time.

Characteristics of money

Money has certain characteristics:

- **Durability** — money, such as banknotes and coins, should be fairly long lasting yet easily replaced if it becomes worn. A typical US dollar bill can be folded forward and back around 4000 times before it will tear. According to the USA's Federal Reserve, the typical $50 bill and $100 bill last 9 years before they need replacing and its coins survive in circulation for about 30 years. Modern-day banknotes are made from polymer rather than paper. Polymer banknotes, first introduced in Australia in 1988, are significantly more durable and are used extensively in many countries, including Bermuda, New Zealand, Romania and Vietnam.

Polymer banknotes are widely used in Singapore, Brunei, Hong Kong and Australia

- **Acceptability** — money is widely recognised and accepted as a medium of payment for goods and services. Legal tender is the official money of a country (such as Canada's dollar or the UK's pound sterling). Other forms of money might also be accepted, such as tourists using US dollars. Gold is universally accepted as a form of money. By contrast, the Zimbabwean dollar ceased to be accepted as a medium of exchange in 2009 when the country, which was suffering from civil unrest, experienced hyperinflation (see the case study).

Gold is universally accepted as a form of money

Case study: Hyperinflation in Zimbabwe

In October 2008, Zimbabweans needed Z$2,621,984,228 to purchase 1 US dollar worth of goods. Hyperinflation peaked a month later in November 2008 when average prices in Zimbabwe rose by 79,600,000 per cent within a month.

- **Divisibility** — as money is a measure of the value of goods and services, it must be divisible. Many economists and historians believe that cattle are the oldest form of money, with cows being used for trade as far back as 9000 BC. Cattle were still being used as money in some African nations during the latter half of the twentieth century. However, cattle and livestock are not ‘useful’ forms of money as they are not truly divisible (a third of a cow is not really useful for any trader!).
- **Uniformity** — for money to be easily recognisable there must be uniformity. This means that all $50 banknotes will look identical in terms of shape, size

and design. The same applies to all legal tender denominations of banknotes and coins. Cows come in many sizes and shapes and each has a different value; cows are not a uniform form of money. The first consistent form of money, cowry shells, was used in China over 3200 years ago. These seashells were used mainly for trading food, livestock and textiles.

- **Scarcity** — money must be limited in supply in order to keep its value. Both seashells and salt have been used as money in the past, although the high levels of supply meant they soon lost much of their value as a medium of exchange. By contrast, silver and gold are better types of money due to their scarcity. The supply of money, including banknotes and coins, is regulated by the country's central bank so that the money retains its value over time by being relatively scarce.

Cowry shells were used as money in sixteenth-century China

- **Portability** — money must be conveniently portable. For example, the approximate weight of a banknote, regardless of its denomination, is just 1 gram. While almost every country uses government-issued banknotes and coins as their official currency, there are other forms of money. For example, money in bank accounts and the use of credit cards enable payment to be made electronically, without the customer having to use physical cash. The first coins used as money appeared around 2000 BC. In those days, the value of coins was determined by their weight, which hindered their effectiveness as money due to the difficulties of portability.

Activities

1 Use the internet to find out about the hyperinflation experienced in Zimbabwe, which lasted around 5 years.

   a Why did the Zimbabwean dollar cease to be used as money?

   b Why do many Zimbabweans today still prefer to use currencies from other nations, such as the US dollar?

2 Discuss with a partner or as a class why the following products would not make ‘good’ money. Try to rank the products in order of how many functions and characteristics of money they meet. Remember to justify your answers.

   a Milk

   b Cloth

   c Fish

   d Cigarettes

In the absence of money, people have to use a barter system in order to trade goods and services. **Bartering** is the act of swapping items in exchange for other items through a process of bargaining and negotiation. For example, someone might trade five sacks of rice for one cow, or four chickens for a sheep.

Definition

Bartering is the act of swapping items in exchange for other items through a process of bargaining and negotiation, due to the absence of money in the economy.

- The key problem with a barter system is the need for a **double coincidence of wants** — that is, the person with chickens must find a trader who wants four chickens in exchange for a sheep. As two people engaged in a transaction must both want what the other person is offering, bartering is highly inefficient.
- A second problem with bartering is that of divisibility — half a sheep or two-thirds of a chicken is not very useful for traders.
- A third problem is that of portability — compare the portability of a sheep or fish with that of paper money (banknotes).

Hence, due to the problems associated with bartering, countries around the world eventually developed the use of commodity money, such as cowry shells, grain and cloth. For much of history, precious metals such as gold and silver have served a monetary role.

This print shows Scandinavian and Russian traders bartering their wares

Activity

Bartering still takes place in some parts of the world today. Discuss with a partner the problems associated with bartering as a means of trade and exchange in your country.

Exam-style questions

a Define the term ‘bartering’.

[2]

b With reference to the functions of money, analyse why bartering is an ineffective method for trading.

[6]

The functions of central banks

The **central bank** of a country is the monetary authority that oversees and manages the nation's money supply and banking system. Examples of central banks include the European Central Bank (for the Eurozone countries), the USA's Federal Reserve, the Bank of England, the People's Bank of China and the Reserve Bank of India. These banks are responsible for overseeing the **monetary policies** (see Chapter 27) of their respective countries, including being responsible for the nation's entire money supply and the manipulation of interest rates to affect the economy.

Definition

The **central bank** of a country is the monetary authority that oversees and manages the economy's money supply and banking system.

Case study: The Federal Reserve

The Federal Reserve (also known informally as the 'Fed') is the central bank of the USA. It was formed in December 1913, mainly in response to financial crises around that time. The shareholders of the Federal Reserve are mainly the major banks in the USA, although the exact shareholdings are not made public. According to its educational website:

- The dollar was officially used as the USA's unit of currency in 1785, although the first dollar coin was issued in 1782.
- The Federal Reserve produces approximately 26 million banknotes each day, with a face value of around $907 million.
- Over 90 per cent of currency used in the USA comprises Federal Reserve banknotes.
- The Secret Service was created during the USA's Civil War to fight against counterfeit money.
- It costs the US government only about 6.4 cents to produce each banknote.
- The average lifespan of a Federal Reserve $1 bill is just 21 months, whereas the lifespan of a $100 banknote averages 7.5 years.

Source: adapted from www.federalreserveeducation.org

Activity

What interesting facts and figures can you find out about the central bank in your country?

Central banks tend to have the following four key functions:

- **The sole issuer of banknotes and coins** — in almost every country, the central bank has the sole rights to issue legal tender in its own country — that is, it is the only authority that can print banknotes and mint coins. This helps to bring uniformity to and improves public confidence in the country's monetary system. One rare exception to this function is Hong Kong, where three commercial banks (Standard Chartered, HSBC and Bank of China) have note-issuing rights, although the Hong Kong Monetary Authority maintains overall control of the banking system, including the circulation of banknotes and coins.
- **The government's bank** — the central bank operates as a banker to the government, performing the same functions as a commercial bank does for its customers. Hence, as the government's bank, it maintains the bank accounts of the central government such as receiving deposits from government, making short-term loans to the government and making payments for items of government expenditure (see Chapter 26). The central bank also manages public sector debt and represents the government in international financial markets such as foreign exchange. This has become an important function of central banks because such intervention can help to stabilise the external value of a nation's currency (see Chapter 38).
- **The bankers' bank** — the central bank acts as the bank for other banks in the country. This function includes overseeing the cash reserves of commercial banks. This means that all banks in the country must have their accounts with the central bank, enabling the central monetary authority easily to manage the claims made by banks against each other. For example, payment made by a Citibank customer writing a cheque to another customer with an HSBC account goes through the central bank's clearing system — that is, the central bank debits the account of the Citibank customer and credits the account of the HSBC customer. This function of the central bank reduces the need for cash withdrawals, thus enabling commercial banks to function more efficiently. In addition, it also allows the central bank to have a better overview of the liquidity position (the ability to convert assets into cash) of the country's commercial banks.

- **The lender of last resort** — given that the authorities require all commercial banks to keep a certain percentage of their cash balances as deposits with the central bank, these cash reserves can be used by the country's banking system during financial emergencies. This function helps to build public confidence in the country's banking system. For example, if a certain commercial bank faces temporary financial difficulties, it can, as a last resort, seek financial assistance from the central bank. This helps to ensure the commercial bank does not collapse, protects jobs and safeguards the nation's banking system and economic welfare.

Case study: Bank bailouts

A **bailout** refers to a loan or financial assistance provided to a company (or country) which faces major financial difficulties or the threat of bankruptcy. The global financial crises of 1997 and 2008 caused the collapse of hundreds of banks all over the world, over a number of years. The financial bailout by central banks was seen as a necessity to prevent job losses and socioeconomic failures on a mass scale.

Central banks can do this through various means, such as providing subsidies or low-interest loans to commercial banks in need of liquidity (cash assets). Bailouts in Indonesia (1997) and Cyprus (2012) proved to be the most expensive in economic history, with the latter country spending $10 billion bailing out its banks — this represents a huge 56 per cent of Cyprus's $18 billion GDP (see Figure 16.1).

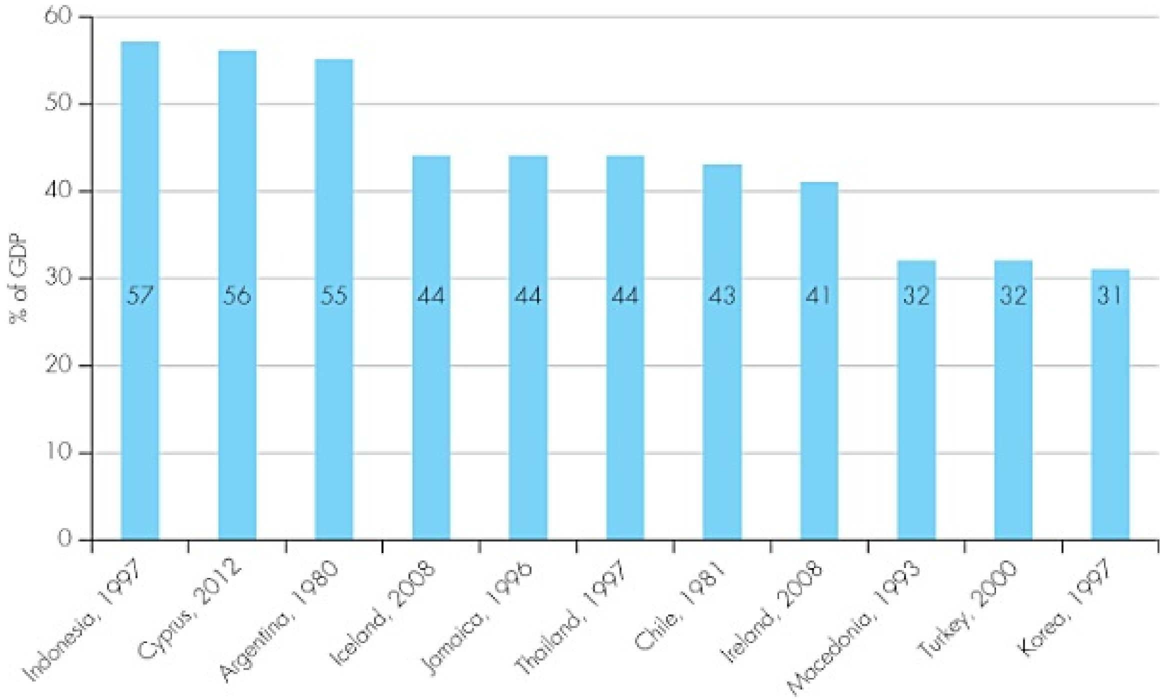


Figure 16.1 The biggest bank bailouts as a percentage of GDP

Activities

1 Discuss as a group the reasons for and against central banks bailing out commercial banks facing a financial emergency.

2 Produce A3 coloured posters of the arguments for and against financial bailouts and use these as classroom displays.

Commercial banks

A **commercial bank** is a retail bank that provides financial services to its customers, such as accepting savings deposits and approving bank loans or mortgages. Examples of commercial banks are shown in Table 16.2. All commercial banks are responsible for maintaining the deposits of their account holders. Their transactions are socially and legally governed by the central bank. Commercial banking started over 200 years ago when goldsmiths (metal workers specialising in precious metals such as gold) operated as banks. Banking itself can be traced as far back as 2000 BC when merchants in Assyria and Babylonia used grain loans to farmers and other traders. Modern-day commercial online banking (using the internet) did not start until 1995.

Definition

A **commercial bank** is a retail bank that provides financial services to its customers, e.g. savings, bank loans and mortgages.

Table 16.1 The world's largest commercial banks, 2017

Rank	Bank	Country
1	Industrial & Commercial Bank of China (ICBC)	China
2	China Construction Bank	China
3	Agricultural Bank of China	China
4	Bank of China	China
5	Mitsubishi UFJ Financial Group	Japan
6	JP Morgan Chase & Co.	USA
7	Hong Kong & Shanghai Banking Corporation (HSBC)	UK
8	BNP Paribas	France
9	Bank of America	USA
10	Wells Fargo & Co.	USA

Source: www.relbanks.com

The functions of commercial banks

The functions of commercial banks can be split into two categories: primary and secondary.

The **primary functions** of commercial banks include the following:

- **Accepting deposits** — commercial banks accept deposits from their customers, including private individuals, businesses and governments. Examples are sight deposits (deposits payable on demand) and time deposits (deposits payable after a fixed time period, such as 6 months or a year). Time deposits tend to attract higher rates of interest than sight deposits for deposit holders. Businesses also deposit their cash in commercial banks for the convenience of their own financial operations, such as paying their suppliers and employees.

- **Making advances** — commercial banks provide advances (loans) to their customers. These advances include overdrafts (a banking service that allows approved customers to withdraw more money than they actually have in their account) and mortgages (long-term secured loans for the purchase of assets such as commercial and residential property).
- **Credit creation** — this describes the process by which banks increase the money supply in an economy by making money available to borrowers. Credit allows the borrower (or debtor) to gain purchasing power (money) by promising to pay the lender (or creditor) at a future time. Credit creation enables commercial banks to generate considerable additional purchasing power from their cash deposits. While central banks can print money, they do not create credit; this is done by commercial banks and is a key factor that distinguishes commercial banks from other financial institutions such as insurance companies and investment banks.

The **secondary functions** of commercial banks include the following:

- Collecting and clearing cheques on behalf of their clients.
- Offering additional financial services such as tax advice, foreign exchange dealings and the buying and selling of shares.
- Providing safety deposit boxes for customers to safeguard highly valued possessions, including jewellery and important documents such as wills.
- Providing money transfer facilities, such as transferring money to an overseas bank account or to pay various bills, such as telephone, electricity, gas and water bills.
- Offering credit card facilities for the convenience of customers (private individuals and commercial clients).
- Offering internet banking facilities, such as online bill payments, wired bank transfers between bank accounts, and the online purchase of shares and foreign currencies.

Credit cards allow customers to buy now and pay later, so are widely used as a medium of exchange

Exam-style questions

According to *The Economist*, China's economy is expected to overtake that of the USA by as early as 2020. Multinational companies hoping to make the most of this opportunity have been investing in China via the Shanghai Stock Exchange. Commercial banks, such as ICBC and HSBC, also have an increasingly important role in the development of the Chinese economy. Nevertheless, the trading of the renminbi, China's official currency, is still closely monitored by the People's Bank of China — the central bank.

1 Describe one function of a commercial bank such as ICBC or HSBC. [2]

2 Explain two key functions of central banks such as the People's Bank of China. [4]

Exam-style questions

1 Which option is a characteristic of money? [1]

A Medium of exchange
B Portability
C Store of value
D Unit of account

2 Which term describes the act of swapping items in exchange for other items in the absence of money? [1]

A Bartering
B Double coincidence of wants
C Negotiation
D Unit of account

Chapter review questions

1 What is meant by money?
2 What are the various forms of money?
3 What are the key functions of money?
4 What are the main characteristics of money?
5 What is a central bank?
6 What are the key functions of a central bank?
7 How does a central bank differ from commercial banks?
8 What are the main functions of commercial banks?

Revision checklist

- ✔ Money is any commodity that can be used as a medium of exchange for the purchase of goods and services, such as banknotes and coins.
- ✔ Forms of money include: cash (notes and coins), commercial bank deposits and central bank reserves.
- ✔ There are four functions of money: a medium of exchange, a measure of value (unit of account), a store of value and a standard for deferred payment.
- ✔ Characteristics of money include: durability, acceptability, divisibility, uniformity, scarcity and portability.
- ✔ In the absence of money, the economy resorts to a system of bartering, although this requires a double coincidence of wants in order to function.
- ✔ The central bank of a country is the monetary authority that oversees and manages the economy’s money supply and the banking system.
- ✔ Central banks have four key functions: the sole issuer of legal tender, the government’s bank, the bankers’ bank and the lender of last resort.
- ✔ Commercial banks are retail banks that provide financial services to their customers, such as savings accounts, bank loans and mortgages.
- ✔ Functions of commercial banks include: accepting deposits, making (approving) advances, credit creation and a range of other banking services (such as cheque clearance, foreign exchange dealings, money transfer facilities and online banking).

17 Households

By the end of this chapter, students should be able to:

- understand the factors that influence household spending, savings and borrowing.

Influences on household spending

Income

The amount of money that individuals spend on goods and services is largely dependent upon their level of income. The main source of income for most people is wages or salaries (see Chapter 18). However, people can earn income from other sources, including:

- interest on savings (return on capital)
- rent earned from leasing property (return on land)
- dividends — a share of a company's profits — from shares owned in a company (return on enterprise)
- profit earned from running a business (return on enterprise).

However, households are not able to spend all of the income they earn; they can only spend their disposable income. **Disposable income** refers to the income earned by an individual after income tax and other charges such as pension contributions have been deducted. It is therefore the amount of income a person has available to spend on goods and services. This is the single largest determinant of how much an individual or household spends, saves or borrows.

Definition

Disposable income is the amount of income a person has available to spend on goods and services after compulsory deductions such as income tax.

There is a positive relationship between the level of spending and the income earned — that is, higher levels of disposable income usually lead to higher spending and higher savings. Direct taxation (see Chapter 26) reduces the amount of income a person receives, so higher income tax rates can lower the level of disposable income and therefore consumption.

There is a positive relationship between the level of spending and the income earned

Different income levels affect different types of expenditure. For example, low income earners will spend a greater proportion of their income on food and necessities whereas high income earners will spend a lower proportion of their income on food and necessities. Table 17.1 shows the reasons why different income groups have different expenditure patterns (spending, saving and borrowing).

Table 17.1 Reasons for different expenditure patterns

Income group	Spending	Saving	Borrowing
Low	• Spend most of their income on necessities, e.g. food, clothing and housing	• Tends to be low as there is not much income left over after spending on necessities	• Borrow to fund their expenditure on capital items, e.g. furniture, cars and home appliances • In extreme circumstances, people may borrow to fund **current expenditure** of necessities • Banks less likely to lend money to low income earners as they represent higher risk
Middle	• Spend a lower proportion of their income on food and other necessities • Spending on some luxuries	• Able to save some money from their wages or salaries	• Borrow money to fund expenditure on capital items, e.g. furniture, new cars and home appliances • Use credit cards to pay for both capital and current expenditure • Take out a mortgage (long-term secured loan) to purchase a home
High	• Spend the smallest proportion of income on necessities • Purchase luxury goods and services	• High level of savings possible • Save a greater proportion of their income	• Borrowing occurs but there is only a small risk of not being able to repay loans for **capital expenditure** and mortgages • Generally, there is less of a need to borrow money to fund items of capital expenditure

Definitions

Current expenditure is money spent on goods and services consumed within the current year. Unlike capital expenditure, it is often recurrent, such as the spending on food, clothing, entertainment and haircuts.

Capital expenditure is money spent by on fixed assets (items owned by an individual or firm which last more than 12 months), such as computers, cars, furniture, buildings and equipment.

Figure 17.1 shows the proportion of income spent by a typical household in Canada.

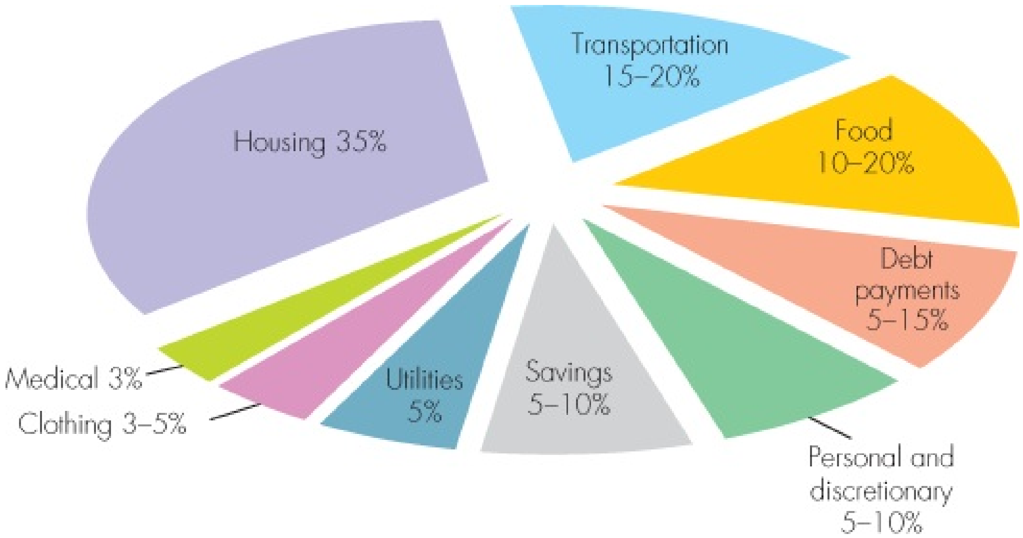


Figure 17.1 What Canadians spend their money on (2017)

Source: www.nomoredebts.org/budgeting-guidelines

Study tip

It is possible for an individual simultaneously to spend more, save more *and* borrow more. For example, a middle-income earner may enjoy a significant pay rise, enabling her to spend more and to save more. She might also take out a loan to purchase a new car or a mortgage to buy a residential apartment.

Activity

Identify all your own sources of income and list the factors that influence how much of your income you spend in a typical week.

Activities

1. With reference to Figures 17.2–17.4, compare the trends in real household disposable income and consumer spending in the United States, Japan and the United Kingdom from 2007 to 2017.
2. Determine whether there is a positive relationship (trend) between the two variables.

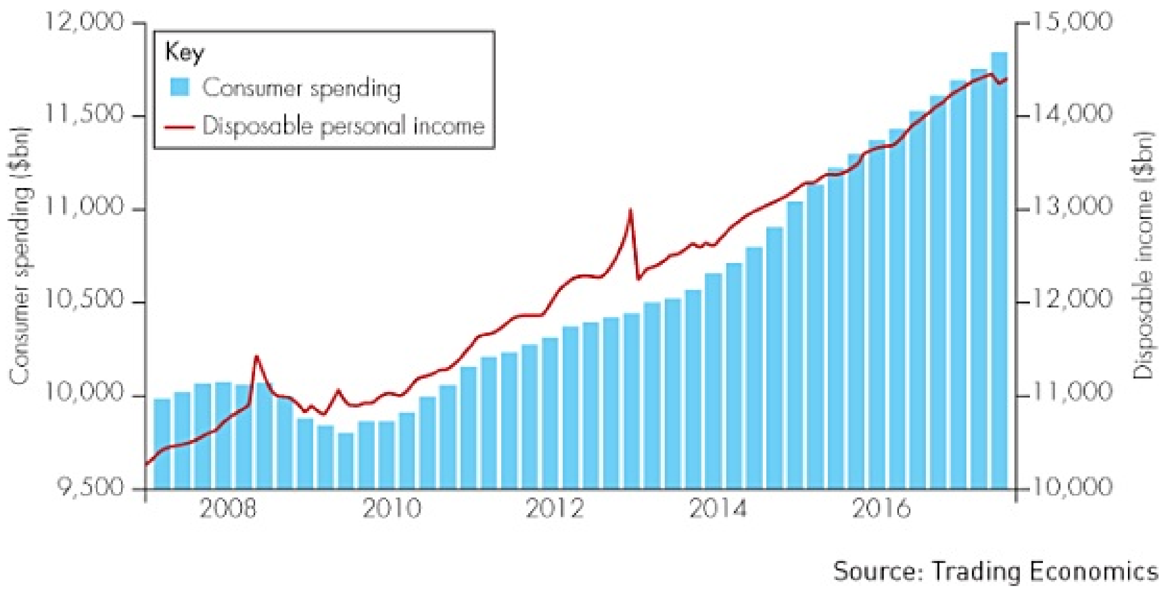


Figure 17.2 Consumer spending and real disposable income in the USA, 2007–17

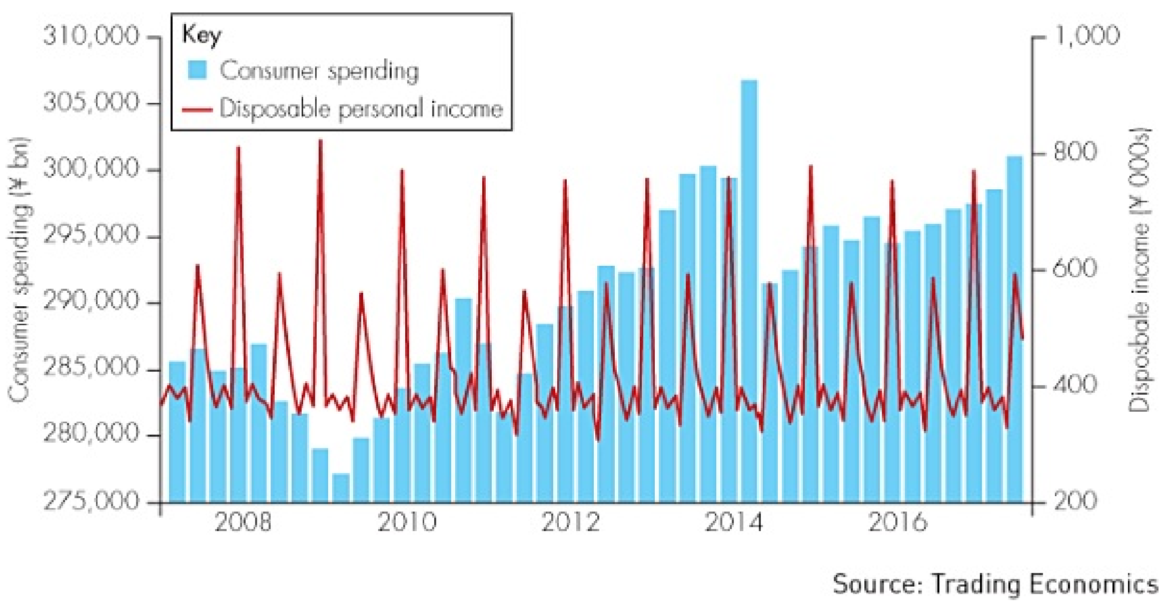


Figure 17.3 Consumer spending and real disposable income in Japan, 2007–17

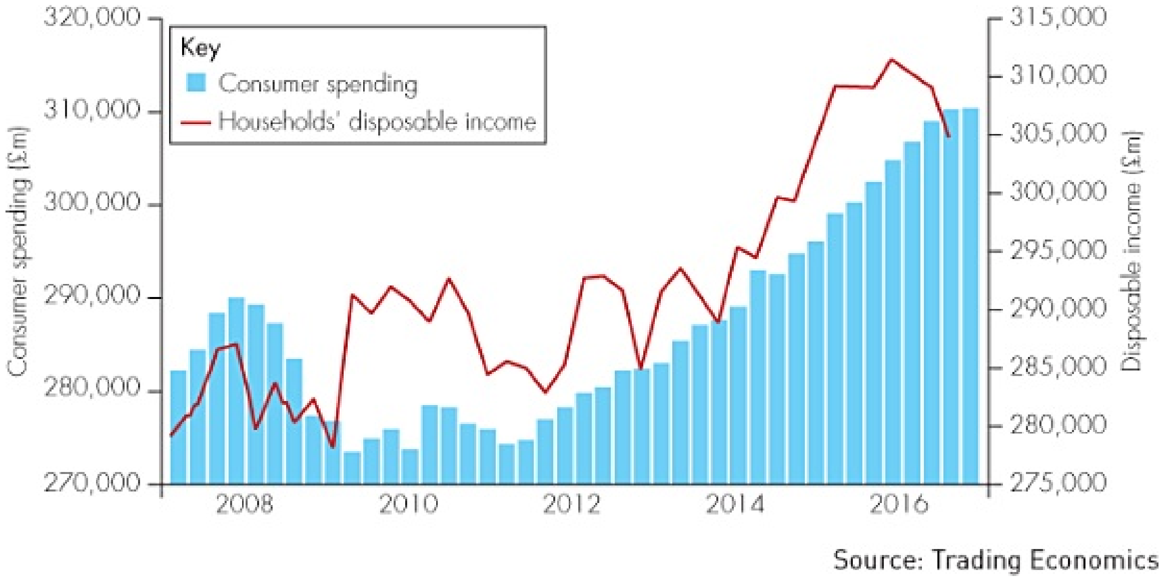


Figure 17.4 Consumer spending and real disposable income in the UK, 2007–17

Study tip

How to describe a trend:

1. Describe the overall trend from the beginning period to the end period.
2. Describe any variations to the trend.
3. Describe the magnitude (size) of any variations to the trend.

The **wealth** of an individual is measured by the amount of assets they own minus their liabilities (the amount they owe). When the value of assets, such as property and other investments, increases there is said to be a **positive wealth effect**. This causes people to spend more. In some cases, it also causes owners of assets to borrow against the value of their existing assets, such as residential or commercial property.

Conspicuous consumption occurs when people purchase goods and services that they feel increase their status or image. For example, a person may buy a very expensive car, yacht, diamond ring or designer handbag as a status symbol. Wealthy people tend to engage in conspicuous consumption.

By contrast, if the value of an asset decreases, the wealth effect can become negative. For example, a severe recession can cause some people to experience **negative equity** — when the value of their secured loan or mortgage exceeds the market value of their property.

The Chinese are known for their love of luxury brands like Louis Vuitton, Gucci and Burberry. Conspicuous consumption in China shows no sign of a slowdown

Case study: Negative equity

Yoshie Sano bought an apartment in Los Angeles for $1,000,000 in 2007. She borrowed $800,000 from the bank and paid a deposit of $200,000. In December 2008 the property market crashed due to the global financial crisis, causing Yoshie's apartment to fall in value to $700,000. She is in negative equity as the value of the existing mortgage is greater than the value of the property.

Activity

With reference to the case study on negative equity, discuss in pairs:

a the impact of negative equity on Yoshie's spending, saving and borrowing

b the options available to Yoshie to repay her mortgage.

We will now consider some of the other determinants of the level of spending, saving and borrowing, besides income.

Interest rates

Interest rates determine the cost of borrowing or lending money. An increase in interest rates (see Chapter 27) may lead to decreased consumer spending, less borrowing and more saving because:

- borrowing becomes more expensive and therefore the demand for loans falls, which leads to less consumer spending
- savings may become more attractive due to the higher return, so individuals may save more and spend less
- if an individual has an existing loan or mortgage, the increase in interest repayments is likely to cause a fall in disposable incomes, so spending falls.

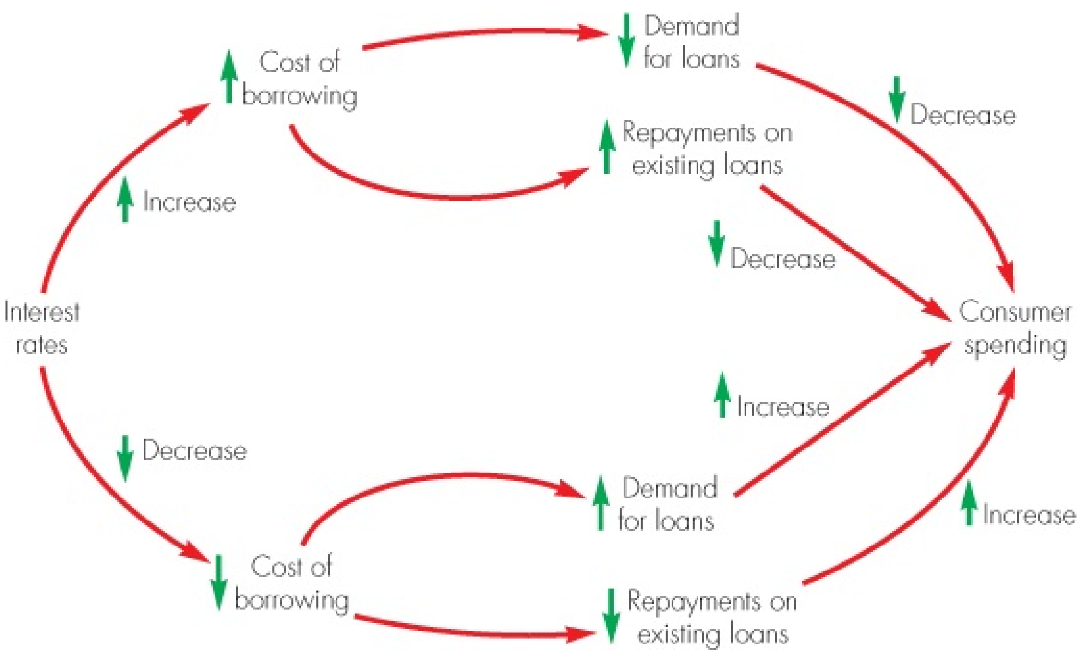


Figure 17.5 The effects of a change in interest rates on consumer spending

Confidence levels

The level of spending in an economy is heavily influenced by the level of consumer and business confidence in an economy. During a recession or a period of low economic growth (see Chapter 29), people may prefer to save rather than spend as they lack confidence about the future of the economy, such as fearing that they may lose their job.

By contrast, during an economic boom or a period of high economic growth, people and firms feel confident about the future and therefore purchase more goods and services. The sale of luxury items such as restaurant meals, spa treatments and foreign holidays increases. Firms may invest more in new equipment and technology because they feel confident about the future. This creates jobs and fuels spending, borrowing and saving.

The sale of luxury items such as bespoke jewellery increases during an economic boom or period of high economic growth

Inflation

The general level of prices in the economy influences consumer spending because an increase in inflation (see Chapter 31) reduces the purchasing power of individuals. Therefore, inflation tends to cause reduced spending, less saving and more borrowing, and vice versa.

Age

A person's age impacts upon their level of consumer spending. A young single person may earn a relatively low income and may spend most of it on goods and services to support their lifestyle. As a person gets older their earnings will typically rise and they may start to save a greater proportion of their income to buy a property or in anticipation of marriage and children. During the family stage of a person's life, they will spend more of their income on their children but might also have to save for their children's university education and to build up a pension to support themselves when they retire. After retirement, people dissave (the opposite of saving) as they have no earned income, so must spend from their savings.

Activity

Copy and complete the following table using the words: high, low or moderate.

Age	Spending	Saving	Borrowing	Dissaving
16–25	High	Low	Low	–
26–35	Moderate			
35–45	Moderate			
45–65	Moderate			
65 onwards				Yes

The size of households

The average size of households has changed over time. In economically developed countries, birth rates are falling (see Chapter 34) as people choose to marry later in life and have fewer children. There has also been an increase in single households. This influences expenditure patterns because, for example, a family with three children will usually consume more goods and services than a single-person household.

Exam-style questions

The chart below shows the amount spent on goods and services in a week in the United Kingdom in 2016.

Family spending in the UK, financial year ending March 2016

a With reference to the chart, describe how spending patterns in the UK might be different from those in less economically developed countries such as Haiti or Bangladesh.

[2]

b Spending on education and health is a small proportion of overall spending in the UK. Explain two reasons why this might be the case.

[4]

Influences on household savings

Saving occurs when a person puts away part of their current income for future spending. The reasons for saving include the following:

Definition

Saving occurs when a person puts away part of their current income for future spending.

- A person decides to sacrifice current spending so that they have funds to spend in the future. For example, people save for a holiday or for their retirement. Parents may save money for their children's education.

- A person may choose to save a portion of their income in a bank or other financial institution in order to earn interest. Banks also provide a secure place for depositing savings.
- A person may save for precautionary reasons so that they have money put aside in case of an emergency such as an accident, job loss or unforeseen event in the future.

There are numerous reasons why people save money

The level of savings is affected by the following factors:

- **Age of a person** — in many modern economies, from about the age of 25 people start to save for their future. They will be likely to have secured permanent employment and paid off any student loans. The amount a person will save is influenced by the amount of support a government gives its citizens in terms of old-age pensions and healthcare provision. If people have to fund their own healthcare and pensions, they will have to save more during their working lives.
- **Attitude to saving** — as every person is different, they each have a different attitude to saving. For example, in the USA and the UK, many consumers borrow to fund expenditure by using credit cards to make purchases or by getting loans to buy expensive items such as cars and home appliances. In other countries such as Japan and Germany, the use of credit cards is relatively low. The Chinese are generally cautious and conservative with money, so like to save for a 'rainy day' (unforeseen emergencies).
- **Consumer and business confidence** — if people and firms have confidence in the economy, the level of savings will usually fall as people spend money more willingly. Savings tend to rise during an economic slowdown when consumers are feeling less optimistic about the future.

- **Interest rates** — a rise in interest rates means that people with existing debts have higher repayments to make to the lender. This will therefore reduce their level of spending in other areas. At the same time, people may save more in a bank to take advantage of the higher rate of return. By contrast, when interest rates are low, people have a disincentive to save and may choose to spend their money instead or find an alternative means of increasing the value of their savings, such as by purchasing shares in a firm.
- **Income levels** — in general, the more money a person earns, the higher their savings tend to be. This is because a wealthy individual is more able to save a higher proportion of each extra dollar earned. By contrast, less-wealthy people are unable to reach their target wealth, so are less able to save money.

Case study: Savings in China

In China, the level of gross savings as a proportion of GDP is close to 50 per cent. Possible reasons for China's high level of savings are as follows:

- Household incomes have risen due to China's phenomenal economic growth over recent decades. The average household has seen a doubling of its income over a 7-year period. Many people have a surplus of income over their expenditure, so are able to save more.
- The one-child policy, which was in place from 1979 until 2015, reduced family size and therefore the level of household spending (and hence encouraged higher levels of saving).
- People are accustomed to saving to buy large items they wish to own instead of borrowing money from banks in order to do so. Culturally, Chinese people buy what they can afford, with cash, preferring not to get into debt to make purchases.

Influences on household borrowing

Borrowing occurs when an individual, firm or the government takes out a loan from a bank or financial institution, paying it back over a period of time with interest. Borrowing leads to debt, which is manageable if monthly repayments are affordable and interest rates are relatively low. An increase in interest rates causes repayments to rise and this can affect the purchasing power of individuals, firms and governments.

Definition

Borrowing occurs when an individual, firm or the government takes out a loan, paying it back to the financial lender over a period of time, with interest payments.

Case study: The cost of borrowing

Laura Brown borrows $500,000 to buy a property when current mortgage interest rates are 6 per cent. In the first year, interest repayments are $30,000 (or $2500 per month). In the second year of the mortgage, interest rates increase to 7 per cent and interest repayments rise to $35,000 (which increases Laura Brown's monthly loan repayments to around $2917). The higher cost of borrowing will therefore reduce her disposable income.

Activity

Discuss with a partner the costs and benefits of borrowing money to mortgage a home.

Individuals and firms may borrow for different reasons, including:

- to fund expensive items such as a car or an overseas holiday
- to fund private and tertiary education
- to purchase property or land, such as a factory, office or home
- to start up a new business
- to fund large projects, such as business expansion in a foreign country.

Many students borrow money to fund their university education

Factors that affect the level of borrowing in an economy include the following:

- **Interest rates** — the higher the level of interest, the more expensive borrowing is. Hence, there is a negative correlation between the level of interest rates and the amount of borrowing in the economy.
- **Confidence levels** — firms and individuals will tend to borrow more if confidence in the economy is high. For example, firms will borrow to invest in

long-term capital projects if they believe economic prospects are good.

- **Availability of funds** — banks and other financial institutions lend money to individuals and firms in the form of loans and mortgages. The central bank of a country (see Chapter 16) controls the amount of funds which are available for borrowing by setting the cash reserve ratio (the percentage of a bank's assets which must be kept in cash in bank vaults or with the central bank). A decrease in the cash reserve ratio means that more funds are available for lending, resulting in an increase in the money supply and more money being available for borrowing.
- **Credit cards** — credit allows individuals and firms to purchase goods and services with deferred payment. People or firms take ownership of the goods and services immediately and must repay the amount to the credit card company several weeks later — they 'buy now and pay later'. If the full amount owed to the credit card company is repaid in full each month, then no interest is charged, but if only a portion is repaid then interest is charged on the remainder. Interest rate charges on credit card borrowing are extremely high, typically as high as 36 per cent.
- **Store cards** — these are issued to regular customers of large retail stores in many countries to encourage spending. Store cards act as a credit card that can be used only in the individual retail outlet. Firms offer discounts and free gifts as an incentive for people to sign up for a store card. Customers can also accumulate loyalty points on the card, which can be used in the future to purchase goods and services within the store. Store cards can give people an incentive to overspend and can raise their level of debt. If debts are cleared when payment is requested, no interest is charged, but just as in the case of credit cards, if repayments are not made then interest is charged on the outstanding debt.
- **Wealth** — the wealth of a person may affect their level of borrowing as a bank will be more willing to lend money to wealthier individuals or highly profitable firms. This is because they have valuable assets and so are more likely to repay the loan, whereas less wealthy customers have a higher risk of **defaulting** on the loan (being unable to repay their borrowing). To avoid **bad debts** (debts which cannot be repaid), banks often make sure that they have some guarantee of getting their money back. A large business may own several stores or have valuable assets which can be used as **collateral** (security) for a loan. In the case of a mortgage, the property purchased provides security for the loan, and therefore if the borrower defaults on the loan, the bank will take ownership of the property.

Exam-style questions

The ‘household debt to disposable income’ ratio in South Korea is one of the highest in the world. The reasons for the high levels of debt are first that, in the early 2000s, the South Korean government lent money to small firms to encourage their growth and development, and second there was a housing boom in 2011. The acceleration in house prices provided an incentive for people to increase their borrowing to buy property as they believed that prices would continue to rise.

There is a low savings ratio in South Korea, which means that banks have a limited amount of funds to lend to borrowers. As a result, they have borrowed from overseas. Households are worried about their level of debt, despite the recent growth in real disposable income.

a Identify two reasons why borrowing might have increased in South Korea.

[2]

b Explain two problems that may arise because of a low savings ratio in South Korea.

[4]

c Analyse the effect on the economy of a high ratio of borrowing to disposable income.

[6]

d Discuss reasons why some people spend more of their income and others save more of their income.

[8]

Chapter review questions

1 What are the main factors that affect the level of consumer spending in an economy?

2 How will the spending, borrowing and saving patterns of a young family with two children under the age of 5 compare with those of an old-aged pensioner?

3 How do spending and saving patterns of low income earners differ

from those of high income earners?

4 How does wealth affect a person's level of spending, saving and borrowing?

5 How do changes in interest rates influence consumer spending, saving and borrowing?

6 What are the main determinants of the level of savings in an economy?

7 What factors affect the level of borrowing in an economy?

8 Why might one person save more of their income than another?

Revision checklist

- ✔ The amount of money that individuals spend on goods and services is largely dependent upon their level of disposable income.
- ✔ Disposable income is the amount of income a person has available to spend on goods and services after compulsory deductions such as income tax.
- ✔ Direct taxation reduces the amount of disposable income and therefore the amount of spending and saving in the economy.
- ✔ Current expenditure is money spent on goods and services consumed within the current year. Capital expenditure is money spent on fixed assets.
- ✔ The wealth of an individual is measured by the amount of assets they own minus their liabilities (the amount they owe). A positive wealth effect causes people to spend more.
- ✔ Apart from levels of income, other determinants of the level of spending include: interest rates, confidence levels, inflation, age and the size of households.
- ✔ Saving occurs when a person puts away part of their current income for future spending.
- ✔ Determinants of saving include: the level of disposable income, age, attitudes towards saving, confidence levels and interest rates.
- ✔ Borrowing occurs when an individual, firm or the government takes out a loan, paying it back to the financial lender over a period of time, with interest payments.

✔ Factors that affect the level of borrowing in an economy include: the level of disposable income, interest rates, confidence levels, the availability of funds (money supply), credit (including store cards) and wealth.

18 Workers

By the end of this chapter, students should be able to:

- understand the wage and non-wage factors affecting an individual's choice of occupation
- understand the factors that determine wages
- discuss the reasons for differences in earnings
- understand the advantages and disadvantages of specialisation for workers, firms and the economy.

Factors affecting an individual's choice of occupation

An individual's choice of occupation depends on many factors, which can be categorised as wage- and non-wage factors.

Wage factors refer to the financial rewards that workers receive in return for their labour services. These are a major influence on their choice of occupation. Table 18.1 outlines the different types of payment a worker may receive in return for their labour.

Table 18.1 Financial payment methods for labour services

Methods of payment	Explanation	Examples
Wages	Wages are time-based, paid hourly, daily or weekly, so are a variable cost to firms	Part-time workers in a shop or restaurant receiving $7 per hour
Salary	Salaries are paid monthly at a fixed rate irrespective of the	Full-time workers, such as teachers, accountants, shop managers and nurses

	amount of work done, so are fixed costs	
Piece rate	A fixed amount paid per item produced or sold	Workers producing individual items in a factory receiving $2 per garment made
Commission	A percentage of the value of products or services sold	Real estate agents receiving 1% of the value of each property they sell
Bonus	An additional lump sum of money paid during the year, usually dependent upon performance	Bank managers earning end-of-year bonuses based on the bank's profits
Profit-related pay	Additional payment to workers, based on the amount of profits made by a firm	A partner in a law firm receiving 15% of the annual profits
Share options	Workers receive shares in the firm to give them an incentive to work hard, so that the firm is profitable	Public limited companies offering share options to employees
Fringe benefits (or perks)	Additional benefits, which have a monetary value	Pensions, health insurance, company car, laptop, mobile phone, education for children, or membership of a health club

Non-wage factors are also a major influence on an individual's choice of occupation. While a person may be motivated by money in the short term, he or she will also want to feel happy and motivated at work in the long term. Non-wage factors that influence an individual's choice of occupation include the following:

- **Level of challenge** — does the job require thinking skills or is it repetitive and boring?

- **Career prospects** — are there opportunities for progression within the firm, or will a person have to change jobs to be promoted?
- **Level of danger involved** — is the job dangerous? For example, some people face a high degree of risk at work, such as lifeboat rescue teams, firefighters, window cleaners and scaffold erectors.
- **Length of training required** — some jobs require few skills, such as cleaning or shop work. By contrast, other jobs require many years of training, such as civil engineers, plastic surgeons, pilots, accountants and lawyers.
- **Level of education required** — some jobs require no or minimal education whereas other jobs require post-graduate levels of education (for example, university professors, architects and dentists).
- **Recognition in the job** — does the worker receive praise and recognition for their performance at work? If a worker feels respected at work, then they may be motivated to work harder and remain in the job.
- **Personal satisfaction gained from the job** — if a worker feels satisfied and happy in their work, they may work harder and stay in the job longer. For example, voluntary employment might be carried out by people who are happy to work for no pay, as the intrinsic reward they get is the personal satisfaction of working for a charity, such as taking care of the elderly, sick or those in need.
- **Level of experience required** — some jobs require no or minimal experience whereas other jobs, such as judges and law makers, require a minimum amount of experience.

Workers putting up bamboo scaffolding in Hong Kong

Case study: Fringe benefits

- Yahoo! employees get discounts to ski resorts and amusement parks.
- Visa rewards workers who use public transportation to get to work.
- Southwest Airlines employees get free flights for themselves, their family and friends.
- Mattel allows its employees to take paid time off to attend their children's school field trips.
- Google offers free food, staff gym, bowling alley and library.
- Campbell Soup Company has on-site kindergarten and after-school programmes for staff with young children.

Activity

Interview several adults and ask them the financial and non-financial reasons why they chose their occupation. Share your findings with the rest of the class.

Wage determination

Wages are determined by the interaction of the demand for labour and the supply of labour. For example, the combination of high demand (ability and willingness to pay) for neurosurgeons and their low supply means their pay is very high.

Study tip

When you are answering questions about the demand for and supply of labour, remember that workers *supply* labour services to firms, and firms *demand* workers to produce goods and services.

The demand for labour

The **demand for labour** refers to the number of workers that firms are willing and able to employ at a given wage rate. As with all factors of production, the demand for labour is a **derived demand**. This means that labour is demanded for the goods and services it produces, and not for itself. For example, bakers are demanded for the bread they bake, rather than for the sake of hiring bakers.

Definitions

The **demand for labour** is the number of workers that firms are willing and able to hire at a given wage rate.

Derived demand means that labour (or any other factor of production) is not demanded for itself but for the goods and services it is used to produce.

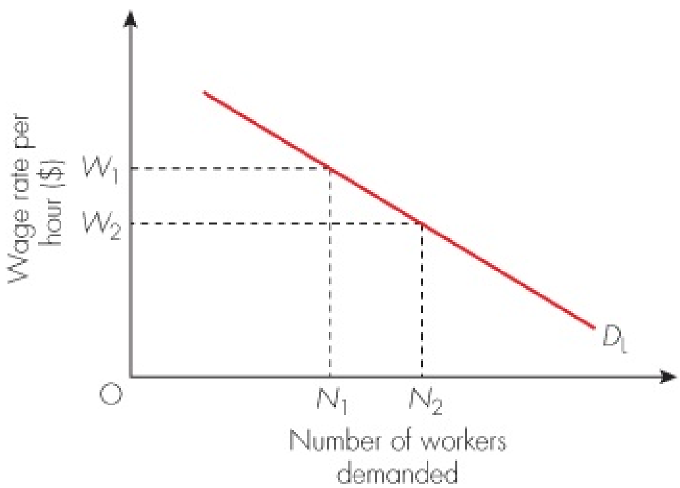


Figure 18.1 The demand for labour curve

Figure 18.1 shows a downward-sloping demand for labour (D_L) curve. When the wage rate falls from W_1 to W_2, the number of workers demanded increases from N_1 to N_2. This is because firms (employers) are able to hire more workers when the wage rate is lower.

The factors that influence the demand for labour include the following:

- The level of total demand in the economy — during a boom or period of economic growth, the demand for goods and services, and therefore the demand for labour to produce them, will be higher. By contrast, the demand for labour falls during a recession or period of declining growth.
- The **productivity of labour** (output per worker over a period of time) — the demand for workers increases as their productivity increases through training and changes to production methods. For example, allowing workers to make

suggestions about how their working practices can be improved and putting the suggestions into practice can motivate workers as they feel empowered to make changes. Recognition of workers' achievements can also be motivational and increase productivity. Consider how praise from your teachers or parents can impact upon your own attitude to learning!

- The **cost of labour** as compared with the cost of machinery and technology that could replace the labour — technology and machinery can often perform the tasks carried out by workers. Although technology and machinery are expensive to purchase in the short run, they can save money for the business in the long run. For example, many firms have cut back on the number of security guards they hire, replacing them with security cameras. Cameras are cheaper in the long run and they do not need toilet or meal breaks, although they do break down occasionally! Similarly, car manufacturers use robotic equipment and machinery that can operate 24 hours a day.

Security cameras can be more cost-effective than security guards in the long run

The supply of labour

The **supply of labour** in an economy consists of people who are of working age and who are both willing and able to work at different wage rates. This does not include those who are in full-time education or those who do not work by choice, such as a housewife or househusband.

Definition

The **supply of labour** refers to everyone in an economy who is of working age and is both willing and able to work at different wage rates.

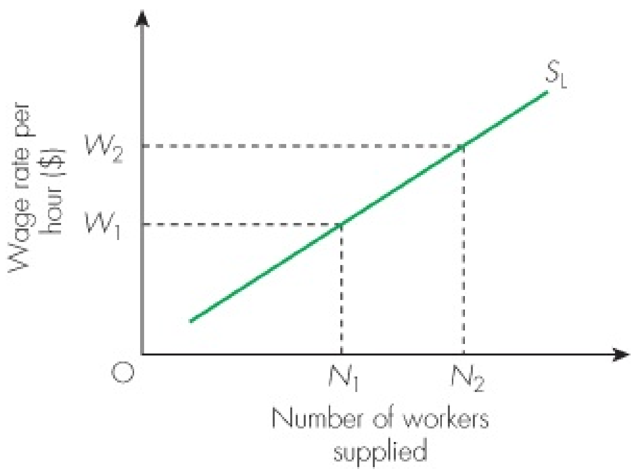


Figure 18.2 The supply of labour curve

Figure 18.2 shows an upward-sloping supply of labour (S_L) curve. If the wage rate in an industry increases from W_1 to W_2, the number of people willing to work will increase from N_1 to N_2 because more workers are attracted by higher wages.

It is possible, at least in theory, for the S_L curve to be backward bending. Figure 18.3 shows that high wages rates will cause workers to work longer hours to increase their earnings, but only up to a certain point. As wage rates increase from W_1 to W_2 the number of hours worked increases from H_1 to H_2. However, as wages increase from W_2 to W_3 the number of hours worked falls from H_2 to H_3 because there is a trade-off between work and leisure time. At W_3 a person can work fewer hours yet have a higher income than at W_2. The **backward-bending supply of labour curve** therefore occurs when wage rates rise to a high enough point to allow people to work less and enjoy more leisure hours.

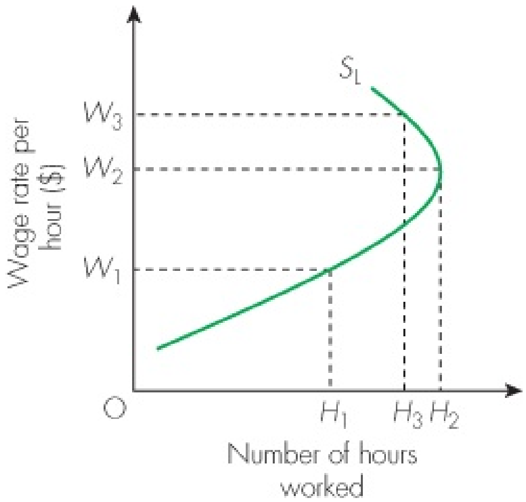


Figure 18.3 The backward-bending supply of labour curve

The structure of the labour supply varies between countries and depends on the following factors.

Labour force participation rate

The **labour force participation rate** is the percentage of the working population that is working, rather than unemployed. Table 18.2 shows the participation rate in a selection of countries. This is influenced by:

- the number of full-time and part-time workers in the labour force
- the number of women in the workforce
- the age distribution of the workforce
- the official retirement age of the country.

Table 18.2 Labour participation rates (% of population aged 15+ in selected countries)

Country	Labour participation rate (%)
United Arab Emirates	79
Vietnam	78
Thailand	71
Bangladesh	62
Mauritius	60

Japan	59
Nigeria	56
France	55
Jordan	40

Source: adapted from the World Bank

Availability and level of welfare benefits

In many countries, welfare benefits are paid to the unemployed. However, if welfare benefits are high and readily available, this can discourage people from seeking employment as the opportunity cost of not working and receiving welfare payments is too great. Governments try to regulate who can receive benefits to prevent disincentives to work. For example, in the UK an eligible person must prove that they are actively seeking work if they are to continue to receive welfare payments.

Changing social attitudes

In many countries, more women are entering the workforce and delaying having families while more men are looking after the home and children. This affects the composition of the workforce. Also, as a result of falling birth rates some countries have ageing populations (see Chapter 34). This means such countries may have to rely on immigration to ensure that they have workers with the required skills in the future.

Geographical mobility

This refers to the willingness and ability of a person to relocate from one part of a country to another for work. There are two main reasons why some people may not be geographically mobile:

- **Family ties and related commitments** — people may not want to relocate as they want to be near their family and friends. There may be other commitments such as schooling arrangements for children (relocation can be highly disruptive to the education of children who have to move to a new school in a new town or country).
- **Costs of living** may vary between regions, being too high in another location

and making it uneconomical for a person to relocate there. For example, a bus driver may find it impossible to relocate from the countryside to the city because house prices are much higher in urban areas and therefore they cannot afford to rent or purchase a home in the city. By contrast, a banker may be offered a relocation allowance to move to another city and the potential earnings are much higher, so the banker has greater geographical mobility than the bus driver.

Occupational mobility

This refers to the extent to which a person is able to change between jobs. The degree of occupational mobility depends on the cost and length of training required to change professions. For example, an ex-banker might retrain to become an economics teacher in a relatively short time, but retraining to become a civil engineer or criminal lawyer might take them longer. The more skilled and qualified a person is, the greater their occupational mobility tends to be.

Exam-style questions

In some countries around the world there are shortages of people with particular skills. For example:

- There is a global shortage of doctors and nurses.
- Belgium and the UK have a shortage of chefs.
- Nordic countries have a shortage of psychologists.

Millions of international migrants are prepared to relocate in order to take advantage of employment opportunities. For example, many nurses trained in the Philippines seek employment opportunities in overseas countries.

a Give two reasons why there is a global shortage of doctors and nurses.

[2]

b Explain the reasons why nurses trained in the Philippines may relocate to take advantage of employment opportunities.

[4]

c Analyse how countries can attract individuals to professions in which they have a shortage of workers.

Activity

Use the BBC Interactive Guide (http://goo.gl/YJjCK) to investigate global employment opportunities in selected countries around the world.

Equilibrium wage rate

For the vast majority of jobs in a market economy, wages are determined by the interaction of the demand for and supply of labour (see Figure 18.4).

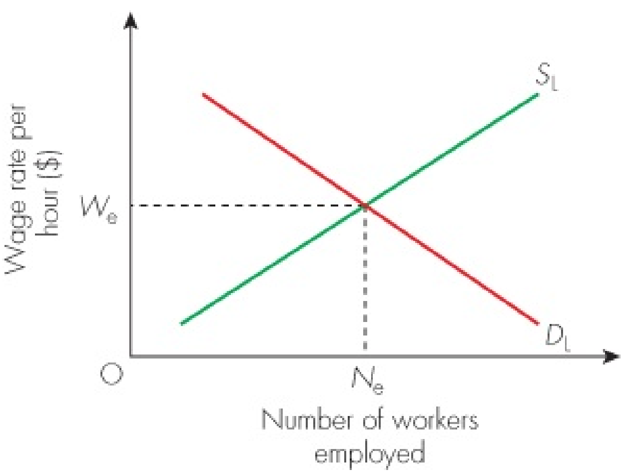


Figure 18.4 Equilibrium wage rate determination

The **equilibrium wage rate** is determined when the wage rate workers are willing to work for equals the wage rate that firms (employers) are prepared to pay — that is, when the demand for labour is equal to the supply of labour. In Figure 18.4, the equilibrium wage rate is W_e and N_e workers are employed. Changes in the demand for or supply of labour in an industry will therefore change the equilibrium wage rate.

Activity

In small groups, investigate the differences in earnings between different *occupations* in your country, or a country of your choice. Each group could research the differences in earnings based on:

- skilled versus unskilled
- male versus female
- private sector versus public sector
- primary versus secondary versus tertiary sectors of production.

Compare your findings with those of the other groups in your class.

Relative bargaining power

The ability of workers to achieve higher wages depends partly on their ability to negotiate and bargain with their employers. This is affected by several factors:

- **Trade unions** — in general, trade unions (see Chapter 19) will use their bargaining strength to negotiate on behalf of their members. The more united the trade union and the larger its membership, the more successful it is likely to be in negotiating with employer representatives.
- **Age and experience** — earnings change over a person's lifetime. Age has a direct impact on workers' bargaining power in achieving higher wages. Inexperienced workers, such as graduates in their first year of work, will earn less than highly experienced workers. Workers can negotiate higher salaries and wages if they have a greater degree of experience. However, in general a person's earnings potential declines after the age of 60.
- **Level of education** — a person's level of education tends to affect their earnings and their ability to negotiate higher wages (see Table 18.3).

Table 18.3 Weekly median earnings and unemployment rate by educational attainment in the USA, 2016

	Less than college graduate		College graduate	
	Less than high school graduate	High school graduate	Bachelor's degree	Master's, professional, doctoral degree
Mean income, full-time workers	$504	$692	$1156	$1380
Unemployment rate	7.4%	5.2%	2.7%	2.4%

Source: adapted from US Department of Labor

Exam-style questions

a Give one reason why the potential earnings of an individual tend to fall after the age of 60.

[2]

b With reference to Table 18.3, explain how educational attainment impacts upon earnings of an individual.

[4]

Government policy: the minimum wage

Wage determination is also influenced by government policy in the form of **national minimum wage** (NMW) legislation. This is the lowest amount a firm can pay its workers as set by the government. Any firm which pays workers less than the legal minimum wage is breaking the law.

Definition

A **national minimum wage** is the lowest legal amount any firm can pay its workers and is set by the government.

Since May 2017, the NMW in Hong Kong has been HK$34.5 (around $4.48) per hour for all workers. In Australia, the NMW is AU$17.70 (around $13.25) per hour. In some countries, such as the UK, the NMW is age-dependent (see Table 18.4).

Table 18.4 Minimum wage rates per hour in the UK, 2017

Age of worker	NMW	Approx. US$
Under 18	£4.05	$5.22
18–20	£5.60	$7.23
21–24	£7.05	$9.10
25 and over	£7.50	$9.68

Source: www.minimum-wage.co.uk

Activities

1 Suggest reasons why the minimum wage in the UK is less for younger workers than for workers aged 25 and over. Discuss

possible reasons why the NMW is lower in Hong Kong than in Australia.

2 Find out the minimum wage in your country, or a country of your choice, and consider whether a job paying the NMW is sufficient to live on.

In Figure 18.5, the equilibrium wage rate before the national minimum wage is W_1 and N_1 workers are demanded and supplied. If the government introduces an NMW which is above the equilibrium wage at W_2 then the quantity of labour supplied to the market increases from N_1 to N_2 as more workers are prepared to work for a higher wage rate.

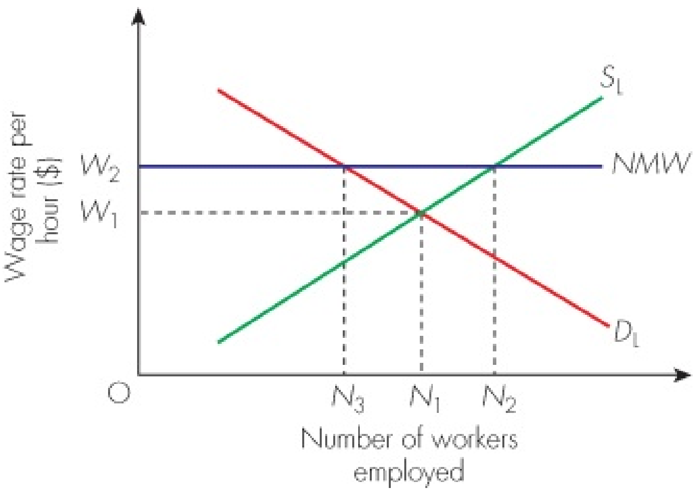


Figure 18.5 National minimum wage

However, the quantity of labour demanded falls from N_1 to N_3 because firms (employers) are less able or willing to pay as many workers at a higher wage rate. As the quantity of labour supplied is greater than the quantity demanded, there is a surplus of labour at a wage rate of W_2. Thus, if the NMW is set too high, this may lead to unemployment in the economy, at least in the short run.

Advantages of a national minimum wage include the following:

- Workers receive a fair (or 'liveable') wage for an hour's work and are not exploited by employers.
- Unemployed people may have an incentive to work as the wage rate may be more attractive than relying on welfare payments.
- Low income earners may have more money to spend and this may increase

consumption in the economy, thus easing any fears that higher wages (and hence costs of production) might cause unemployment.

Disadvantages of a minimum wage include the following:

- Workers who earn more than the minimum wage (perhaps due to their seniority at work) may request a higher wage rate to maintain the wage differential between them and workers who earn less than they do. For example, when cleaners in an office receive a pay rise as a result of an increase in the NMW, other office staff may ask for a wage increase to maintain the difference between their wages and those of the cleaners. This causes an even larger increase in the cost of labour for firms.
- As indicated in Figure 18.5, unemployment in the economy (see Chapter 30) may increase because firms face higher wage bills and reduce their demand for labour. Firms may purchase machinery and equipment to reduce the number of workers required.

Reasons for differences in earnings

Various factors can influence differences in earnings between workers.

Differences between skilled and unskilled workers

In general, skilled workers earn more than unskilled workers due to their relatively high demand and low supply. Table 18.5 shows some of the highest- and lowest-paid occupations in the UK.

Table 18.5 Earnings for selected occupations in the UK, April 2017

Profession	Annual salary (£)		Annual salary (£)
Chief executive officer	107,703	Bus and coach drivers	21,533
Aircraft pilots	90,146	School secretaries	16,366
Legal professionals	73,425	Cleaners	7,919
Medical practitioners	69,463	Waiters	7,554
Senior police officers	58,533	Bar staff	7,404

Note: all figures are expressed as pre-tax earnings for the median full-time worker

Source: adapted from Office for National Statistics

The data in Table 18.5 show that unskilled occupations (such as bar staff and waiters) earn far less on average than skilled workers (such as legal professionals and aircraft pilots). This is because there is a large supply of people able to work as waiters and bar staff (relatively low-skilled occupations), but to be a doctor, lawyer or pilot requires a university degree and subsequent professional training. Therefore, the supply of doctors is lower than that of waiters, as illustrated in Figure 18.6.

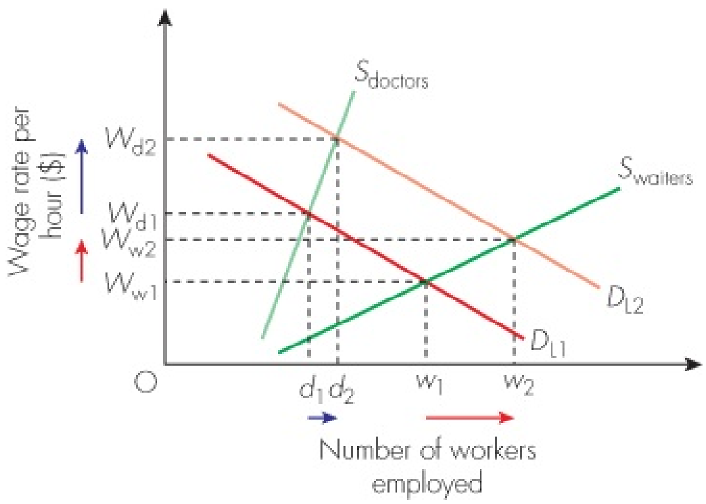


Figure 18.6 The difference in the equilibrium wage rates of waiters and doctors

Figure 18.6 shows the demand for and supply of waiters and doctors in an economy. Waiters are elastic in supply (S_{waiters}) because if the demand for waiters increases from D_{L1} to D_{L2}, the percentage change in quantity of waiters supplied (w_1 to w_2) will be greater than the percentage increase in wages (W_{w1} to W_{w2}) as indicated by the red arrows. This is because the job requires few skills, so it will be relatively easy to increase the supply of waiters in the short term.

By contrast, doctors are inelastic in supply (S_{doctors}). If demand for doctors increases from D_{L1} to D_{L2}, the percentage change in quantity of doctors supplied (d_1 to d_2) in the short term will be less than the percentage increase in wages (W_{d1} to W_{d2}). This is because the level of qualifications and length of training required both make it difficult to increase the supply of doctors in the short term. A relatively large increase in wages is required to attract people to study and train as doctors, as illustrated by the blue arrows.

Waiters are elastic in supply, whereas doctors are inelastic in supply

Differences between primary, secondary and tertiary sector workers

Workers in the primary sector industries of agriculture, fishing and forestry tend to earn the lowest wages in the economy, as much of their work is unskilled. In addition, the output of these industries, such as fish and food products, has a low sales value. In general, as the value of a good or service produced increases, so will the wage of the person who produced it. A rise in the price of minerals and metals is likely to lead to higher earnings for people working in mining and quarrying.

In the UK, electricians and gas technicians have been in short supply in recent years. The short supply and the necessary training period are likely to lead to higher earnings for workers in these trades.

Occupations in the finance, insurance, information and communication industries typically earn the highest wages. These tertiary sector occupations produce services of a higher value than in the primary sector, and workers are rewarded accordingly.

People in tertiary sector professions tend to have high earnings because to become a fully qualified accountant, doctor or lawyer requires postgraduate-level study, professional examinations and many years of experience. The reward for this time and effort is higher wages, which attracts people to these professions. In many countries, students have to take out loans for university and postgraduate training, and they would only be prepared to do this because of the potential reward of high future earnings.

Study tip

It would be incorrect to state that all people working in the tertiary sectors are paid more than those working in the secondary or primary sector industries. For example, a low-skilled employee working in a supermarket or fast-food restaurant will be paid less than a miner or well-qualified construction worker. For more about secondary sector workers, see Chapter 20.

Activity

Discuss in small groups the possible reasons why people who produce food, which is essential for life, get paid one of the lowest wages on earth, while bankers, who produce nothing of real substance, get paid one of the highest.

Differences between male and female workers

In literally all countries, there is a noticeable difference between the average wages of male and female workers (see Figure 18.7). Possible reasons for the difference in male and female earnings are as follows:

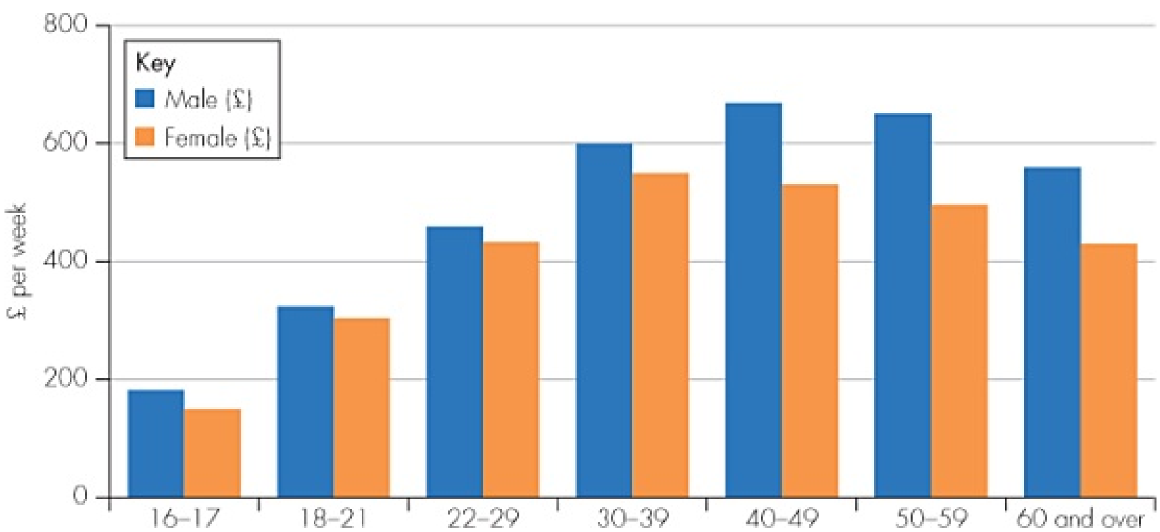


Figure 18.7 Median weekly earnings for UK full-time employees by gender and age, 2016

Female participation rates are increasing in many parts of the world

- There are more women in part-time work than men, so their earnings are lower on average.
- Women take career breaks to have children and therefore miss out on promotional opportunities.
- Women may accept low-paid and part-time jobs as hours are flexible and can fit in with childcare arrangements.
- Women may face discrimination at work.

However, times are changing for females, especially those in more economically developed countries, such as the UK. For instance, there are more females than males in the UK enrolled on veterinary science courses, and subjects associated with medicine and education, at university. More than half of the head teachers (principals) in the UK are now females.

Differences between private and public sector workers

Workers in the private and public sectors tend to earn different wages. In theory, people in the private sector can earn more than workers in the public sector. In many countries, salaries in the public sector are typically less than those which can be earned in the private sector, but jobs are more secure and are often accompanied by a pension in retirement. Examples of public sector jobs are teachers, nurses, police officers, fire service officers and civil servants.

Study tip

It is incorrect to assume that those in the private sector get paid more than those in the public sector. This depends on many variables, such as the level of qualifications, skills and experience of the workers.

Private sector jobs typically have higher earning potential as private individuals and firms strive for profit maximisation (see Chapter 22). For example, average bonuses at Bank of America Merrill Lynch, Goldman Sachs, JP Morgan Chase, and Morgan Stanley increased by 25 per cent from £100,000 ($129,205) in 2015 to £125,000 ($161,506) in 2016.

However, this often comes with more risk as jobs are less secure in the private sector and workers often have to save up for their own pensions in retirement. For example, the global financial crisis, which started in late 2008, caused over 11,000 job losses at Citibank Group by the end of 2013. US investment bank JP Morgan Chase cut 19,000 jobs during the same time period.

Study tip

Government policies affect labour markets, so have an impact on differences in earnings. For example, governments impose laws to protect the rights of workers and employers, although these vary between countries. Employment laws are designed to prevent discrimination between workers due to gender, race, religion or disability.

Division of labour and specialisation of labour

Specialisation of labour occurs when a worker becomes an expert in a particular profession, such as a landscape architect, a psychiatric nurse, an electrical engineer or an economics professor. **Division of labour** occurs when a production process or task is split between different workers, who become experts in a part of the process. Examples are supermarket checkout operators, waiters serving people in a restaurant, and factory workers who operate machinery.

Advantages of division of labour and specialisation of labour for the individual (workers) and firms include the following:

Definitions

Specialisation of labour refers to workers being expert in a particular profession.

Division of labour refers to workers being expert in a particular production process.

- Workers become experts in their field, so their productivity and efficiency increase.
- The quality of the product or service increases.
- Workers can become very skilful, so their earning potential may increase.

These advantages culminate in higher motivation, productivity, output and competitiveness for firms.

Disadvantages of division of labour and specialisation of labour for the individual and firms include the following:

- The work may become repetitive and boring.
- Workers may become alienated, especially those specialising in low-skilled work.
- The production process may become overspecialised — that is, too dependent on an individual worker or group of workers.
- The workers may become deskilled in other areas — in other words, there is a lack of flexibility.

These disadvantages culminate in lower motivation, productivity and output for firms.

The advantages and disadvantages of specialisation for the economy as a whole are outlined in Chapter 36.

Case study: The rich and famous

There are some people with special talents or qualities who earn exceptionally high wages. Examples are supermodels, top footballers and tennis players, and famous celebrities and 'A-list' actors. This is because their skills are exceptional and are in short supply, and thus their labour supply curve is price inelastic as shown in Figure 18.8.

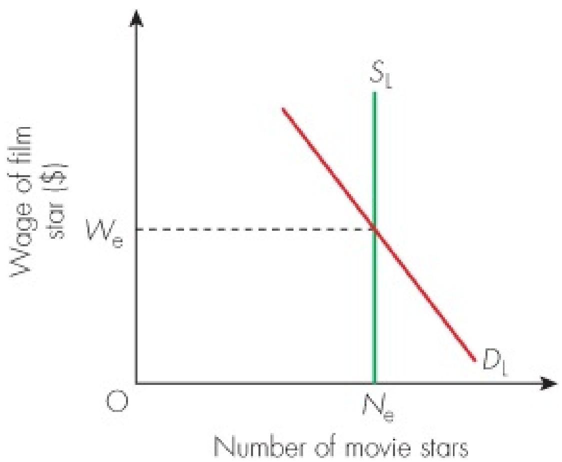


Figure 18.8 Price inelastic supply of Hollywood movie stars

There are only a finite number of top Hollywood movie stars (N_e), so the equilibrium wage rate will be relatively high (W_e). Such special talents allowed Taylor Swift to be paid $170 million in 2016, and J. K. Rowling, the author of *Fantastic Beasts and Where to Find Them*, to earn $50 million in the same year.

J. K. Rowling earned $50 million in 2016. She earns money from box-office takings, Harry Potter book rights and merchandising spin-offs

Activities

1 Investigate the highest-earning male and female:

   a film (movie) stars
   b tennis players
   c pop singers or rappers
   d other category of your choice

2 Discuss possible reasons for any differences in the earnings.

Exam-style questions

1 Which term describes the lowest amount of pay that a firm can reward its employees, as stipulated by the government? [1]

   A Equilibrium wage rate
   B Fringe benefits
   C National minimum wage
   D Wages per hour

2 Which option is a disadvantage of division of labour? [1]

   A A lack of labour flexibility
   B Production processes may be overspecialized
   C Unemployment as a result of higher wages
   D Work may become repetitive and boring

Chapter review questions

1 How do wage and non-wage factors differ, regarding a worker's choice of occupations?
2 What are fringe benefits?
3 How are wages determined?
4 What is meant by the demand for labour, and what are the factors

that affect the demand for labour?

5 What is derived demand?

6 What is meant by the supply of labour, and what are the factors that affect the supply of labour?

7 Why might the supply of labour curve be backward bending after a certain wage rate is reached?

8 How are wages determined in a market economy?

9 How might a national minimum wage affect the demand for and supply of labour?

10 What are the various factors that influence differences in earnings between workers?

11 How do the division of labour and specialisation of labour improve productivity and efficiency?

Revision checklist

- ✔ An individual's choice of occupation depends on many factors, which can be categorised as wage- and non-wage factors.
- ✔ Wage factors are the financial rewards that workers receive.
- ✔ Non-wage factors are the non-financial factors that influence an individual's choice of occupation.
- ✔ Wages are determined by the interaction of the demand for labour and the supply of labour.
- ✔ The demand for labour is the number of workers that firms are willing and able to hire at a given wage rate.
- ✔ The supply of labour refers to everyone in an economy who is of working age and is both willing and able to work at different wage rates.
- ✔ The equilibrium wage rate is determined when the demand for labour is equal to the supply of labour.
- ✔ The national minimum wage is the lowest amount a firm can pay its workers as set by the government.
- ✔ The various factors that influence differences in earnings between workers include: level of skills, the production sector, gender, private or public sector employment and the age of the worker.

- ✔ Specialisation of labour refers to workers being expert in a particular profession.
- ✔ Division of labour refers to workers being expert in a particular production process.

19 Trade unions

By the end of this chapter, students should be able to:
- define a trade union
- discuss the role of trade unions in the economy
- discuss the advantages and disadvantages of trade union membership.

Trade unions

A **trade union** (also known as a **labour union**) is an organisation which exists to protect the rights of workers. Trade unions originated in the nineteenth century in the UK and the USA. Workers often worked in very poor conditions, so trade unions were created to bargain for better terms and working environments for their members. A worker becomes a member of a trade union by paying a subscription fee, usually on a yearly basis. The membership fees help to pay for the administrative and legal expenses of operating the trade union.

Definition

A **trade union** is an organisation which aims to protect the interests of its worker members, i.e. their terms and conditions of employment, including pay.

Employees (workers) and employers often have different aims and objectives. For example, in addition to maintaining a happy and well-motivated workforce, employers may want to:
- maximise profits
- minimise costs
- maximise sales.

On the other hand, employees may want to:
- maximise wages/salaries

- work in a safe and healthy environment
- have good terms and conditions at work
- maximise their non-wage benefits
- have job security at work.

There is often a conflict between the aims of employees and employers. For example, an increase in wages along with a decrease in working hours will increase costs to employers but improve the terms of employment for workers.

Study tip

It *is* possible for the aims of both employees and employers to be met at the same time. For example, firms may agree to the demands of trade unions in return for productivity gains from their workforce.

Case study: UN Declaration of Human Rights

Article 23 of the United Nations Universal Declaration of Human Rights supports trade unions and decrees that all people should work in a safe environment for a fair amount of pay. It states the following:

1. *Everyone has the right to work, to free choice of employment, to just (fair) and favourable conditions of work and to protection against unemployment.*
2. *Everyone, without any discrimination, has the right to equal pay for equal work.*
3. *Everyone who works has the right to just and favourable remuneration (pay and benefits), ensuring for himself and his family an existence worthy of human dignity.*
4. *Everyone has the right to form and to join trade unions for the protection of his interests.*

Source: United Nations

Types of trade union

There are several types of trade union:

- **Craft unions** — these are the oldest type of trade union and were formed originally to organise workers according to their particular skill (or craft). For example, engineers and printers formed their own separate unions as did carpenters, plasterers and electricians.

- **Industrial unions** — these trade unions represent all workers in their industry, irrespective of their skills or the type of work done. An oil workers' union would include workers involved in the exploration, extraction, storage and refining of oil, and any other jobs associated with the oil industry. The United Auto Workers Union of the United States is an example of an industrial union.
- **'White collar' unions** — these labour unions recruit professional, administrative and clerical staff (salaried workers) and other non-manual workers. They are common in teaching, banking, the civil service and local government.
- **General unions** — these trade unions are usually prepared to accept anyone, regardless of the place they work, the nature of their work, or their industrial qualifications. They tend to have a very large membership of unskilled workers. 'Unite' is a very large general union in the UK. Its members include drivers, warehouse workers, hotel employees and shop workers. The Australian Workers Union is the largest general union in Australia.

Some professions such as law, accountancy, engineering and medicine do not have trade unions because such work is governed by a professional body which sets entry requirements in terms of examinations, training and level of experience. The entry requirements are high and therefore the number of workers in each profession is controlled.

The role of trade unions in the economy

The primary role of a trade union is to protect the interests of its members. Examples of trade union roles and responsibilities are:

- bargaining with employers for pay rises and better terms and conditions
- ensuring equipment at work is safe to use (supported by health and safety legislation) and that workers are given sufficient training to enable them to perform their role at work safely
- ensuring members are given legal advice when necessary
- giving support to members when they are made redundant
- providing financial and legal support to workers who may have been unfairly dismissed or disciplined

- persuading the government to pass legislation in favour of workers, such as legislation covering minimum wages, maximum working hours, pension rights and the retirement age.

Trade unions act as a means of communication and negotiation between employers and employees through a process called **collective bargaining**. This occurs when a trade union representative, who is voted into their position by union members, negotiates on behalf of the workers for better pay and conditions of work. A collective voice is more powerful than each worker negotiating individually with the employer.

Definition

Collective bargaining is the process of trade union representatives negotiating on behalf of their worker members with employer representatives for better pay and conditions.

Trade unions with high membership tend to be more powerful than unions with a small number of members. If strong trade unions make full use of their bargaining power, they may succeed in getting larger and/or more frequent wage increases than weaker unions. This highlights the importance of 'unionisation' within trade unions — that is, the larger and more united the union, the better its bargaining position tends to be.

Unions may be affiliated to a larger organisation which negotiates with the government, such as the Trades Union Congress (TUC) in the UK, and the American Federation of Labor and Congress of Industrial Organisations in the USA. These organisations push for the legal protection of rights for workers, including the imposition of a national minimum wage, or an increase in its level.

Collective bargaining and wage claims

The claim for higher wages in the collective bargaining process is normally based on one or more of the following:

- a rise in the cost of living due to inflation (see Chapter 26), which reduces the real wage of trade union members
- workers in comparable occupations who have received a wage increase
- increased profits of the firm and industry as a whole, justifying a higher return for labour services
- an increase in the productivity of labour, further justifying an increase in

wages.

As part of the collective bargaining process, especially if there are disputes with employer representatives, trade unions can call upon their members to take **industrial action**. This refers to any measure taken by a group of workers as a result of major disagreements or disputes with their employers. Table 19.1 outlines some of the actions in which trade union members can engage, in an attempt to get what they want from their employers during the process of collective bargaining.

Definition

Industrial action refers to measures taken by trade union members as a result of major disagreements or disputes with their employers, e.g. strike action.

Table 19.1 Types of industrial action

Industrial action	Definition	Impact on employers	Impact on workers
Strike	Trade union members refuse to work, i.e. they stop working	Output of goods and services ceases, creating an instant and negative impact on the firm	Workers do not get paid when/if they do not work, so lose wages/ salaries
Work-to-rule	Trade union members work to fulfil the minimum requirements of their job, literally, and do not go beyond what is written in their employment contracts	Bus drivers drive extremely slowly and stop at every bus stop regardless of whether there are any passengers who wish to get on or off. A school teacher does not take part in any extra-curricular activities or refuses to meet with students outside of lesson time	Bus drivers and teachers are meeting their contractual responsibilities and therefore cannot be disciplined or sacked
Go-slow	Trade union members complete their work very slowly	Productivity and efficiency fall	Morale may drop as a result of low targets and productivity
Sit-in	Trade union members turn up to work and occupy the premises but do not undertake their normal work	Production of goods and services ceases temporarily and this has an immediate impact on the firm	A loss in wages and, if sustained, falling standards of living

Exam-style questions

In February 2013 the region of Kerala in India came to a standstill due to a nationwide strike called by a general trade union. The members of the trade union belonged to all sectors of the workforce, from banking to transport. Workers demanded price controls to bring a halt to the increasing prices of necessities, enforcement of labour laws in all places of work and an increase in the minimum wage.

a Identify two factors which caused the trade union members in Kerala to strike.

[2]

b Discuss how effective you think the strike would be in successfully getting the demands of the trade union met.

[6]

Case study: Hong Kong dock workers' strike

On 28 March 2013 a group of dock workers belonging to the Union of Hong Kong Dockers went on strike because their demands for a pay increase of 20 per cent had been rejected by Hong Kong International Terminals (HIT). The workers had demanded the pay rise to maintain a reasonable standard of living at a time of rising prices. HIT, their employer, offered a pay rise of between 3 and 5 per cent.

HIT is part of the Hutchinson Whampoa Group of companies which belongs to Li Ka-shing, Asia's richest man. On 18 April the dock workers protested outside the office building of Li Ka-shing.

The International Transport Workers' Federation, which represents the interests of 4.5 million transport workers worldwide, became involved in discussions to see how it could support the strike. A small group of Australian dock workers flew to Hong Kong to support the workers and show solidarity with the strikers.

Activity

Investigate the number and types of unions that exist in your country. Find a recent example of industrial action that has taken place and determine whether the action was successful or not in achieving its aim.

Exam-style questions

In September 2012, the Australian Educators Union (AEU) in the state of Victoria called on teachers working in the public sector to take part in two one-day strikes. The teachers were asking the government for a 30 per cent pay increase over a three-year period. Then, without consulting its members, the union decreased the teachers' demands and asked the government to increase wages by 12 per cent over three years. The government did not agree to the demands and instead put in place a wage ceiling (maximum pay increase) of 2.5 per cent per year. It also called for the introduction of performance-related pay and further increases in productivity. The wage ceiling was part of a government strategy to cut public sector spending in Victoria.

a Give two reasons why the Australian Educators Union (AEU) reduced the demands for a pay increase without consulting its members.

[2]

b Analyse the impact of a strike on the teachers, school children and the wider economy.

[6]

c Discuss reasons why the government did not agree to the 12 per cent pay increase.

[8]

Factors influencing the strength of trade unions

The two main factors affecting the strength of trade unions are their number of members and the degree of their unity. Trade union membership is growing in some countries, such as China. In others, such as the UK, union membership is declining. Possible reasons for a higher level of trade union membership in some countries are:

- growth in manufacturing jobs in these countries — manufacturing industry is often unionised as workers typically receive low pay and have poor working conditions
- a widening wealth gap and higher costs of living which have caused workers to petition for higher wages and better working conditions.

Possible reasons for declining trade union membership in other countries include:

- government legislation which seeks to reduce trade union influence (see supply-side policies, Chapter 28)
- a decline in manufacturing jobs in these countries, as manufacturing is traditionally unionised
- growth in part-time employment, as part-time workers are less likely to join a trade union
- a growing number of firms independently agreeing to fairer terms and conditions of employment, as part of their **corporate social responsibility**, without negotiating with trade unions
- an increase in unemployment (see Chapter 30)
- an increase in employment in small firms, as it is more difficult to organise trade unions within such organisations
- an increase in the number of self-employed people (people who work for themselves and not for a firm), and who are therefore not trade union members.

Definition

Corporate social responsibility (CSR) refers to the ethical approach taken by firms towards their stakeholders (such as employees and customers) and the environment (such as adopting green technologies).

In response to falling membership numbers, trade unions have tried to improve their image by making their services more appealing and relevant to today's world. For example, the Association of Teachers and Lecturers (ATL) in the UK has a 'no strike' policy to which all members agree. Many unions now offer their members financial services (such as loans, mortgages, insurance, credit cards, discount holiday vouchers and discount car hire) as incentives to join. Some trade unions also provide grants for college courses, or arrange retraining programmes (the process of developing new skills) for their members who have been made redundant. All of these measures help to increase membership numbers and hence strengthen the influence of trade unions.

Activity

Investigate the rights and responsibilities of employers and employees in your country. What role have trade unions played in this? Share your findings with the rest of the class.

Advantages and disadvantages of trade union membership

Trade unions often play a positive role in an economy for several reasons:

- They act as a channel of communication between employers (firms) and employees (workers). Through negotiations and collective bargaining, they help to solve disputes and settle pay claims harmoniously and efficiently.
- They negotiate with employers on behalf of their members for better pay and working conditions. This benefits the government as productivity also improves. Overall, there is a positive impact on standards of living.
- They negotiate with the government for the introduction of or an increase in the minimum wage, which can also help to increase standards of living for the poorest workers. Increased pay and improvements in working conditions may lead to a better motivated workforce and result in an increase in the profits of firms.
- Unions can help to reduce conflict and develop improved industrial relations, which ultimately benefits firms through improved labour productivity and higher employee motivation and loyalty.
- They offer legal support and advice to workers who may have lost their jobs or

be facing the threat of redundancies (job losses).

The potential negative impacts of trade unions on an economy include the following:

- Trade unions are often portrayed in the media as having a negative role in an economy when they take industrial action which may result in lost productivity. Strikes are the most extreme form of industrial action and can cause serious disruption to firms and the wider economy.
- From an employer's point of view, a trade union's demands for better pay and conditions for its members may increase the firm's production costs and therefore reduce its profits. If so, government tax revenues will also fall.

In many countries, being a member of a trade union is considered to be a basic human right. Individuals have freedom of association — they cannot be discriminated against for being a member of a trade union. However, even in these countries firms (employers) are not obliged to recognise and negotiate with trade unions. Instead, they can set their own terms and conditions and rates of pay. In some countries, such as the United Arab Emirates, the law does not allow trade unions to exist.

Exam-style questions

Which factor does **not** directly influence the strength of trade unions? [1]

A Government policy

B The degree of unity of members

C The number of members

D Working hours and working conditions

Chapter review questions

1. What is meant by a trade union?
2. Why might a worker join a trade union?
3. How do the aims and objectives of employees differ from those of employers?
4. What are the main types of trade union?
5. What are the main roles of trade unions?

6 What is meant by the collective bargaining process?
7 What is meant by industrial action and why might it occur?
8 What are the different types of industrial action?
9 What factors influence the strength of trade unions?
10 What are the advantages and disadvantages of trade unions?

Revision checklist

- ✔ A trade union is an organisation which aims to protect the interests of its worker members — that is, their pay and terms and conditions of employment.
- ✔ Types of trade union include: craft unions, industrial unions, white collar unions and general unions.
- ✔ Collective bargaining is the process of trade union representatives negotiating on behalf of their worker members with employer representatives for better pay and conditions.
- ✔ Industrial action refers to measures taken by trade union members during major disagreements or disputes with their employers, such as strike action.
- ✔ The two main factors affecting the strength of trade unions are their number of members and their degree of unity.
- ✔ Advantages of trade unions include: acting as a communication channel between employers and employees, negotiating with employers for better pay and working conditions for their members, negotiating with the government on matters such as raising the minimum wage, and offering legal support and advice to member workers.

20 Firms

By the end of this chapter, students should be able to:

- classify firms in terms of primary/secondary/tertiary sector and public/private sector
- understand the advantages and disadvantages of small firms
- understand the causes of the growth of firms
- discuss the advantages and disadvantages of different types of merger
- understand economies and diseconomies of scale.

Classification of firms

Economic sector

Firms can be classified according to the economic sector in which they operate:

- **Primary sector** — this sector of the economy contains firms that extract raw materials from the earth. Examples are fishing, mining and agricultural farming.
- **Secondary sector** — this sector contains firms that:
  - manufacture goods, changing raw materials into finished products
  - construct buildings, roads and bridges.
- **Tertiary sector** — this sector contains firms that provide services to the general public and other firms. Examples are: retail shops, doctors, dentists, schools, hairdressers, advertising agencies, lawyers, financial advisers, insurance companies and banks.

Agricultural workers operate in the primary sector

The primary, secondary and tertiary sectors of an economy are **interdependent** (they depend on each other). This is because a firm cannot operate without using goods and services from all three sectors of industry to make and sell its goods or services to the final customer. Firms in the three sectors are linked through a process known as the **chain of production** (see the Yellow Moon case study).

Definition

Interdependence means that the three sectors of industry depend on each other, and cannot operate independently to produce goods and services.

Case study: Yellow Moon

Yellow Moon is an independent jewellery shop located in Pondicherry, India. The business owners design and make the jewellery in their workshop and it is sold to customers from its store and through the firm's website. Table 20.1 shows examples of goods and services from the primary, secondary and tertiary sectors that are necessary for Yellow Moon to operate successfully. The firms in each sector represent links in the chain of production.

Table 20.1 Goods and services used by Yellow Moon

Activity/sector	Examples of goods/services required
Primary	Silver, gold and semi-precious stones
Secondary	Designers and jewellery makers to create the jewellery products
Tertiary	Advertising, insurance, banking and finance, transport of finished goods, website designers and a shop to sell the jewellery to customers

Activity

Refer to the Yellow Moon case study.

1 Identify the factors of production required by Yellow Moon to operate its business.

2 Produce a table like the one above for:

  a a manufacturer of smartphones

  b a fast-food restaurant

  c a shop selling kitchen equipment

  d a pig farmer.

Public and private sectors

Firms can also be classified according to whether they operate in the private or public sector.

Private sector firms are owned by private individuals and owners. Their main aim is to earn profit. The types of private sector firm include:

- sole trader — a business owned and controlled by a single person
- partnership — a business owned by between two and twenty people, with share ownership and risk-taking
- private limited company — a business owned by shareholders, who are unable to buy or sell shares without the consent of other shareholders

- public limited company — a business owned by shareholders, who can openly and freely buy or sell their shares on a stock exchange.

Definitions

The **private sector** refers to economic activity of private individuals and firms. The private sector's main aim is to earn profit for its owners.

Public sector refers to economic activity directly involving the government, such as the provision of state education and healthcare services. The public sector's main aim is to provide a service.

Public sector firms are owned by the government. Their main aim is to provide a service to the general public. For example, the government provides education and healthcare services for people who are unable and/or unwilling to pay for private education and private healthcare. In the UK, the public sector accounts for around 45 per cent of gross domestic product (GDP) whereas in France this figure is around 43 per cent, so both are good examples of mixed economies (see Chapter 15). Other examples are Australia, Japan, Iceland, Sweden and Italy.

Public sector organisations are wholly owned by the government and are therefore funded through tax revenues. Examples of public sector organisations are: water suppliers, sewerage providers, utilities (electricity and gas boards), the post office and state-owned news and broadcasting organisations (such as the BBC in the UK and ABC in Australia).

The relative size of firms

A third way to classify firms is according to their relative size. In every economy there are firms of different sizes. Small firms, such as local grocery stores and sole traders, co-exist alongside large multinational companies such as Walmart and Toyota. A business may start as one store and grow over time. For example, Starbucks opened its first coffee shop in Seattle, USA in 1971 and now has around 24,500 stores in over 70 countries. Alternatively, a business may choose to stay small, such as a wedding dress designer, a hairdresser or an owner of a small gift shop.

The relative size of a firm can be measured in different ways. The following are some examples:

- **Number of employees** — GlaxoSmithKline is one of the world's largest pharmaceutical companies, and has around 100,000 employees. McDonald's is the world’s largest fast-food chain, and employs over 375,000 people worldwide. A small local grocery shop may have only five employees.

- **Market share** — this measures a firm’s sales revenues as a proportion of the industry’s sales revenue. For example, Nestlé dominates the food and beverages market in Pakistan as it is the leading company in milk production and related products (such as yogurt, milk powder and butter). It also dominates the bottled water market in Pakistan. Google is the world’s market leader for search engines, and Coca-Cola is the largest manufacturer of soda drinks. Hertz, Enterprise and Budget car hire companies collectively account for about 95 per cent of the car hire market in the USA.
- **Market capitalisation of a firm** — this is the stock market value of a company, calculated by multiplying the total number of shares in the business by the current share price. Apple, Google, Microsoft, Berkshire Hathaway, Amazon.com and Facebook are among the largest companies in the USA, as measured by market capitalisation.
- **Sales revenue of a firm** — this is measured by multiplying the unit price of a product by the quantity sold (see Chapter 22). For example, Walmart is the world’s largest retailer with annual sales in excess of $485 billion. Volkswagen is the world’s largest car maker, with annual sales in excess of $237 billion.

Case study: The dominance of large firms

Firms of all sizes exist in local, national and international markets. However, large firms often dominate the industry. For example:

- The sports clothing industry is dominated by Nike, Adidas and Puma.
- The tennis racket industry is dominated by Wilson, Prince and Head.
- The chocolate industry is dominated by Kraft, Mars, Nestlé and Ferrero Rocher.
- The smartphones industry is dominated by Samsung, Apple and Huawei.
- The market for search engines is dominated by Google, Bing and Yahoo!

Small firms

There are several reasons why small firms co-exist with larger firms in the economy:

- A small grocery store has to find a way to compete with supermarkets and it might do so by providing a range of goods which cannot be bought in a supermarket, such as speciality cheeses and wines.
- The small grocery store may be located in a remote area and be the only local seller of provisions.
- It may provide a personal shopping experience for customers, as compared to a self-service style experience at large supermarkets.
- Smaller shops can also adapt quickly to changing consumer tastes — for example, a small bakery may make more brown bread to cater for an increase in demand, or a small independently run magazine shop may order titles for individual customers.

Examples of products and services provided by small shops are made-to-measure clothing and custom-made furniture. They tend to focus on smaller markets and may cater for specific tastes and to people with higher incomes.

Bespoke suits are made by small, independent firms

A **sole trader** (or **sole proprietor**) is an individual who owns his or her personal business. The owner runs and controls the business and is the sole person held responsible for its success or failure. This is the most common type of business ownership. Examples are self-employed painters and decorators, plumbers, mechanics, restaurateurs and freelance photographers. Sole proprietorships are often small family-run businesses and can be set up with relatively little capital, usually obtained from personal savings and borrowing.

Case study: Sole traders into big companies

Many of today's well-known companies started as sole traders. For example, Chanel was started by Coco Chanel in 1910 and has a huge global presence today. Marks & Spencer was set up in 1904 by two partners, Michael Marks and Thomas Spencer (who originally operated as sole traders). Tesco, the world's third largest retailer measured by profits, was set up in 1919 as a sole proprietorship by Jack Cohen.

Advantages of small firms

Benefits of small firms include the following:

- Few legal formalities exist. This means that sole proprietorships are quite easy to set up. Start-up costs are also usually much lower than in setting up larger types of business.
- The sole trader is the only owner of a firm and therefore receives all of the profits made by the business. This gives them an incentive to work hard to become successful.
- Being your own boss can have some advantages: not having to take orders from others, having flexibility in decision making (such as dictating your working hours), and enjoying higher self-esteem from being successful.
- Small businesses are likely to know their customers on a more personal level and this can lead to better relationships. Larger firms might not have the time to get to know their customers, so their services often become impersonal.
- Smaller firms are easier to manage and control. Larger firms can suffer from diseconomies of scale (see below) due to coordination problems.

Disadvantages of and challenges facing small firms

Small firms do, however, face some challenges:

- Small firms have limited start-up capital, which makes it difficult for them to raise finance to establish the business. Sole traders may find it difficult to secure any funds beyond their personal savings. Trying to expand the business can also be problematic due to the lack of sources of finance available to small businesses.

- Statistically, small firms have the largest risk of business failure. Even the successful ones usually face intense competition due to the vast number of small firms that exist. In addition, the presence of larger and more established businesses often poses a huge threat to the survival of smaller firms.
- The success of small firms very much depends on the abilities and commitment of the owners. Sole traders often have to do their own financial accounts, marketing and management of human resources. They are unlikely to be equally effective in the different roles, and having to do all these tasks adds to the workload, stress and challenges in running a small firm.
- Small firms often suffer from a lack of continuity. The running of the business can be jeopardised if the owner is not there, maybe due to going on holiday, or due to illness. This creates problems of continuity for small firms.
- As they are unable to exploit the benefits of large-scale production, small firms have higher unit costs of production. Subsequently, their prices tend to be less competitive than those of larger competitors (which benefit from economies of scale). This can reduce the competitiveness and profits of smaller firms.

Causes of the growth of firms

Firms can grow either internally (such as increasing their market share) or externally (such as through mergers).

Internal growth

Internal growth (or **organic growth**) occurs when firms expand using their own resources. Firms can grow by increasing the number of branches (stores) within a particular country or by opening branches in different countries. They can also expand by selling their products in a greater number of countries and can finance this expansion using profits earned within the business. These strategies help the firm to increase its market share. Coca-Cola now sells its cola drink in all but two countries in the world: North Korea and Cuba!

External growth

External growth (or **inorganic growth**) occurs when expansion involves another organisation, such as through mergers, takeovers and franchises.

Mergers

In a **merger**, two firms agree to form one new company. For example, the MTRC and KCRC railway companies in Hong Kong merged in 2007 to become one company which now is the only provider of railway and underground railways services in Hong Kong. They formed a monopoly (see Chapter 23), but any fare increases must be approved by the government. Another example is pharmaceutical giants Glaxo Wellcome and SmithKline Beecham, which merged to form GlaxoSmithKline, in a deal worth $75.96 billion in 2000.

Definitions

A **merger** occurs when two or more firms join together to form just one firm.

A **takeover** occurs when a firm is taken over by another firm. A takeover may be hostile or the two firms might have agreed to the takeover.

We will consider the different types of merger in more detail in the next section.

Takeovers

By buying a majority stake (share) in another business, a firm can take over the target firm and instantly increase its size. For example, the Indian car maker Tata Motors took over UK-owned Jaguar and Land Rover in 2008. Tata Motors is itself part of the much larger Tata Group of companies. Kraft Foods took over Cadbury in 2011 and now has Cadbury's share of the global chocolate market. Microsoft bought Skype in 2011, which enabled the software giant to gain a larger share of the internet communications industry. **Takeovers** can be hostile, which means that the firm being taken over does not agree to the buyout. However, they can also be agreeable to both firms.

Microsoft's purchase of Skype enabled the software giant to gain a larger share of the internet communications industry

Franchising

In a **franchise**, an individual or a firm purchases a licence from another firm to trade using the name of the parent company. The Subway sandwich chain, established in the USA, has over 200 stores in the United Arab Emirates (UAE) and this expansion is due to franchising.

Definitions

A **franchise** involves a person or business buying a licence to trade using another firm's name, logos, brands and trademarks.

A **horizontal merger** occurs when two or more firms in the same economic sector of industry integrate.

Types of merger

As explained in the previous section, a merger occurs when two or more firms join together to form just one firm. There are three main types of merger: horizontal, vertical and conglomerate. These types also apply to takeovers.

Horizontal mergers

A **horizontal merger** occurs when two or more firms in the same industry integrate (join together). For example, AG Barr is the Scottish manufacturer of soft drinks Irn Bru, Tizer and Rubicon. In 2012, it merged with Britvic, another soft drinks manufacturer that makes Tango, J2O and Robinson's Fruit Shoots.

The merger of Barr and Britvic created one of Europe's largest soft drinks companies

The merged firms can benefit from:

- having higher market share
- gaining skilled employees from each other
- operating with fewer employees (as there is no need to hire two finance departments, for example), so this may reduce costs of production
- taking advantage of economies of scale.

However, the potential costs or drawbacks include the following:

- There may be a duplication of resources, so some workers may lose their jobs. Job losses can cause anxiety, demotivate staff and lead to a fall in productivity.
- The newly formed, larger firm may face increasing costs arising from diseconomies of scale (see below).
- The new firm may suffer from culture clashes between the merged businesses. Initially, this may cause communication and organisational problems for the

firm.

Vertical mergers

Definition

A **vertical merger** occurs when integration takes place between two firms from different economic sectors of industry.

A **vertical merger** occurs when a firm from one economic sector (primary, secondary or tertiary) merges with a firm at a different stage of production. There are two types of vertical merger: backward and forward.

Backward vertical mergers

A **backward vertical merger** occurs when a firm from the secondary sector merges with a firm from the primary sector, or when a firm from the tertiary industry merges with a firm operating in the secondary or primary sector. For example, a factory in China that makes chicken nuggets for McDonald’s buys a chicken farm. The chicken farm supplies the factory with live chickens and eggs, produced for McDonald’s outlets for their breakfast products.

Backward vertical integration

The benefits of backward vertical integration in the above example include the following:

- The firm in the secondary sector has control over the quality of raw materials with which it is supplied.
- The price of raw materials fall as the manufacturer does not have to pay another (external) firm for the raw materials.

However, the drawbacks of backward vertical integration in the above example include the following:

- Costs of running the farm in the primary sector increase total costs as more land, labour and capital resources are required.
- Transport costs increase for the merged firm as raw materials were previously delivered by external suppliers.

Forward vertical mergers

A **forward vertical merger** occurs when a firm from the primary sector of industry merges with a firm in the secondary or tertiary sector, or when a firm from the secondary sector merges with a firm operating in the tertiary sector. For example, Apple, Levi’s and Replay all own shops in which to sell their manufactured products. Shell owns its entire chain of production: oil mines, oil processing plants and the petrol stations where consumers purchase fuel for their cars.

Apple has shops all over the world dedicated to selling its own goods. Here is its flagship store in London’s Regent Street

Exam-style questions

Tyrrells is a UK manufacturer of hand-cooked crisps (chips), which are made from potatoes and other root vegetables. The founder of the business, William Chase, was originally a potato farmer, who sold his crops to supermarkets. The price of potatoes started to fall and he decided to add value to his potatoes by making them into packaged snacks in 2002. He invested in capital equipment and employed more staff to make the product, and his decision has led to an increase in revenue and growth of the business. In April 2008, Chase sold his majority stake in the company for £40 million ($51m).

a Identify the method of growth used by Tyrrells.

[1]

b Explain one advantage of Tyrrells expanding into the manufacturing industry.

[2]

c Explain two reasons why production costs may have fallen after the expansion.

[4]

Conglomerate mergers

A **conglomerate merger** occurs when firms from different economic sectors and in unrelated areas of business integrate with one another. They may form a single company or be part of a large group of companies. For example, a clothing manufacturer might merge with a chocolate producer. The two firms are in the secondary sector of industry but operate in different areas of manufacturing. They can take advantage of risk-bearing economies of scale (see below) as diversification spreads risk.

Definition

A **conglomerate merger** occurs when two or more firms from unrelated areas of business integrate to create a new firm.

An example of a conglomerate is the Tata Group which has over 100 different companies in its portfolio, ranging from hotels and hospitality enterprises to mining and air conditioning. Another example is the Swire Group, which owns businesses that operate in many different markets, including: retailing, beverages, aeronautical operations, property development, mining and car trading.

Pacific Place, a shopping mall complex in Hong Kong, is one of the core holdings of the Swire Group’s property portfolio

Diversification spreads risks because the conglomerate has a number of businesses in different sectors of industry. A failing business in the group may be protected by the successful businesses within the group’s larger portfolio.

However, the conglomerate may become too diverse and this may cause problems in the management of capital and human resources. If a segment of the diversified firm is under-performing, then it may drain resources from other areas of the conglomerate business.

Study tip

Although it is the aim of many firms to expand and increase their market share, it is not always the case that 'big is best'. A firm that becomes too large may lose its appeal and its products may become mass produced and therefore lack character. Large hotel chains can guarantee a level of service which is of high quality and matches their 4- or 5-star rating, but the experience for the consumer is the same regardless of location. There will always be a place in the market for small or boutique hotels offering a high-quality and unique experience.

Economies and diseconomies of scale

Economies of scale

Large firms are able to take advantage of **economies of scale**, which reduce their average costs of production. This gives them a cost advantage over small firms. In many countries, small grocery stores exist alongside large supermarkets. However, supermarkets are able to provide customers with:

- a wide choice of particular products, such as different kinds of fruit, vegetables, cheeses and wines
- a wide product range, so in a single store, customers can buy fresh milk, a pair of shoes, a teapot, a hairdryer, books or even a television.

Definitions

Economies of scale are the cost-saving benefits of large-scale operations, which reduce average costs of production.

Internal economies of scale are economies of scale that arise from the internal organisation of the business, e.g. financial, bulk-buying and technical economies of scale.

Modern supermarkets often have other facilities for customers, such as a café, a petrol (gas) station and cash machines. Many supermarkets also have free parking facilities, and therefore provide a one-stop shopping service.

The phrase ‘economies of scale’ can be broken down as follows. One meaning of the word ‘economy’ is reduced expenditure, or saving. The word ‘scale’ refers to size. Therefore, the term ‘economies of scale’ means that average costs of production fall as a firm grows or increases its output.

Internal economies of scale

Internal economies of scale are cost savings that arise from within the business as it grows.

- **Purchasing (bulk-buying) economies of scale** occur when the cost of raw materials, components or finished goods falls when they are bought in large quantities.
- **Technical economies of scale** occur when large firms purchase expensive pieces of machinery and automated equipment for the production process. Large firms also produce in large quantities and therefore the high initial cost of the machinery and equipment can be spread across the high quantity of output.
- **Financial economies of scale** occur as large firms are able to borrow money from banks more easily than small firms because they are perceived by financial institutions to be less risky. A large firm will also have a greater value of assets, which can act as security for loans and mortgages.
- **Managerial economies of scale** occur if large firms have the resources to employ specialist managers to undertake functions within the firm. For example, despite the high salaries paid by large firms to attract accountants, engineers and human resources specialists, the overall productivity of the firm might increase, thereby helping to cut unit costs.
- **Risk-bearing economies of scale** occur as very large firms, such as conglomerates, produce a range of products and operate in many locations. This diversity spreads risks as weak sales in one country can be supported by strong sales in another. Samsung makes a large range of products, so if one product is experiencing decreasing sales then this loss can be balanced by increased sales of other products.
- **Research and development (R&D) economies of scale** occur if large firms are able to fund R&D and therefore can be innovative and create products that enable them to be market leaders. For example, GlaxoSmithKline is a large pharmaceutical company that spends around 15 per cent of its sales revenue

(or over $6 billion) on R&D.

- **Marketing economies of scale** occur as large firms tend to have large advertising budgets, so can spend large amounts of money on promoting their products. For example, a Nike or IKEA advert enables all products under the Nike brand or all products sold in IKEA stores to be promoted in a cost-effective way.

Activities

1. a. Look for examples of bulk-buying economies of scale in your local supermarket. For instance, compare the cost per gram for a large bag of rice to that for a smaller bag of rice.
   b. Study the labels on the supermarket shelves to find three more examples of purchasing economies of scale and be prepared to share your findings.
2. a. Make a list of the names of businesses that advertise using billboards and on the television.
   b. Consider what these firms have in common. Are they large or small?
   c. Consider how this links to the concept of economies of scale.

External economies of scale

External economies of scale are economies that arise due to the location of the firm and are therefore external to the business. Examples of external economies of scale include the following:

Definition

External economies of scale are economies of scale that arise from factors outside of the firm, e.g. the location of the firm, proximity to transport, and the availability of skilled workers.

- **Proximity to related firms** — Tiruppur in India is renowned for textile and garment manufacturing. A garment manufacturer will benefit from having firms which produce zippers, buttons, thread and fabrics located nearby, as this will give it easy access to its suppliers and reduce transportation costs.
- **Availability of skilled labour** — in Tiruppur, there is a pool of skilled

machinists and pattern cutters. This makes recruitment of textile workers with the necessary skills relatively easy, thereby cutting costs for firms in the industry.

- **Reputation of the geographical area** — this provides all firms in the industry with free publicity and exposure. For example, Silicon Valley in California has a worldwide reputation as an area for software creation and the development of information technology systems. Hence, a large number of suitably qualified and skilled workers flock to the area.
- **Access to transportation networks** — manufacturing firms benefit from being located near to major road networks, ports and cargo facilities. A café or restaurant benefits from being close to other shops, public transport links and parking facilities. China has invested heavily in developing its infrastructure to facilitate efficient transportation of finished goods to ports and airports. This gives it a competitive advantage over India, which has less developed roads and rail networks.

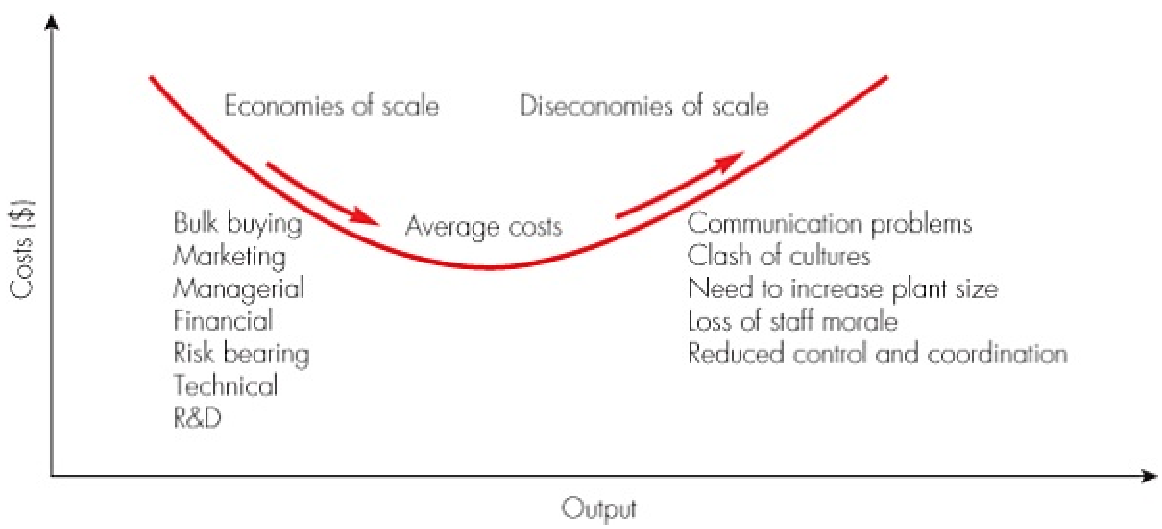


Figure 20.1 Internal economies and diseconomies of scale

Diseconomies of scale

Diseconomies of scale arise when a firm gets too large, so its average costs of production start to rise as output increases. At this stage, the disadvantages of growth start to outweigh the advantages.

Definition

Diseconomies of scale occur when average costs of production start to increase as the size of a firm increases.

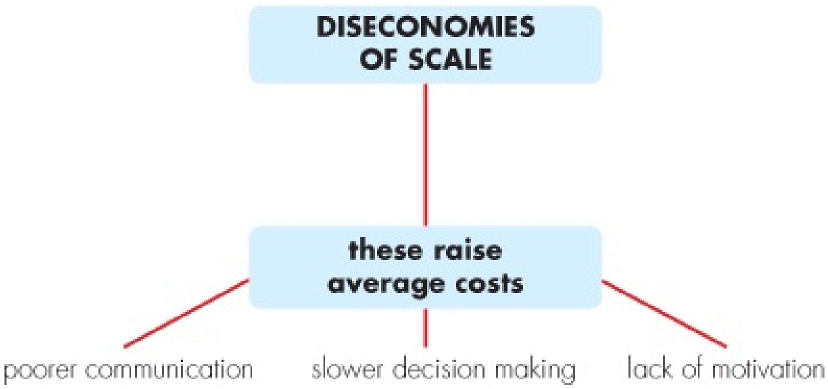


Figure 20.2 Diseconomies of scale

Reasons for the increased average costs of production include the following:

- Communication issues may arise when a firm becomes too large. There may be too many branches to control and communicate with effectively, so decision making may be slow due to the number of people in the communication chain. This may lead to increased costs of production.
- A merger between two firms may be unsuccessful due to a clash of organisational cultures, so it may be beneficial to **demerge**. In 2010, the Fosters Group, which produces beer, sold off its less profitable wine business as the merger had not brought about the benefits of economies of scale. The demerger allowed Fosters to focus on beer production again.

Definition

A **demerger** occurs when two previously merged firms decide to break up and become two separate firms.

- It may be necessary to employ more employees for all the branches of the firm, or a new factory may need to be built to accommodate the increased level of production. This will add to total costs of production and average costs of production may rise.
- Workers within a large organisation may find it difficult to feel part of a large firm, so this may lead to a lack of motivation and reduced productivity. Average costs will tend to rise as a result.
- The business may become too diverse and start to operate in areas in which it has less expertise. Reduced control and coordination may cause costs to

increase. Again, this can lead firms to demerge.

Study tip

In the real world, it can be difficult for firms to determine when they have reached their lowest average cost and therefore their ideal level of production. Many factors influence costs, and firms operate in a constantly changing environment. A firm's decision to downsize or demerge from another firm may be based on non-cost reasons, such as difficulties in control and coordination, high staff turnover or a loss of focus.

Exam-style questions

In 2010, T-Mobile and Orange merged to become one telecommunications company. After the merger, customers of Orange and T-Mobile could switch between networks and the combined firm was able to reduce the number of aerial masts required and had an increased share of the market.

The two brands are owned by a company called Everything Everywhere, which in September 2012 changed its name to EE. EE provides 4G services to its customers and T-Mobile and Orange continue to serve their own segments of the market. T-Mobile is considered to be a value-for-money brand and Orange a more premium brand.

a Explain one type of economy of scale which could be achieved by the merger between T-Mobile and Orange.

[2]

b Explain two diseconomies of scale which may arise in the future.

[4]

c Discuss the advantages and disadvantages of the merger between the two telecommunication firms.

[8]

Exam-style questions

1 Which option is an external economy of scale? [1]

A Availability of skilled labour
B Bulk-buying
C Financial
D Risk-bearing

2 What occurs when firms expand using their own resources? [1]

A External economies of scale
B External growth
C Internal economies of scale
D Internal growth

Chapter review questions

1 What are the differences between the primary, secondary and tertiary sectors of the economy?
2 Why are the primary, secondary and tertiary sectors said to be interdependent?
3 How does the private sector differ from the public sector?
4 How might the size of firms be measured?
5 Why do so many small firms exist?
6 What are the advantages and disadvantages of small firms?
7 How does internal growth differ from external growth?
8 What is the difference between a merger and a takeover?
9 How do horizontal, vertical and conglomerate mergers differ from each other?
10 What are the advantages and disadvantages of a merger?
11 How do economies of scale differ from diseconomies of scale?
12 How do internal and external economies of scale differ from each other?
13 What is a demerger and why might it occur?

Revision checklist

- ✔ The primary sector of the economy contains firms that extract raw materials from the earth — for example, firms involved in fishing, mining and agricultural farming.
- ✔ The secondary sector of the economy contains firms that manufacture goods.
- ✔ The tertiary sector contains firms that provide services to the general public and other firms — for example, retail, legal, financial and accounting services.
- ✔ Private sector firms are owned by private individuals and owners, and their main aim is profit maximisation.
- ✔ Public sector firms are owned by the government, and their main aim is to provide a service to the general public.
- ✔ The various ways to measure the size of firms include: the number of employees, market share, market capitalisation and sales revenue.
- ✔ Small firms are able to co-exist with larger firms due to the advantages of being small — for example, low set-up costs, profit incentives and being able to provide a personalised service.
- ✔ Growth of firms can occur internally (organically) or externally (inorganically).
- ✔ A merger occurs when two or more firms join together to create one firm.
- ✔ There are different types of merger: horizontal, vertical and conglomerate mergers.
- ✔ Economies of scale are the cost-saving benefits of large-scale operations, which reduce average costs of production. They can be classified as internal or external economies of scale.
- ✔ Diseconomies of scale occur when average costs of production start to increase as the size of a firm increases.
- ✔ A demerger occurs when two previously merged firms decide to break up and become two separate firms.

21 Firms and production

By the end of this chapter, students should be able to:

- describe what determines the demand for factors of production
- explain the advantages and disadvantages of labour-intensive and capital-intensive production
- distinguish between and explain the influences on production and productivity.

The demand for factors of production

Factors of production (see Chapter 2) are the resources used to produce goods and to provide services. The four factors of production are:

- **Land** — natural resources used in the production process, such as raw materials, fish and physical land.
- **Labour** — the physical and mental human input into the production process. This includes the level of skills, qualities and qualifications of the workforce, and not only the number of workers.
- **Capital** — manufactured goods used to produce other goods and to provide services, such as tools, machinery, vehicles, computers, factories and roads.
- **Enterprise** — risk takers who provide the ideas and know-how to organise the other three factors of production in the pursuit of profit.

In general, the demand for any factor of production is of **derived demand**. This means that the demand for factors of production depends on the demand for the goods and services which the factors will be used to produce. For example, economics lecturers at university are hired only if there is demand for economics courses from undergraduates.

Definition

Derived demand means that a factor of production is not demanded for its own sake, but for the goods and services that it is used to produce.

On a macroeconomic scale, the demand for the factors of production in a country results from the total level of demand for goods and services in the economy. For instance, during an economic recession (see Chapter 29), firms will demand less labour.

In addition to the derived demand for land, labour and capital, the demand for factors of production also depends on their cost, availability and quality.

- The **cost** of factors of production — the higher the cost of land, labour and capital, the lower their demand tends to be. For example, Apple outsources the production of its iPhones and iPads to Foxconn, a Taiwanese manufacturer based in China, due to the relatively low costs of land and labour there. By contrast, if labour costs are relatively high compared to the cost of capital, then workers might be replaced by machinery and technology. The demand for capital depends on the cost of borrowing money — higher interest rates increase the cost of financing capital-intensive production.
- The **quantity** (or availability) of factors of production — the greater the availability of land, labour and capital, the lower their cost tends to be, and hence the higher their demand. For example, the relatively large size and availability of the workforce in India and China has boosted the demand for labour from multinational companies seeking to expand their operations. In general, the greater the quantity of a factor of production, the lower its cost tends to be.
- The **productivity** of factors of production — better-quality resources tend to demand a higher price due to their high productivity. For example, surgeons, pilots and barristers are in high demand due to their highly valued skills and qualifications. China, India, Vietnam and Thailand have good-quality land for growing rice, whereas Scandinavian countries do not have the natural climate to do so.

Cold climates are not good for agricultural production

Activity

Foxconn is a Taiwanese company that makes electronics products such as the iPhone, PlayStation, Kindle and Wii. It has operations throughout the world, including in China, Brazil, India, Malaysia and Mexico.

Investigate the various reasons why companies such as Apple, Sony, Amazon and Nintendo might choose to use manufacturers such as Foxconn to produce goods on their behalf.

Labour-intensive and capital-intensive production

Production of goods and services requires the four factors of production in varying proportions. For example, in a school, capital resources and labour are required in greater quantities than land (natural resources). By contrast, production of soft drinks such as Coca-Cola and Sprite requires a large amount of machinery and therefore this process is **capital intensive** because it requires more machinery (a capital resource) than labour.

An architectural firm designs buildings. It requires qualified architects to create the designs and skilled technicians to use computer-aided design software to produce the drawings. Computers, software, office space and enterprise are required to design high-quality, creative buildings and to attract customers. The process is **labour intensive** because it requires a larger amount of human resources compared to technological resources and capital equipment.

Labour-intensive production

Definition

In **labour-intensive** industries, the cost of labour is proportionately higher than the cost of other factors of production, e.g. accountancy, real estate services and tourism.

In **labour-intensive** industries, the cost of labour is proportionately higher than the cost of other factors of production. Examples are traditional forms of agricultural farming, teaching, psychiatry, physiotherapy, sports coaching, management consultancy and bespoke tailors.


Fishing for scallops is labour intensive in China

Labour-intensive production can be very expensive. For example, in private fee-paying schools and health clinics, labour costs account for the largest proportion of production costs, so the price charged to customers is relatively high. Labour-intensive production processes tend to be used to produce individual or personalised products (such as a Hollywood movie or a custom-made wedding dress).

Study tip

The term ‘labour costs’ does not refer only to a person’s wage or salary, but the overall pay package. This could include other financial benefits such as overtime pay, bonuses, housing allowances and company cars.

Case study: Professional football

Professional football (soccer) is highly labour intensive. The top-earning players in the world enjoy celebrity status and are rewarded generously for their services. The top ten highest-paid footballers in 2017 are listed in Table 21.1.

Cristiano Ronaldo and Lionel Messi consistently feature in the highest-paid footballers list

Table 21.1 Top ten highest-paid footballers, 2017

Rank	Player	Total earnings ($m)	Club
1	Cristiano Ronaldo	93	Real Madrid
2	Lionel Messi	80	Barcelona
3	Neymar, Jr	37	Barcelona
4	Gareth Bale	34	Real Madrid
5	Zlatan Ibrahimovic	32	Manchester United
6	Wayne Rooney	24	Manchester United
7	Luis Suarez	23	Barcelona
8	Sergio Aguero	23	Manchester City
9	James Rodriguez	22	Real Madrid
10	Paul Pogba	21	Manchester United

Note: figures rounded to the nearest million dollars

Source: *Forbes*

Activity

Discuss whether economics is more important than ethics in deciding how much professional sports people should be paid.

Exam-style questions

Study the hypothetical data below for two firms and answer the questions that follow. The figures show the amount of money spent by each industry on factors of production.

Firm	Labour costs ($)	Capital costs ($)	Other costs ($)
A	20,000	10,000	10,000
B	40,000	40,000	20,000

a Define labour-intensive production.

[2]

b Use the data above to explain why Firm A might be considered to be more labour intensive than Firm B, despite the latter spending twice as much on labour costs.

[4]

Capital-intensive production

Definition

In **capital-intensive** industries, the use and cost of capital is more prominent than that of any other factor of production, e.g. car manufacturing.

Capital-intensive production takes place if a firm spends more on capital costs than on any other factor of production. This includes expenditure on capital equipment such as tools, equipment, machinery and vehicles. Therefore, firms operating capital-intensive production need a lot of money to fund their activities. This can act as a barrier to entry since it proves expensive for new firms to enter such industries. Examples are aircraft and motor vehicle manufacturers, soft drinks production and oil extraction.

There are significant entry barriers into the car and aircraft manufacturing industries

Despite the initially high costs of capital-intensive production, there are potentially huge cost savings in the form of **technological economies of scale** in the long run (see Chapter 20). Firms that become more capital intensive usually do so to increase their output and productivity levels by mass producing their products. In this way, their unit costs of production are relatively low. As countries such as India and China industrialise, production also tends to become more capital intensive.

Exam-style questions

Educational services are exploiting the use of technology in the twenty-first century. For example, long-distance learning technologies (such as e-learning and video conferencing) allow students to study courses from the comfort of their own homes without physically attending a university campus, replacing the traditional lecture-style experience.

a Explain two benefits of capital-intensive technologies in the provision of educational services.

[4]

b Discuss whether technology could ever replace the traditional labour-intensive nature of teaching and learning.

[8]

Choosing between capital- and labour-intensive production

Whether firms choose more capital- or labour-intensive production methods depends on several related factors:

- **The cost of labour compared to the cost of capital** — firms tend to choose more capital-intensive methods of production if labour costs are relatively high (assuming that they are able to substitute factors of production in the output process), and vice versa.
- **The size of the market** — capital-intensive production tends to take place for mass-market products such as soft drinks, passenger vehicles and consumer electronics. Labour-intensive methods are often used for personalised services, such as a private tutor, counsellor, adviser, instructor or coach.
- **The firm's objectives** — profit maximisers operating in mass markets tend to

opt for capital-intensive production in order to minimise their unit costs of production. Other firms might choose to use labour-intensive methods as they operate on a smaller scale or to safeguard jobs. For example, manufacturers such as Black & Decker operating in Shenzhen, China, use labour-intensive production methods in order to create jobs in the special economic zone (see Chapter 30), benefiting from tax incentives from the government.

Reasons for using capital-intensive production

Capital-intensive production may be preferred for the following reasons:

- Capital-intensive production enables firms to use mass production techniques, such as automation in car manufacturing. This enables more output to be produced in less time than using labour-intensive methods. For example, Coca-Cola produces 2000 cans of Coke per minute at its bottling plant when operating at full capacity!
- Unit costs of production are therefore relatively low.
- The use of capital-intensive technologies reduces human error in the production process — that is, machinery is more accurate than humans in the production process.

However, there are drawbacks too. Capital-intensive methods of production can involve huge set-up costs (such as purchase and installation), running costs (such as servicing and maintenance) and replacement costs (when equipment becomes outdated and in need of upgrading). The reliance on assembly lines means any breakdowns will cause major problems for the business.

Reasons for using labour-intensive production

Labour-intensive production may be favoured for the following reasons:

- It is suitable for producing products that are highly customised (individualised), such as tailor-made suits and wedding gowns.
- Similarly, labour-intensive output enables customers to receive a personalised service, so it is appropriate for firms to charge higher prices.
- As workers are highly skilled and experienced, the quality of the product will also be high.
- Labour-intensive production is more flexible than capital-intensive methods. Labour, unlike capital (such as machinery), can be used flexibly to meet changing levels of demand. For example, retail businesses tend to hire more

temporary workers during peak trading seasons.

However, labour-intensive output can be expensive. Hiring highly skilled and experienced workers results in higher costs of production and hence a higher price charged to customers.

Production and productivity

Production refers to the total output of goods and services in the production process. **Productivity** is a measure of how well resources are used in the production process — that is, economic efficiency in the use of land, labour, capital and enterprise (see Figure 21.1).

For example, **labour productivity** measures the efficiency of the workforce in terms of output per worker. It can be improved by having a better-skilled workforce (through education and training) or by allowing workers to use better, more efficient technologies to increase their output.

By contrast, the use of automation, such as robotics and specialised computer equipment in car manufacturing, can help to raise **capital productivity** without the need to hire more workers.

Definitions

Production refers to the total output of goods and services in the production process.

Productivity is a measure of efficiency found by calculating the amount of output per unit of a factor input, e.g. output per worker or output per machine hour.

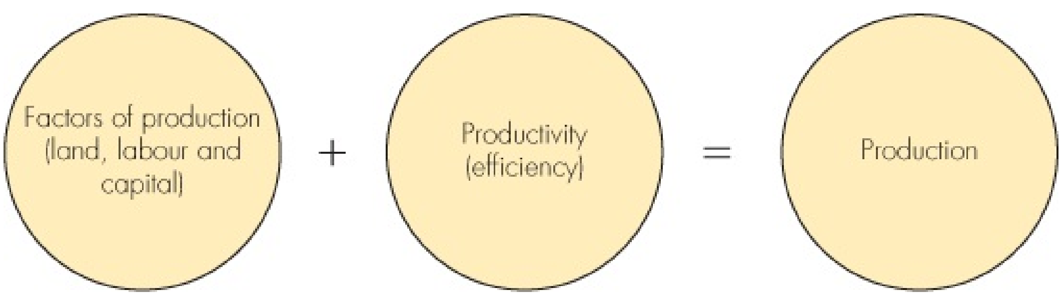


Figure 21.1 The input–output process

Higher productivity is important for an economy for several reasons:

- **Economies of scale** — higher levels of output, whether through capital-intensive or labour-intensive methods of production, help to reduce unit costs (see Chapter 22). These cost-saving benefits can be passed on to consumers in the form of lower prices. For example, the mass production of 4K HDR televisions and digital cameras has made these products much more affordable to many customers around the world. In addition, cost savings from higher productivity levels can help firms to earn more profit on each item sold.
- **Higher profits** — productivity gains are a source of higher profits for firms. These profits can be reinvested in the business to fund research and development or to expand the operations of the business. Either way, higher profits help to fund the long-term survival of the firm.
- **Higher wages** — highly productive firms that enjoy cost savings and higher profitability can afford to pay higher wages to their workers, especially if they become more efficient. Such firms also tend to attract the best workers as people prefer to work for firms with better prospects and profitability.
- **Improved competitiveness** — productive firms are more efficient and so can compete more effectively on a global scale. For example, Samsung's efficiency gains during the late 2000s ensured the South Korean company took market share from Nokia and Apple to become the market leader in the smartphones industry.
- **Economic growth** — productivity is a source of economic growth because it increases the productive capacity of an economy, thus shifting out its production possibility curve (see Chapter 4). This helps to raise employment and standards of living in the economy. Higher wages, from improved efficiency of firms and higher labour productivity, also mean the government collects more tax revenue to fund its expenditure on the economy (see Chapter 26).

The difference between productivity and production

Productivity is a measure of the degree of efficiency in the use of factors inputs in the production process. It takes an average measure of this efficiency, such as output per worker, sales revenue per person, or output per machine hour. Alternatively, productivity can be measured as a ratio, such as the value of output compared to the cost of the inputs (the factors of production).

By contrast, **production** refers to the total output of goods and services in the production process. Production can be increased either by using more factor inputs or by raising the productivity of existing factors of production.

Study tip

Higher productivity increases the output of goods and services. However, increasing the number of workers or any other factor input does not necessarily increase output unless these resources are used efficiently. Firms that operate on a larger scale can suffer from diseconomies of scale (see Chapter 20).

Exam-style questions

Study the data below for two real estate firms selling residential property over a typical weekend. The number of units sold and the number of sales staff involved are also shown.

Firm	Total sales ($)	Units sold	Sales staff
Sharma Realty	3,950,000	10	8
Urvashi Realty	3,800,000	14	10

a Calculate the labour productivity as measured by sales per worker for both Sharma Realty and Urvashi Realty.

[2]

b Use the information above to comment on why it might be difficult to decide whether Sharma Realty and Urvashi Realty is the more productive firm.

[4]

Influences on productivity

The five main factors influencing the rate of productivity growth are as follows:

- **Investment** — this is the expenditure on physical capital such as machinery, equipment and buildings. For example, investment in the latest technologies generally helps workers to do their jobs better — that is, to produce more and better-quality output. The degree of investment in turn is determined by the level of interest rates (see Chapter 27). In general, the higher the interest rate, the more expensive capital expenditure will be, thus discouraging investment in the economy.

- **Innovation** — this refers to the commercialisation of new ideas and products. The invention of tablet computers and smartphones has transformed the way many people work, as they are able to conduct their business while mobile rather than at the office. Such innovations have increased the speed of work, improved communications and enhanced organisation at work. Thus, innovation can boost productivity.
- **Skills and experience** — the productivity of labour is determined by the quantity and quality of labour. The latter can be increased by improving the skills and experience of the labour force. Education and training, for example, enhance the **human capital** (skills and experiences of the workforce) in the economy, thus helping to increase productivity.
- **Entrepreneurial spirit** — entrepreneurs take risks in the production process in the pursuit of profit. They plan and organise the various factors of production in the production process. Productivity depends on the drive (motivation) of entrepreneurs, such as their willingness and ability to exploit new business opportunities.
- **Competition** — rivalry creates an incentive for firms to be more productive. Without competition, firms might lack the incentive to be efficient or innovative. By contrast, competition forces firms to be more efficient, thus helping to boost the economy's overall productivity.

Definition

Innovation is the commercialisation of new ideas and products. It is a vital source of productivity.

Innovation has helped business people boost productivity by working while on the move

Case study: Kodak

Kodak, once the largest firm supplying photographic camera film, became complacent as rival firms switched to the production of digital camera technology from the late 1990s.

Founded in 1888, the American firm had dominated throughout most of the twentieth century, with its market share reaching 90 per cent in 1976. Having failed to make any profit for five consecutive years, however, Kodak ceased its output of digital cameras and filed for bankruptcy in early 2012.

Discuss why productivity is important for the survival of firms such as Kodak.

Exam-style questions

Which option is **not** an indicator of productivity gains in an economy? [1]

A Greater number of people in the labour force

B Greater investment in research and development

C Higher wages to motivate staff to work harder

D Improved education and training

Activity

Investigate the ways in which the level of productivity in your school might be improved. Try to make your recommendations realistic and be prepared to share your suggestions with the rest of the class.

Chapter review questions

1. What are factors of production, and what are the four factors of production?
2. Why is the demand for factors of production a derived demand?
3. How does labour-intensive output differ from capital-intensive output?
4. What are the factors that determine whether firms are capital intensive or labour intensive?
5. How does production differ from productivity?
6. Why is higher productivity important for an economy?
7. What are the main determinants of productivity?

Revision checklist

✔ Factors of production (land, labour, capital and enterprise) are the resources required to produce goods and provide services.

✔ The demand for factor of productions is a derived demand — that is, their demand depends on the demand for the goods and services which they will be used to produce.

✔ The demand for factors of production also depends on their cost, availability and quality.

✔ In labour-intensive industries, the cost of labour is proportionately higher than the cost of other factors of production. Examples are often found in the service industries, such as accountancy, banking and tourism services.

- ✔ In capital-intensive industries, the use and cost of capital is more obvious than that of any other factor of production. Examples are often found in the manufacturing sector, such as car manufacturing.
- ✔ Production refers to the total output of goods and services in the production process.
- ✔ Productivity is a measure of how well (efficiently) resources are used in the production process.
- ✔ Labour productivity measures the efficiency of the workforce in terms of output per worker.
- ✔ The main determinants of productivity are: investment expenditure, innovation, skills and experiences of the labour force, entrepreneurial spirit and competition.

22 Firms' costs, revenue and objectives

By the end of this chapter, students should be able to:

- define and calculate costs of production
- draw and interpret diagrams that show how changes in output affect costs of production
- define revenue
- define and calculate total revenue (TR) and average revenue (AR)
- explain the objectives of firms: survival, social welfare, profit maximisation and growth.

Costs of production

Costs of production are the payments made by firms in the production process. Examples of costs of production are:

Definitions

Costs of production refer to a firm's expenditure in the process of producing goods and/or providing services.

Fixed costs are costs that a firm has to pay irrespective of how much it produces or sells.

Variable costs are those that change as the level of output changes. The higher the level of production, the greater the total variable costs will be.

- wages and salaries paid to employees
- rent paid to land owners for hiring business premises
- advertising expenses
- purchases of raw materials and components from suppliers

- utility bills for telephone, gas and electricity services
- dividend payments to shareholders
- taxes paid to the government based on the value of company profits.

Costs of production can be categorised in several ways.

Fixed costs

Fixed costs (FC) are the costs of production that have to be paid regardless of how much a firm produces or sells (see Figure 22.1). For example, salaries for senior managers, insurance payments, administrative costs, bank loan repayments and rent all have to be paid regardless of the firm's output level.

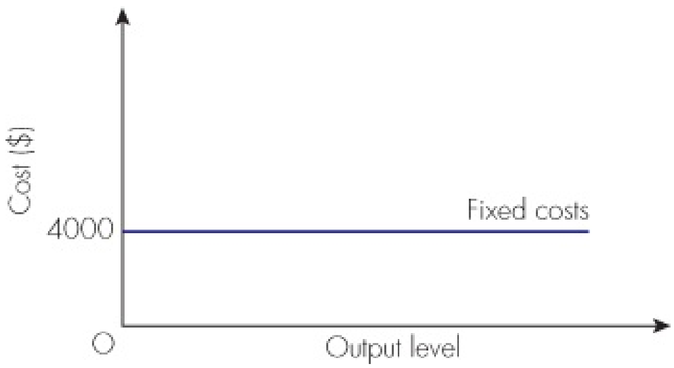


Figure 22.1 Fixed costs for a firm (with $4000 of fixed costs)

Variable costs

Variable costs (VC) are costs of production that change when the level of output changes. Examples are the costs of raw materials, component parts and the payment of wages needed to build houses — the more houses that are built, the higher these variable costs become. The total variable cost line (see Figure 22.2) starts at the origin because when there is no output, no variable costs are incurred.

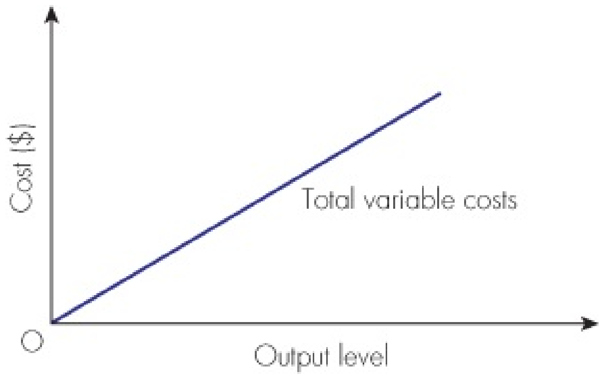


Figure 22.2 Variable costs of a firm

Total cost

Total cost (TC) refers to the sum of all fixed and variable costs of production. The total cost line, shown in Figure 22.3, starts at the same value as fixed costs because even when nothing is produced, fixed costs still have to be paid by the firm.

Definitions

Total cost is the sum of all fixed and variable costs of production.

Average fixed cost refers to a firm's fixed cost per unit of output.

Total cost = fixed costs + variable costs

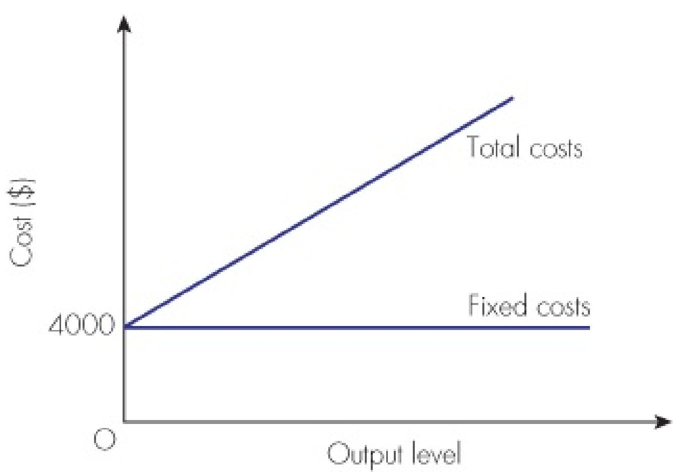


Figure 22.3 Total costs for a firm

Average fixed cost

Average fixed cost (AFC) is the fixed cost per unit. As a firm produces more output, its fixed costs are divided by a greater quantity (of output), so AFC continually declines (see Figure 22.4). It is calculated using the formula:

Average fixed cost = fixed cost ÷ output level

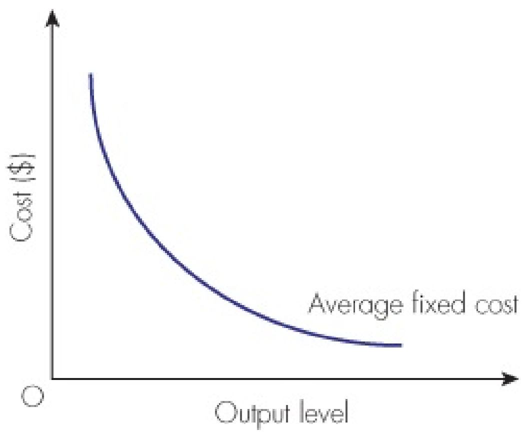


Figure 22.4 Average fixed cost

Average variable cost

Average variable cost (AVC) is the variable cost of production per unit of output. It is calculated by dividing variable cost by the number of units produced. The shape of the AVC curve is similar to that shown in Figure 22.5, where economies of scale (see Chapter 20) allow the firm to enjoy falling AVC. The onset of diseconomies of scale will increase a firm's AVC as it overproduces.

Definitions

Average variable cost refers to the variable cost per unit of output.

Average total cost is the cost per unit of output, i.e. the total cost of making one product.

Average variable cost = variable cost ÷ output level

Average total cost

Average total cost (ATC), also known as the **cost per unit**, refers to the total cost of making *one* product — it is the unit cost of production. The diagrammatic representation of ATC is shown in Figure 22.5. The formula to calculate ATC is:

Average total cost = total cost ÷ output level

How changes in output affect costs of production

Firms that operate on a large scale are able to reduce their average cost of production (see Chapter 20). For example, Coca-Cola's bottling plants can produce 2000 cans of soft drink per minute. This enables Coca-Cola to benefit from lower ATC (unit costs) as shown in Figure 22.5. The diagram shows that the firm is able to enjoy **economies of scale** (lower average costs) as it expands output from O*a* to O*b*. However, if the firm becomes too large, by operating beyond O*b*, it will suffer from inefficiencies, thus leading to **diseconomies of scale** (see Chapter 20).

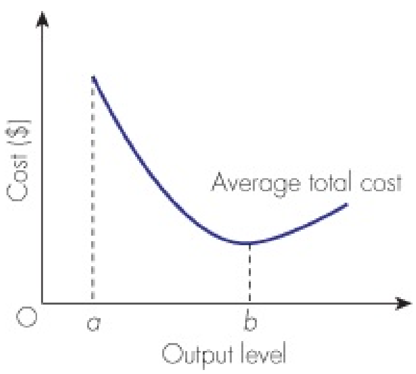


Figure 22.5 Average total cost of a firm

Activities

1 The table below shows a firm's fixed and variable costs of production at different levels of output. Calculate the level of output where average cost is at its lowest.

Output (units)	Fixed costs ($)	Variable costs ($)
20	300	40
30	300	75

40	300	120
50	300	250

2 Juke Engineering produces batteries for a major car maker. Juke's monthly cost structure is shown in the table below. Assume that the firm's average variable costs of production remain constant at all the levels of output shown.

Output level (batteries)	**Total cost ($)**
1000	50,000
2000	80,000
3000	110,000

a Calculate the average variable cost of production for Juke Engineering.

b Calculate the value of Juke Engineering's monthly total fixed cost.

c Calculate the change in Juke Engineering's average cost of production if it increases production from 1000 batteries per month to 3000 batteries per month.

Revenue

Revenue refers to the money payable to a business from the sale of its products. For example, Nike and Adidas receive most of their revenue from the sale of sports apparel and sports equipment. According to its website, McDonald's, the world's largest restaurant chain with over 37,000 restaurants worldwide, earns around $25 billion of revenue a year from the sale of fast food. The higher the volume of sales, the higher the firm's revenue will be.

McDonald's has over 37,000 restaurants worldwide and earns around $25 billion of revenue a year. This is a branch in Tokyo, Japan

Calculation of revenue

Total revenue (TR) refers to the aggregate amount of money a firm receives from selling goods and services. It is calculated by using the formula:

Definition

Total revenue is the amount payable to a firm from the sale of its goods and services.

Total revenue = price × quantity sold

For example, if a cinema charges an average price of $10 for a movie and manages to sell 5500 tickets in a week, its total revenue will be $55,000 (that is, $10 × 5500).

Average revenue (AR) refers to the typical price received from the sale of a good or service. It is calculated using the formula:

Average revenue = total revenue ÷ quantity sold

So, if instead the cinema earns $60,000 from the sale of 7500 tickets, the average revenue (or average price) will be $60,000 ÷ 7500 = $8 per ticket.

Objectives of firms

Objectives are the goals or targets of an organisation, such as business survival, social welfare, growth and profit maximisation.

- **Survival** — while business survival is a vital objective for new businesses, even well-established firms will need to focus on this, especially during unfavourable trading times. To survive in the long run, firms need to be profitable.
- **Social welfare** — this refers to business activity with concerns for the quality of life of those in society. Such objectives focus on what is considered to be socially responsible. They include having ethical objectives and using moral principles (values and beliefs) to guide business activity. Socially responsible businesses strive to improve the treatment of workers, customers, shareholders and the natural environment. For example, charities aim to provide services to enhance the welfare of others in society.

  Pursuing social welfare as a business objective can help to improve how the general public perceives the organisation. A bad image can turn suppliers and customers against the firm's products and services. For example, US car maker Ford recalled over 500,000 cars worldwide in 2017 due to engine fires and faulty door latches. Resolving such problems, although costly to Ford, can prevent problems for the firm in the long run.
- **Growth** — this objective refers to increasing the size of a business. It usually means aiming to increase the firm's sales revenues and its **market share** (its proportion of the industry's total sales revenue). An increase in sales revenue will, other things being equal, lead to greater market share for the firm. Growth has several advantages, such as customer loyalty and economies of scale (see Chapter 20).
- **Profit and profit maximisation** — a firm earns **profit** if its total revenue exceeds its total cost of production. Profit is calculated by using the formula:

  Profit = total revenue − total costs

Profit provides an incentive for entrepreneurs to take risks. Without profit, firms will struggle to survive in the long run.

ExxonMobil, the world's largest oil company, earns annual profits in excess of $41 billion

Study tip

Students often use the terms 'cost' and 'revenue' interchangeably, although the terms have different meanings. Firms always pay the 'cost' (of production), whereas customers always pay the 'price'. To make a profit, a product's price must exceed its cost.

Definition

Profit is the positive difference between a firm's total revenue and its total cost of production, i.e. profit = *TR* – *TC*.

Activities

1 Carol's Candles has fixed costs of $4000 each month. Its average variable cost is $3 per candle. The firm's current level of demand is 2500 candles per month. The average price of its candles is $6.

a Using an example, explain what is meant by a fixed cost of production.

b Calculate the firm's total cost of production each month.

c Calculate the average total cost per month for Carol's Candles.

d Calculate the profit if demand increases to 3000 candles per month.

2 Complete the information below for a firm that sells pizzas.

Units sold (pizzas per week)	Sales revenue ($)	Total fixed costs ($)	Total variable costs ($)	Total cost ($)	Profit or loss ($)
0	0				–4,000
400			4,000	8,000	
800		4,000			
1,200	18,000				

3 The following data refer to the costs and revenues of Mintjens Curtains Ltd when operating at 300 units of output per month.

Item	Cost or revenue ($)
Price	50
Raw materials per unit	15
Advertising costs	200
Rent	3,500
Salaries	3,000

a Explain why advertising costs are an example of a fixed cost of production for Mintjens Curtains Ltd.

b Calculate Mintjens Curtains Ltd's monthly total fixed costs of production.

c Calculate Mintjens Curtains Ltd's total cost of producing 300 units per month.

d Calculate the profit made by Mintjens Curtains Ltd if it sell all its output.

Profit maximisation is the main goal of most private sector firms. Profit is maximised when the positive difference between a firm's sales revenue and its cost of production is at its greatest.

Activity

The table below shows the total cost of a firm.

a Calculate the total revenue at each level of output if the selling price is $5.

Output (units)	20	30	40	50
Total cost ($)	120	150	190	230
Total revenue ($)				

b From the above calculations, identify the number of units that the firm should produce in order to maximise profits.

Exam-style questions

On Valentine's Day 2013, American Airlines and US Airways merged to create the world's largest airline in a deal worth $11 billion. Critics of the merger were concerned that with less competition, the US airline industry would have fewer incentives to keep prices at a competitive level. Others believed that the intensity of competition between Delta Air Lines and United Airlines would simply force American Airlines to offer better customer service for passengers. Today, American Airlines offers around 6700 daily flights to nearly 350 destinations, and has annual revenue of around $40 billion.

a Define *revenue*.

[2]

b Discuss whether the merger between American Airlines and US Airways would lead to lower costs and higher profit for the firm.

[8]

Activity

Investigate the objectives of any two organisations of your choice. Compare and contrast your findings and be prepared to share them with the rest of the class.

Chapter review questions

1. What is meant by cost of production?
2. What is the difference between total, average, fixed and variable costs of production?
3. How might the average cost of production change when the level of output changes?
4. What is the difference between total and average revenue?
5. What are the objectives (goals) that businesses might have?
6. How is profit calculated?
7. Why is survival an important goal for firms?
8. What is profit maximisation?
9. Why do most firms aim for growth?
10. Why do some firms have social welfare as a goal?

Revision checklist

- ✔ Costs of production are the payments made by firms in the production process, such as salaries, advertising expenditure and taxes.
- ✔ Fixed costs are the costs of production that a firm has to pay irrespective of its output level, such as rent and insurance costs.
- ✔ Variable costs are costs of production that change when the level of output changes, such as raw material costs and utility bills.
- ✔ Total cost is the sum of all fixed and variable costs of production: $TC = FC + VC$.
- ✔ Average fixed cost (AFC) is a firm's fixed cost per unit of output, which continually declines as output increases.
- ✔ Average variable cost (AVC) is a firm's variable cost per unit of

output. It falls when the firm experiences economies of scale — for example, due to discounts for bulk purchases of raw materials.

- ✔ Average total cost (ATC) is the cost per unit of output — that is, the total cost of making one product.
- ✔ Revenue is the money payable to a business from the sale of its goods and services.
- ✔ Total revenue (TR) is the aggregate sum of money a firm receives from selling goods and services: $TR = P \times Q$.
- ✔ Average revenue (AR) refers to the typical price received from the sale of a good or service: $AR = TR \div Q$.
- ✔ Objectives (goals) of firms include: survival, social welfare, growth and profit maximisation.
- ✔ Profit maximisation is the main goal of most private sector firms.

23 Market structure

By the end of this chapter, students should be able to:
- understand competitive markets
- understand monopoly markets.

Competitive markets

In economics, the term **market structure** refers to the key characteristics of a particular market. These features include:
- the number and size of firms in the market
- the degree and intensity of price and non-price competition
- the nature of **barriers to entry**.

Definitions

Market structure refers to the key characteristics of a particular market (or industry), such as the number and size of firms in the market, the degree and intensity of price and non-price competition, and the nature of barriers to entry.

Barriers to entry are the obstacles that prevent firms from entering a market. Examples are the existence of intellectual property rights, large advertising budgets of existing firms and legal constraints to prevent wasteful competition.

The two extreme market structures in economics are highly competitive markets and monopoly.

Competitive markets are those with an immense degree of competition. A real world example is the wet markets (fresh food markets) commonly found in Asian countries such as Hong Kong, Singapore, South Korea, Taiwan and Macau.

A wet market in Hong Kong — an example of a competitive market

The main characteristics of firms operating in competitive markets is that there are many firms in the industry, none of which has any significant market power to influence market demand or market supply (see Chapters 7 and 8). The presence of a large number of firms in the industry has an impact on price, quality, choice and profit.

- **Price** — firms in competitive markets are said to be **price takers**. This means that the price they charge is determined by the market forces of demand and supply rather than the firms setting their own prices.
- **Quality** — in some highly competitive markets, firms produce or sell **homogeneous** products. This means the products being sold are identical, such as bananas or strawberries being sold in fresh fruit markets. These firms do not focus on quality as a form of product differentiation.
- **Choice** — in other competitive markets, firms focus on producing **differentiated** products rather than homogeneous ones. For example, firms may use branding, different product designs, colours and quality to differentiate their products. Many successful and large businesses develop memorable slogans (catchphrases) as a form of product differentiation in order

to improve their competitiveness (see Table 23.1).

- **Profit** — both buyers and sellers have easy access to information about the product and the prices being charged by competitors. In addition, as there are many rivals in the industry, profits will be relatively low for each firm in the market.

Definition

Price takers are firms that set their price according to the market price, rather than determining their own prices.

Table 23.1 Examples of business slogans

Slogan	Business
Impossible is nothing	Adidas
The ultimate driving machine	BMW
Have it your way	Burger King
The world’s online marketplace	eBay
The world on time	FedEx
The world’s local bank	HSBC
Because I’m worth it	L’Oréal
I’m loving it	McDonald’s
Just do it	Nike
Ideas for life	Panasonic
I don’t want to grow up	Toys R Us
Always low prices	Walmart

Overall, a high degree of competition in a market tends to benefit consumers. This is because they get higher-quality products and good customer service. In addition, competition brings about greater choice, higher output and more competitive prices (see Figure 23.1).

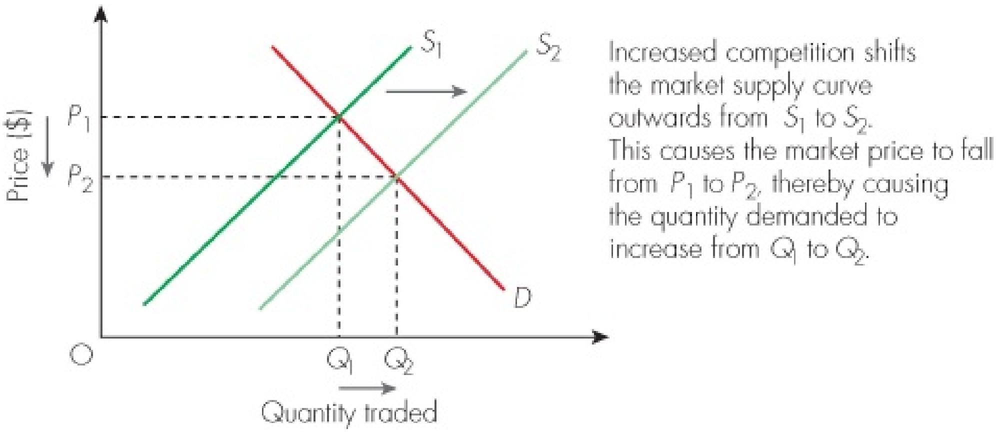


Figure 23.1 Impact of competition on market price and output

Exam-style questions

Supermarket chains such as Walmart, Carrefour and Tesco use an extensive range of pricing and non-pricing strategies to compete. Market research published by *Which?* (a consumer campaigning organisation in the UK) showed that most shoppers believe supermarkets deliberately try to mislead them by using confusing pricing strategies.

Which? found that supermarkets often use poor labelling and puzzling prices for their products. For instance, a 600g jar of mayonnaise might be priced at £3.49 while a 400g jar of the same brand is priced at £2.35 — so which one offers better value? Similarly, pre-packed fruit and vegetables were found to have very different prices compared to loose varieties of the same produce.

a Analyse whether supermarkets operate in a competitive market. [6]

b Discuss whether consumers benefit from the competitive strategies used by supermarkets. Give reasons for your answer. [8]

Monopoly markets

There are different definitions of the term ‘monopoly’. In general, a **monopoly** is a market structure where one supplier dominates the market and has significant market power. Examples include Coca-Cola (carbonated soft drinks), YKK (zip fasteners) and Mabuchi (which makes around 90 per cent of the micro-motors used to adjust rear-view mirrors in cars).

Definition

Monopoly is a market structure where there is only one supplier of a good or service, with the power to affect market supply and prices.

A **pure monopoly** exists if only one firm supplies the whole market. In the USA, examples are the United States Postal Service (the only service provider of first-class postage) and the Federal Reserve (the sole supplier of US banknotes and coins).

The word ‘monopoly’ comes from the Greek language, with *monos* meaning ‘one’ and *polein* meaning ‘to sell’.

In most industries, there are market leaders (those with a high market share) which have significant monopoly power to influence the market supply and hence prices. An example is the tablet computer industry, which is dominated by Apple and Samsung. Hence, these firms are **price makers** (or **price setters**) rather than price takers.

Definition

Price makers are firms that set their own price as they have the market power to do so, rather than having to base their price on the equilibrium price determined by the forces of demand and supply.


Microsoft enjoyed a monopoly position in the software industry during the 1990s

Characteristics of monopoly

Monopoly has the following characteristics:

- **Single supplier** — as its name suggests, a monopolist is the sole supplier of a product in a given market. This is due to the lack of substitute products caused by barriers to entry into the market.
- **Price maker** — the monopolist has significant market power as it controls enough of the market supply (see Chapter 8) to be able to charge higher prices and yet produce lower output than would be the case if it faced competition.
- **Imperfect knowledge** — a monopolist is able to protect its prestigious position as customers and rivals have imperfect knowledge, partly as a result of the monopolist's ability to protect its trade secrets.
- **High barriers to entry** — a monopolist can only remain so if in the long run there are very high barriers to entry. These obstacles effectively prevent other firms from entering the market. Examples are: economies of scale of existing firms, ownership of essential resources, the existence of intellectual property rights (patents, trademarks and copyrights), advertising expenditure and legal barriers to entry.

Study tip

It is incorrect to claim that monopolists can charge 'whatever' price they want because they are the single supplier of a good or service. While monopolists have the ability to control market supply, they cannot govern the level of market demand. Customers will switch to or seek alternatives if prices are too high. Hence, monopolists must lower prices if they want to sell more.

Case study: Prices through the roof

With a large degree of monopoly power, firms are able to charge astronomical prices for some of their products. For example:

- The most expensive can of Coca-Cola, made for astronauts, is priced at $1250 per can.
- The world's fastest car, the Bugatti Chiron is priced at a cool $2.7 million, before taxes are applied.
- The most expensive Barbie doll, which comes with a 1-carat pink diamond, sold in 2010 for a record price of $302,500.
- The world's most expensive BBQ is the 24-carat gold-plated BeefEater Barbecue, for which you have to pay $165,000.
- At $25,000, the world's most expensive dessert is a chocolate sundae sold with a golden spoon for customers to enjoy flakes of edible gold! They can keep the spoon, which is made by luxury jeweller Euphoria New York.

In reality, barriers to entry exist in almost all markets. For example, there may be legal barriers to some industries, such as the professional qualifications required to practise law and medicine, and high set-up costs preventing entry into other markets, such as the airline and pharmaceutical industries.

Activity

Choose one of the products in the case study ‘Prices through the roof’. Discuss with a partner the reasons why certain customers would be willing to pay such a high price for one of these goods.

Exam-style questions

The advertising budgets of large firms can act as a barrier to entry. America’s most watched sporting event, the annual Super Bowl, is a magnet for firms with huge advertising budgets. In 2017 the average cost of a 30-second advert during the Super Bowl was $5 million! Marketers believe that the best Super Bowl adverts earn a permanent place in history, being broadcast on television and internet websites such as YouTube for years to come.

a Define the term *barriers to entry*.

[2]

b Explain why advertising expenditure can act as a barrier to entry.

[4]

Advantages of monopoly

The monopoly market structure has the following benefits:

- As monopolists control market supply, they operate on a very large scale, thus benefiting from huge economies of scale (see Chapter 20) — that is, lower average costs of production as output increases. This means that monopolists can actually supply larger quantities of output and at lower prices. Such market power can be a source of international competitiveness against foreign competitors.
- Monopolists have the financial resources to invest in innovation. Research and development expenditure can help to generate new ideas, products and production processes. Innovation can therefore act as a source of profit and improve the productive capacity of the economy. For example, Apple's innovative products such as the iPhone and iPad have made the company one of the most valuable businesses on the planet.
- Some monopolies can eliminate wasteful competition. For example, it makes economic sense to have one monopoly supplier of postal services in a town, state or country rather than allowing private sector firms to compete to provide such services. This is because profit-seeking firms may not have much of a financial incentive to provide services in remote areas of the country and a single provider can gain huge economies of scale. The same applies to suppliers of water pipes, railway tracks, telephone lines and electricity grids.

Disadvantages of monopoly

Monopoly has the following disadvantages:

- Private sector monopolies can be inefficient in terms of resource allocation. In their pursuit of profit maximisation, monopolists can restrict the output of a product and/or charge a higher price for it. This creates a loss in the welfare of consumers.
- As there are no substitutes for the products supplied by monopolists, demand is price inelastic (see Chapter 11). As monopolists are price makers, they can charge higher prices to maximise profit from this relatively low PED.
- High barriers to entry prevent new firms from setting up in the market. This limits the degree of competition and ensures monopolists can continue to

charge relatively high prices.

- Imperfect knowledge about the prices and products being charged by competitors means that consumers may not necessarily make rational choices. For example, mobile phone network providers use very confusing pricing packages for their services. Similarly, banks offer a variety of interest rate charges for their various types of loans. Thus, imperfect knowledge enables monopolists to maintain market power.
- Monopolists may have less incentive to innovate than firms in competitive markets. Innovation is the commercial exploitation of an invention. The lack of competitive pressures means that monopolists can become complacent (as there is no need to be worried about competition), rather than focusing on innovations to ensure their survival.

Note that if monopolies exploit their market power and act against the public interest, perhaps by deliberately charging unreasonably high prices, then the government can intervene. For example, a merger between the two largest firms in a market can be prohibited by the government if there is a strong reason to believe that the monopolist's resulting gain in market share will act against the interests of the general public. In 2013, Visa and MasterCard were fined a record $7.25 billion for colluding to fix their credit card fees to retailers for processing credit card payments.

Activities

1. The top five suppliers in the sugar and tobacco industries account for about 99 per cent of the market in the UK. Use the internet to research the industries which are most dominated by monopolists in your own country.
2. In small groups, discuss whether monopolies offer more or less choice for customers. Think of real-world examples to support your discussions. Is choice a good thing?
3. Discuss the information you would need in order to assess whether a particular monopolist benefits consumers.

Exam-style questions

1. Which option is **not** a feature of monopoly?

[1]

A Firms supply homogeneous goods
B Monopolists are price makers
C Only one firm in the industry
D There are major barriers to entry into and exit from the industry

2 Which option is **not** a feature of competitive markets?

[1]

A Firms supply differentiated goods
B Many small firms exist in the industry
C There are no barriers to entry into and exit from the industry
D There is perfect knowledge of prices and production information

3 Which option is not a characteristic of monopoly as a market structure?

[1]

A High market share
B Imperfect knowledge
C Low entry barriers
D Price setter

4 What is an advantage of monopoly as a market structure?

[1]

A Being able to charge lower prices
B Consumer sovereignty
C Having the financial resources for research and development
D Wider choice and availability of products

Chapter review questions

1 What is meant by market structure?
2 What are barriers to entry?
3 What are the main characteristics of competitive markets?
4 What are the effects of competitive markets on price, quality, choice and profit?

5 What is meant by a monopoly?
6 What are the main characteristics of a monopoly?
7 What are the advantages of monopoly?
8 What are the disadvantages of monopoly?

Revision checklist

- ✔ Market structure refers to the key characteristics of a particular market, in terms of: the number and size of firms in the market, the degree and intensity of price and non-price competition, and the nature of barriers to entry.
- ✔ Barriers to entry are the obstacles that prevent firms from entering the market.
- ✔ The two extreme market structures in economics are highly competitive markets and monopoly.
- ✔ Competitive markets are those with an immense degree of competition.
- ✔ Price takers are firms that set their price according to the market price, rather than determining their own prices.
- ✔ In general, a high degree of competition tends to benefit consumers in terms of higher-quality products, better customer service, greater choice and more competitive prices.
- ✔ Monopoly is a market structure where there is only one supplier of a good or service, with the power to affect market supply and prices.
- ✔ Characteristics of monopoly include: a single supplier in the market, being a price maker, imperfect knowledge and high barriers to entry.
- ✔ Advantages of monopoly include: the potential to supply larger quantities *and* at lower prices, having the financial resources for research and development, and the elimination of wasteful competition.
- ✔ Disadvantages of monopoly include: the potential to exploit customers through higher prices and limited supply, high entry barriers to limit competition, imperfect knowledge which can lead to irrational decision making, and a lack of innovation due to the absence of competition.

SECTION 4

Government and the macro economy

Chapters

Governments are an essential part of the macro economy. This section of the syllabus looks at the role of the government, at a local, national and international level. Governments have five macroeconomic aims: namely to achieve economic growth, full employment/low unemployment, stable prices/low inflation, balance of payments stability and a fairer distribution of income. However, these aims often conflict with each other. Hence, Section 4 of the syllabus looks at the criteria that governments use when deciding their aims. In order to achieve their aims, governments use a range of macroeconomic policies, including fiscal policy, monetary policy and supply-side policies.

24 The role of government

By the end of this chapter, students should be able to:

- understand the role of government (locally, nationally and internationally).

The role of government

The general role of the government is to improve the general welfare of its people. The government collects tax revenues in order to fund its expenditure on essential services, such as healthcare, infrastructure and national security.

The government can operate at three levels: local, national and international.

Local role

The central or federal government collects taxes which it uses to fund local services such as rubbish collection (public refuse collection), street lighting, libraries, schools, hospitals and public parks. Central government gives local government funding to spend on these public and merit goods (see Chapter 14) in the local area.

Refuse collection is a service funded by government at the local level

National role

The central government makes decisions about how to achieve its macroeconomic aims (see Chapter 25): economic growth, stable price levels, low unemployment, a healthy balance of payments and redistribution of income and wealth. It does this by seeking to use appropriate macroeconomic policies (see Chapters 26–28). For example, the national government may make decisions on the following policy areas:

- **Fiscal policy** — the government needs to decide how to raise money through taxation and other sources, and how much of its annual budget to spend on welfare, education, healthcare, defence and other items (see Chapter 26).
- **Monetary policy** — the government may instruct the central bank or monetary authority to make decisions about interest rates and the money supply in order to influence economic activity (see Chapter 27).
- **Supply-side policies** — the government might choose to change the level of the minimum wage. It might create a Competition Commission to regulate the actions of firms (to ensure they are not anti-competitive). These policies are designed to promote economic growth through increasing the productive

capacity of the economy (see Chapter 28).

- **Policies to protect the environment** — see the case study on the Paris Agreement below.

International role

The role of government also involves an international dimension as modern economies need to trade with other countries. An economy may be part of a **trading bloc**, such as the European Union, which promotes free trade and mobility of factors of production between member countries. There will be some countries with which the country does not have free trade, so tariffs and quotas may be imposed on goods traded (see Chapter 37). For example, the USA places a tariff (import tax) on tyres and solar panels imported from China.

Definition

A **trading bloc** is a free trade area which also promotes the free movement of factors of production between member countries.

Case study: The Paris Agreement

A national government may enter into an agreement with other countries to achieve a common goal. For example, in 2016 a total of 197 countries signed the Paris Agreement, which is designed to limit climate change. All the countries involved agreed to the aim of limiting global warming to 1.5 degrees Celsius. International decisions like this will have an impact on the actions of domestic firms.

Source: United Nations Framework Convention on Climate Change

Activity

Discuss the extent to which international agreements such as the Paris Agreement can actually achieve a common goal such as environmental protection.

Case study: Sustainable Development Goals

Another international agreement among governments concerns the Sustainable Development Goals created by the United Nations in 2015. These are 17 goals designed to 'end poverty, protect the planet, and ensure prosperity for all'. Each goal has specific targets which are to be met by 2030.

Source: United Nations

Study tip

To get a better understanding of the role of the government, read the following sections of the book:

- Local and national level: Chapter 14 (Market failure).
- National level: Chapter 25 (The macroeconomic aims of government) and Chapter 30 (Employment and unemployment).

Activity

Go to the United Nation's Development Programme (UNDP) website and research the SDG. Choose a single goal that you feel is the most important. With a partner (who has, preferably, chosen a different top goal), discuss the reasons for your choice.

Exam-style questions

1 What is the general role of a government?

[1]

A To allocate scarce resource
B To improve the general welfare of its people
C To provide infrastructure such as roads
D To provide welfare benefits to low income households

2 What does the national government not make decisions on?

[1]

A Fiscal policy measures
B Funding of libraries leisure (health) centres

C Monetary policy procedures

D Level of infrastructure

3 Which level of government makes decisions about how best to achieve its macroeconomic aims?

[1]

A Local

B International

C Multinational

D National

4 Which option is **most** applicable to the role of international governments?

[1]

A Financial support for local libraries and health centres

B The formation of a regional trading bloc

C The funding of national defence programmes

D The imposition of tariffs and quotas

Chapter review questions

1. What is the general role of a government?
2. What are some examples of the role of local government?
3. What are some examples of the decisions made by government at a national level?
4. What is the role of government at an international level?
5. What is a trading bloc?

Revision checklist

- ✔ The principal role of the government is to improve the general welfare of its people.
- ✔ The government collects taxes in order to fund its expenditure on essential services.
- ✔ The government operates at three levels: local, national and

international.

- ✔ The national government may make decisions on fiscal policies, monetary policies and supply-side policies in order to achieve its macroeconomic aims.
- ✔ It also uses policy measures, such as the Paris Agreement, to protect the environment.

25 The macroeconomic aims of government

By the end of this chapter, students should be able to:

- outline the macroeconomic aims of government
- explain the reasons behind the choice of aims and the criteria that governments set for each aim
- discuss the possible conflicts between macroeconomic aims.

The macroeconomic aims of government

Governments usually have five macroeconomic aims that they strive to achieve: economic growth, full employment or low unemployment, stable prices or low inflation, balance of payments stability, and redistribution of income and wealth (in order to achieve greater equality).

Economic growth

Economic growth refers to an increase in a country's real gross domestic product (GDP) over time. Economists believe that sustained economic growth is an important macroeconomic aim because it is the most practical measure of standards of living in a country. Economic growth represents a long-term expansion in the productive capacity of the economy.

Definition

Economic growth is the annual increase in the level of national output, i.e. the annual percentage change in gross domestic product.

Diagrammatically, economic growth can be shown by an outward shift of the production possibility curve (*PPC*). In Figure 25.1, a combination of an increase in the quantity and quality of factors of production shifts the *PPC* outwards from PPC_1 to PPC_2, creating more producer and consumer goods, shown by the movement from *A* to *B*. By contrast, negative economic growth results in a recession in the business cycle (see Chapter 29).

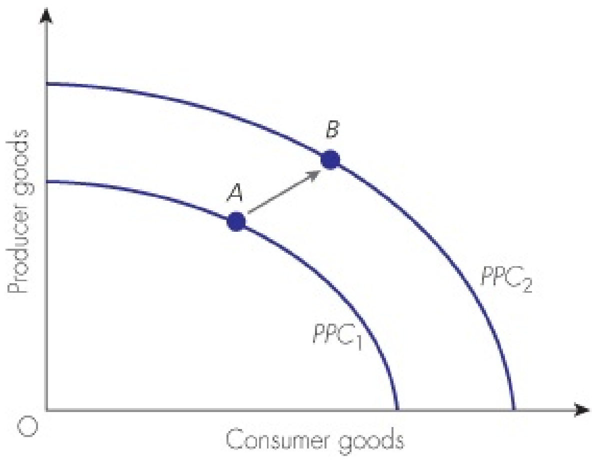


Figure 25.1 Economic growth and the *PPC*

Full employment/low unemployment

Unemployment occurs when people are willing and able to work, and actively seeking employment, but are unable to find work. Low unemployment is a key macroeconomic aim because it complements economic growth — higher employment tends to lead to greater GDP. Hence, low unemployment tends to increase the standards of living in an economy. In addition, full employment or low unemployment represents greater efficiency in the use of the economy's resources.

Definition

Unemployment occurs when people are willing and able to work, and actively seeking employment, but are unable to find work. Low unemployment is a key macroeconomic aim.

The unemployed lack income to spend

The **unemployment rate** calculates the percentage of the labour force that is unemployed. It is measured using the formula:

$$\frac{\text{Number of unemployed people}}{\text{Number in the labour force}} \times 100$$

For example, in a country with a workforce of 50 million people, of which 5 million are of working age and actively seeking employment but cannot find work, the unemployment rate equals (5m ÷ 50m) × 100 = 10%.

Exam-style question

Using the data below, calculate the total number of people unemployed in the economy.

[2]

Labour force	30m

Population of working age	35m
Unemployment rate	8%

Stable prices/low inflation

Inflation is the sustained rise in the general price level in an economy. This does not mean that the price of every good and service is increasing, but that on average prices are rising. Governments set a target inflation rate as a key macroeconomic aim in order to control economic activity. Inflation is typically measured by using a Consumer Price Index (CPI). This weighted index measures the change in prices of a representative basket of goods and services consumed by the average household in the economy (see Chapter 31).

Definition

Inflation is the sustained rise in the general price level in an economy. Most governments set a target inflation rate in order to control economic activity.

Exam-style questions

The data below show the inflation rates for a country over three years.

Year	1	2	3
Inflation rate (%)	2.5	1.7	2.3

a Define the meaning of 'inflation rate'.

[2]

b Explain why prices were at their highest level in the third year.

[4]

Study tip

Some students tend to think that inflation is bad for the economy.

However, low rates of inflation, of 1 or 2 per cent, are not usually harmful to the economy because higher prices can encourage firms to supply more output. It is only when inflation rises too quickly that it can become a problem.

Balance of payments stability

The **balance of payments** is a financial record of a country's transactions with the rest of the world for a given time period, usually one year. This includes the country's trade in goods and services with other countries. The government records **credit items** (all payments received from other countries) and **debit items** (all payments made to other nations) in its balance of payments. For example, the expenditure by French tourists visiting the UK would be recorded as a credit item on the UK's balance of payments. In theory, the balance of payments must always balance over time because a country, like an individual, can only spend what it earns.

Definition

The **balance of payments** is a financial record of a country's transactions with the rest of the world for a given time period, usually one year.

In general, a large and persistent balance of payments deficit (see Chapter 39) suggests that the country is uncompetitive in international markets. This can have detrimental consequences for the domestic economy, such as job losses. Thus, a deficit on the balance of payments will have a negative impact on economic growth and standards of living.

Redistribution of income

Governments aim to achieve greater equality through the **redistribution of income**. A report by Oxfam and *Forbes* in 2017 suggested that the world's eight richest people had as much wealth as the poorest 3.6 billion of the world's population (see Table 25.1).

Definition

Redistribution of income refers to the macroeconomic aim of achieving greater equality in the distribution of income in an economy.

Table 25.1 The world's richest billionaires, March 2016

Ranking	Billionaire	Wealth (US$bn)
1	Bill Gates	75
2	Amancio Ortega	67
3	Warren Buffett	61
4	Carlos Slim	50
5	Jeff Bezos	45
6	Mark Zuckerberg	45
7	Larry Ellison	44
8	Michael Bloomberg	40

Economies face unequitable distribution of income due to the naturally unequal ownership of factors of production in a free market economy. For example, consider the wage differentials between professional footballers, doctors and pilots, on the one hand, and those earning the national minimum wage, on the other.

A major role of taxation is to redistribute income to help the relatively less well-off in society. For example, **progressive taxation** charges a higher *percentage* tax as an individual's income rises — in other words, those who earn more pay a greater proportion of their income in tax (see Chapter 26). Other ways to redistribute income include the use of subsidies and welfare benefits, such as old age pensions and unemployment benefits.

Possible conflicts between macroeconomic aims

It is not usually possible for a government to achieve all of its five macroeconomic goals at once. This is because there are a number of conflicts between these macroeconomic aims, which leave governments with a trade-off. Ultimately, the government has to decide which macroeconomic aim is the most important to the economy at a particular time.

The potential conflicts between macroeconomic aims are described below.

Full employment versus stable prices

When the economy expands and more people are in employment, it is likely that inflationary pressures will occur. People will have more money to spend as the economy reaches full employment, and **demand-pull inflation** (see Chapter 31) may occur because demand in the economy increases faster than supply. **Cost-push inflation** can also occur because full employment makes it harder for firms to attract skilled labour, and this can lead to wage inflation (and hence higher prices in general).

Economic growth versus balance of payments stability

If economic growth is caused by higher consumption expenditure (consumer spending), it may cause a deficit in the country's balance of payments (see Chapter 39). This is because as consumption rises, there tends to be an increase in expenditure on imports. This is particularly the case if economic growth has caused an increase in inflation, making the country's exports less price competitive.

Full employment versus balance of payments stability

As the employment level increases, people become wealthier and tend to buy more imports. Hence, this can lead to balance of payments problems. In addition, wages tend to rise as an economy reaches the level of national income at which there is full employment. This will contribute to cost-push inflation, making the country's exports less competitive. Therefore, full employment is likely to worsen the country's balance of payments.

Economic growth versus stable prices

A cut in interest rates or an increase in the money supply in order to stimulate economic growth can conflict with other macroeconomic objectives, such as inflation (price stability). A cut in interest rates enables those with existing loans and mortgages to have more income at their disposal to spend. It also means that borrowing is cheaper, so firms can raise their investment expenditure. However, the combination of higher consumption and investment in the economy can cause demand-pull inflation.

Exam-style questions

1 What is inflation?

[1]

- **A** A fall in the general price level, over a given period of time
- **B** A sustained increase in the general price level, over a given period of time
- **C** A sustained increase in the level of national income
- **D** An increase in the rate of interest

2 Which option is the least likely economic consequence of high unemployment?

[1]

- **A** A fall in the level of consumption due to lower earnings
- **B** A fall in the level of national income
- **C** Higher government expenditure on welfare benefits
- **D** An increase in the rate of inflation

3 Which option is least likely to cause economic growth?

[1]

- **A** An increase in wages
- **B** Greater investment expenditure
- **C** Higher general price level
- **D** Higher level of consumption

Chapter review questions

1 What are the five macroeconomic aims of government?

2 What is meant by economic growth and how is it measured?
3 What is meant by unemployment and how is it measured?
4 What is meant by inflation and how is it measured?
5 What is the balance of payments?
6 How do credit and debit items differ on the balance of payments?
7 Why do countries try to avoid a persistent deficit on their balance of payments?
8 Why do governments aim to redistribute income?
9 How might there be conflicts between macroeconomic aims?

Revision checklist

- ✔ Governments try to achieve five macroeconomic aims: economic growth, full employment or low unemployment, stable prices or low inflation, balance of payments stability, and redistribution of income and wealth.
- ✔ Economic growth refers to an increase in a country's real gross domestic product (GDP) over time. It is shown by an outward shift of the production possibility curve. The government aims to achieve economic growth as it tends to raise standards of living for the majority of the population.
- ✔ Unemployment occurs when people are willing and able to work, and actively seeking employment, but are unable to find work.
- ✔ Inflation is the sustained rise in the general price level in an economy. It is calculated using a weighted price index, which measures the change in prices of a representative basket of goods and services consumed by the average household.
- ✔ The balance of payments is a financial record of a country's transactions with the rest of the world for a given time period.
- ✔ Governments aim to achieve greater equality in the distribution of income.
- ✔ It is not usually possible for a government to achieve all of its macroeconomic aims at once because there are a number of conflicts between these goals.

26 Fiscal policy

By the end of this chapter, students should be able to:

- define the budget
- explain the reasons for government spending
- explain the reasons for taxation
- understand the various classifications of taxes
- understand the principles of taxation
- examine the impact of taxation on various stakeholders
- define fiscal policy
- understand fiscal policy measures
- discuss the effects of fiscal policy on macroeconomic aims.

The government budget

The **government budget** refers to the government's financial plans in terms of planned revenues and expenditure. There are other sources of government revenue (such as government borrowing or privatisation proceeds from the selling of state assets) but tax revenues are by far the most significant source.

Definition

The **government budget** refers to its financial plans in terms of planned revenues (mainly tax revenues) and expenditure (such as healthcare, education and welfare payments).

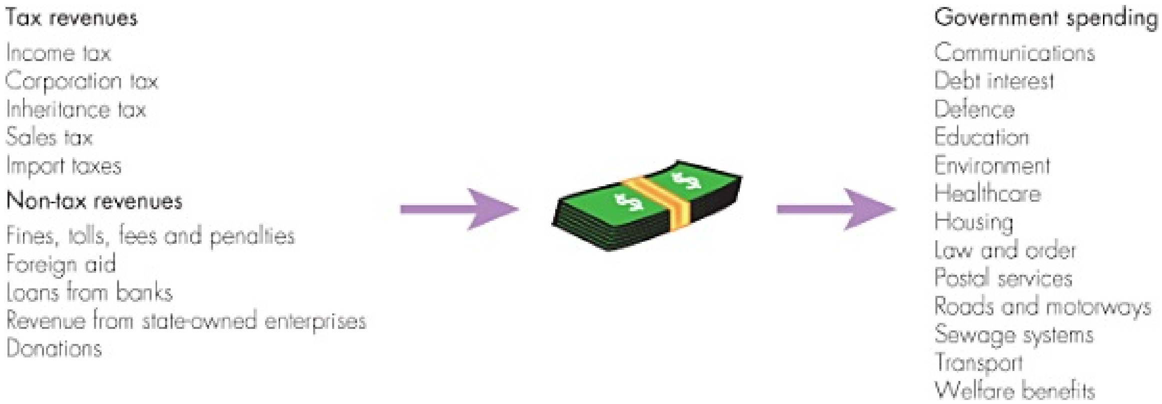


Figure 26.1 Tax revenues and government spending

If the government manages to balance its revenues and its spending, then a **balanced budget** is said to exist. However, if the government spends more than it collects from its revenues then a **budget deficit** exists. Finally, if there is more government revenue than is spent, the government has a **budget surplus**.

In the long run, governments strive to balance their budgets. This is partly because increasing government revenues by raising taxes is highly unpopular, while government borrowing to fund a budget deficit is hugely expensive due to the amount of interest owed on such loans.

Exam-style questions

Suppose the government's revenues total £865 billion and its expenditure is £897 billion.

a Define the term *budget deficit*. [2]

b Calculate the value of the country's budget deficit in this case. [2]

Reasons for government spending

Essential services, such as state education, housing, healthcare and postal services, are provided by the public sector (see Figure 26.1). The government also exists to redistribute income and wealth, such as by providing welfare benefits and state pensions. The government may also intervene to correct market failures (see Chapter 14), such as by providing subsidies to create incentives to invest in green technologies.

Activity

Investigate the latest government budget in your country or a country of your choice. Evaluate its strengths and weaknesses and the impact on various economic agents, such as:

- fixed-income earners
- the elderly
- families
- businesses
- home-owners.

Reasons for taxation

To fund government expenditure, the government tends to rely on tax revenues (see Figure 26.1). A **tax** is a government levy on income or expenditure. In addition to funding its spending, there are other reasons why the government imposes taxes. For example:

- Taxes on salaries and profits raise government revenue to help redistribute income and wealth in the economy.
- Taxes on goods and services raise the costs of production and therefore can limit the output of certain demerit products (see Chapter 14), such as alcohol and tobacco.
- Tariffs imposed on foreign goods and services help to protect domestic firms from overseas rivals (see Chapter 37).

Definition

A **tax** is a government levy on income or expenditure.

Before the government can spend money on the economy, it must first take the money from taxpayers (both individuals and firms). In addition to other sources of government finance (such as loans and donations), tax revenues are spent on several key areas including: social security, education, healthcare, transport, infrastructure and national defence.

National defence is a large item of government spending

The **tax burden** refers to the amount of tax that households and firms have to pay. This can be measured in three ways. For a country, the tax burden is measured by calculating total tax revenues as a proportion of gross domestic product (GDP). For individuals and firms, the tax burden can be measured by the absolute value of tax paid or by the amount of tax paid as a proportion of their income or profits.

Activity

At the end of 2012, economists described the situation faced by the US government as a 'fiscal cliff'. Investigate what this means and its potential impact on the economy in the short run and the long run. Be prepared to show your investigation to others in the class.

Classification of taxes

Some of the main taxes are explained in Table 26.1.

Table 26.1 Examples of taxes

Tax	Definition
Income tax	A direct tax levied on personal incomes — wages, interest, rent and dividends. In most countries, this is the main source of tax revenues

Corporation tax	A direct tax on the profits of businesses
Sales tax	An indirect tax, such as VAT, charged on an individual's spending
Excise duties	Indirect inland taxes imposed on certain goods and services such as alcohol, tobacco, petrol, soft drinks and gambling
Customs duties	Indirect cross-border taxes on foreign imports
Capital gains tax	A direct tax on the earnings made from investments such as buying shares and private property
Inheritance tax	A direct tax on the transfer of income and wealth such as property when passed on to another person
Stamp duty	A progressive tax paid on the sale of commercial or residential property
Carbon tax	A tax imposed on vehicle manufacturers or firms that produce excessive carbon emissions
Windfall tax	A tax charged on individuals and firms that gain an unexpected one-off amount of money, such as a person winning the lottery or a firm gaining from a takeover bid

There are various classifications of taxes, as explained below.

Direct and indirect taxation

Taxes can be classified into direct and indirect taxation:

- **Direct taxation** — this type of tax is paid from the income, wealth or profit of individuals and firms. Examples are taxes on salaries, inheritance and company profits.
- **Indirect taxation** — these are expenditure taxes imposed on spending on goods and services. For example, countries such as Australia and Singapore use a 'goods and services tax' (GST), whereas the European Union uses value

added tax (VAT). Other examples are taxes on petrol, alcohol and cigarettes.

Exam-style questions

Countries such as Saudi Arabia, Gibraltar and Hong Kong do not have a sales tax — a type of indirect tax.

a Define the term *indirect tax*.

[2]

b Analyse the advantages and disadvantages for countries that do not impose sales taxes.

[6]

Activity

Copy the table below. Place a tick in the correct section of the table to identify whether the tax is direct or indirect. The first one has been completed as an example.

Tax	**Direct**	**Indirect**
Airport tax		✔
Capital gains tax		
Carbon tax		
Corporation tax		
Customs duties		
Excise duties		
Income tax		
Inheritance tax		
Stamp duty		
Tariffs		

VAT or GST		
Windfall tax		

Progressive, regressive and proportional taxation

Taxes can also be classified according to whether they are progressive, regressive or proportional.

Progressive taxation

Under this tax system, those with a higher ability to pay are charged a higher rate of tax. This means that as the income, wealth or profit of the taxpayer rises, a higher rate of tax is imposed (see Figure 26.2). Examples of progressive taxes are income tax, capital gains tax and stamp duty (see Table 26.1).

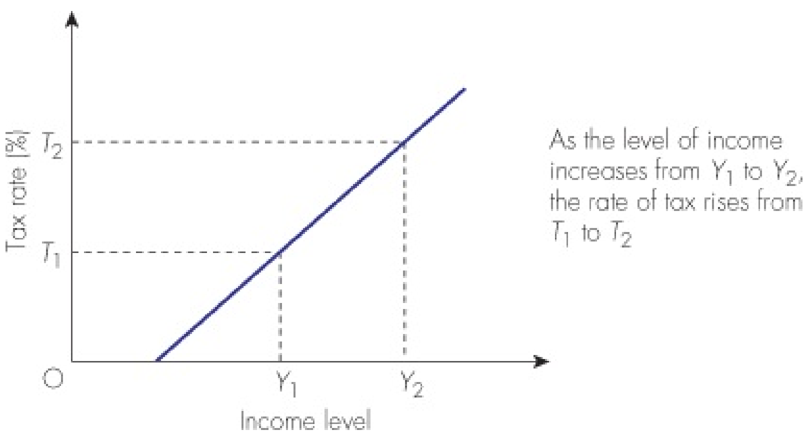


Figure 26.2 Progressive taxes

Study tip

It is incorrect to define a progressive tax system as one in which the rich pay more tax than the poor. This would be the case even if there were a **flat-rate** income tax, for example — the amount paid by a higher income earner would be greater than the amount paid by a low income earner. What is important is the *rate* (percentage) of tax paid.

Activity

Suppose in a country the progressive tax rates are 10 per cent (on incomes between $10,001 and $40,000 per year) and 15 per cent (on incomes over $40,000 per year).

a Copy the table below. By completing the table, calculate the total amount of tax paid by an individual who earns $75,000 per year.

Income level ($)	Tax rate (%)	Amount of tax paid ($)
10,000	0	
10,001–40,000	10	
40,001+	15	
	Total tax:	

b Show how the average rate of income tax paid by the individual is 11 per cent.

Regressive taxation

Under this tax system, those with a higher ability to pay are actually charged a lower rate of tax — in other words, the wealthier the individual, the lower the tax paid as a percentage of the income level (see Figure 26.3). For example, although a high income earner pays the same amount of airport tax or television licence fee as a less wealthy person, the amount of tax paid is a smaller *proportion* of the wealthier person's income.

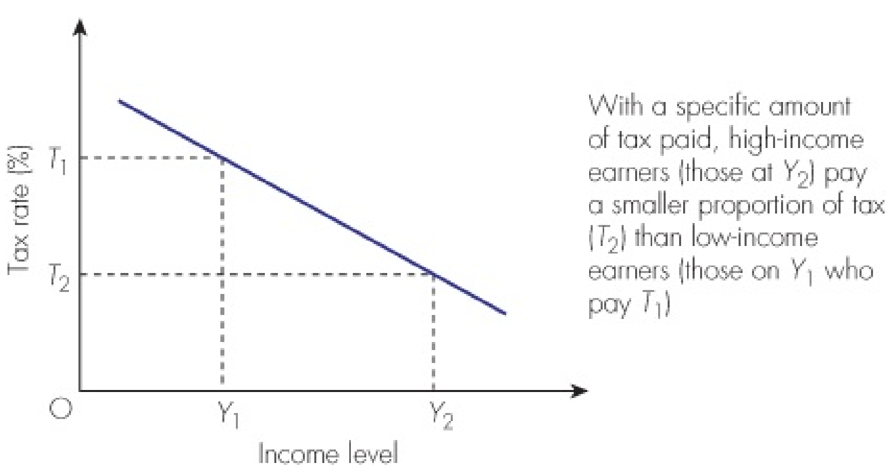


Figure 26.3 Regressive taxes

Proportional taxation

Under this tax system, the percentage paid stays the same, irrespective of the taxpayer's level of income, wealth or profits (see Figure 26.4). An example is a sales tax, such as VAT or GST. For example, Denmark has a 25 per cent GST whereas sales taxes in India and Japan are as low as 5 per cent.

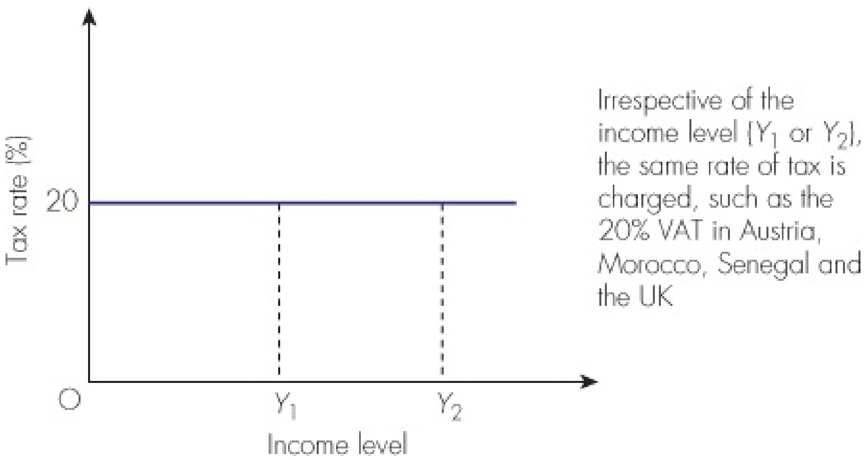


Figure 26.4 Proportional taxes

Activities

1 Study the data below and answer the questions that follow.

Income ($ per year)	Tax paid per year ($)		
	Tax A	Tax B	Tax C
10,000	1000	1000	1000
15,000	1000	1800	1500
20,000	1000	3000	2000
25,000	1000	4500	2500

a Identify the tax (A, B or C) that is progressive.

b Identify the tax (A, B or C) that is proportional.

c Explain the difference between a regressive and a proportional tax.

2 Study the three tax systems below. Calculate the percentage of tax

paid on each level of income in order to determine whether the tax systems are progressive, regressive or proportional.

Tax system A		Tax system B		Tax system C	
Annual income ($)	Amount of tax paid ($)	Annual income ($)	Amount of tax paid ($)	Annual income ($)	Amount of tax paid ($)
4,500	900	10,000	1,500	8,000	800
10,000	1,800	20,000	3,000	20,000	3,000
20,000	2,800	30,000	4,500	45,000	11,250

Principles of taxation

The phrase 'principles of taxation' refers to the qualities of a good tax:

- **Equitable (fair)** — taxes should be based on the taxpayer's ability to pay. This principle is used to justify progressive taxation, since the rich have a greater ability to pay than the poor do.
- **Economical** — the tax should be easy and cheap to collect in order to maximise the yield relative to the cost of collection.
- **Convenience** — the method of payment should be convenient to the taxpayer (to encourage payment) — for example, on-line payments for tax returns.
- **Certainty** — the taxpayer should know what, when, where and how to pay the tax (to limit tax evasion).
- **Efficiency** — the tax system should attempt to achieve its aims without any undesirable side-effects. For example, higher tax rates could result in a disincentive to work and hence slow down the economy and reduce long-term tax revenues.
- **Flexibility** — taxes need to be flexible enough to adapt to a change in the economic environment without requiring the rewriting of tax legislation.

Impact of taxation

Taxation directly impacts on consumers, the government and the economy as a whole. However, taxation has varying impacts depending on the type of tax in question.

Impact on price and quantity

The imposition of a sales tax will shift the supply curve of a product to the left (see Chapter 10) due to the higher costs of production. This will increase the price charged to consumers and reduce the quantity produced and sold. Depending on the price elasticity of demand for the product (see Chapter 11), this could reduce the amount of tax revenue for the government.

Impact on economic growth

Taxation tends to reduce incentives to work and to produce. This has a negative impact on the economy as a whole. By contrast, tax cuts can boost domestic spending, thus benefiting individual customers, businesses and the economy (through job creation). Nevertheless, tax revenues are essential to fund government spending (such as the construction of schools, hospitals, railways, airports and roads), which fuels economic growth.

Case study: Income tax and incentives

The French government tried to introduce a 75 per cent income tax rate in 2012 for individuals earning incomes in excess of €1 million ($1.2m) per year. However, the proposals were overturned, with some economists arguing that the government would actually receive more tax revenue by *cutting* tax rates. This is because lower rates of tax can create incentives to work and also help to reduce tax avoidance and tax evasion.

Impact on inflation

As taxation tends to reduce the spending ability of individuals and the profits of firms, it helps to reduce the likelihood of inflation (see Chapter 31). By contrast, a cut in taxes boosts the disposable income of households and firms, and thus fuels inflationary pressures in the economy.

Impact on business location

The rates of corporation tax and income tax will affect where multinational businesses choose to locate. For example, high corporation tax rates in Argentina

(35%), Pakistan (35%) and Cameroon (38.5%) can discourage some companies from locating in these countries. As a result, foreign direct investment in these economies might be lower than otherwise. By contrast, it might be easier to attract workers in economies with low income tax rates, such as Bulgaria (10%), Macedonia (10%), Belarus (12%) and Hong Kong (15%).

Impact on social behaviour

Taxation can be used to alter social behaviour by reducing the consumption of demerit goods (see Chapter 14). For example, taxing tobacco and alcohol should, in theory, reduce the demand for such products. Taxes are also used to protect the natural environment by charging those who pollute or damage it. For example, countries such as the UK and China tax cars based on their engine size because vehicles with larger engines tend to cause more pollution.

Impact on tax avoidance and tax evasion

Payment of some taxes is avoidable. **Tax avoidance** is the legal act of not paying taxes — for example, non-smokers do not pay tobacco tax and non-overseas travellers do not pay air passenger departure taxes. However, **tax evasion** is illegal as this refers to non-payment of taxes due, perhaps by a business under-declaring its level of profits. High levels of taxation will tend to encourage both tax avoidance and tax evasion. By contrast, low rates of taxation create far fewer incentives for households and firms to avoid taxes or defraud the government.

Definitions

Tax avoidance is the legal act of minimising payment of taxes, such as by avoiding spending on items with a large sales tax.

Tax evasion is the illegal act of not paying the correct amount of tax, perhaps due to a firm under-declaring its corporate profits.

Impact on the distribution of wealth

Taxes can be used to help redistribute income and wealth from the relatively rich to the poorer members of society. For example, wealthier individuals will pay more income tax, sales taxes and stamp duty on their purchase of private properties. These funds can be used by the government to support education, healthcare and social benefits for less affluent individuals in the economy.

Case study: Hong Kong's plastic bag levy

Prior to July 2009, Hong Kong people used an average of 30 million plastic carrier bags every day! For a relatively small population of 7 million people, this meant the average person was using more than four plastic carrier bags per day, often on a single-use basis. This staggering figure meant that the country's landfills would soon be unable to cope with the bags when they were thrown away.

Hong Kong's introduction of a HK$0.5 (5 US cents) tax on the use of carrier bags has encouraged people to use recycled shopping bags. In fact, demand for plastic carrier bags fell by 85 per cent within the first 2 days of the tax being introduced.

This follows similar moves made by other countries such as China (in 2009) and Ireland (in 2002).

Activity

List ten uses of plastics in everyday life. Apart from the use of fines (taxes), discuss how an economy should be encouraged to use less plastic.

Exam-style questions

1 In April 2017, inflation in the Czech Republic slowed to 0.25 per cent, partly due to the reduced spending in the economy caused by an increase in the country's sales tax.

a Explain how taxes can be used to reduce the rate of inflation in the Czech Republic.

[4]

b Analyse how an increase in taxation might conflict with any two macroeconomic objectives of the Czech Republic government.

[6]

2 In November 2008, following the recession caused by the global financial crisis, the UK government reduced the rate of value added tax (VAT) from 17.5 per cent to 15 per cent. However, by January 2011 the government's escalating debt problems had forced VAT to increase to 20 per cent.

a Explain how a reduction in VAT from 17.5 to 15 per cent might help to reduce the effects of a recession.

[4]

b Analyse three impacts of the increase in VAT to 20 per cent.

[6]

Activity

Some countries such as Andorra, Brunei Darussalam, Oman and Qatar have a zero rate of income tax. Other countries such as Bahamas and Estonia have a zero rate of corporation tax.

a Which other countries have a zero rate of income tax?

b Investigate the reasons behind such government decisions. Be prepared to share your findings with the rest of the class.

Fiscal policy

Fiscal policy is the use of taxation and government expenditure strategies to influence the level of economic activity and achieve macroeconomic aims such as high employment, economic growth and the control of inflation. For example, taxation can be used to redistribute income and wealth to benefit less wealthy members of society. Government spending can be used to improve standards of living, such as building schools, hospitals and transportation networks.

Definition

Fiscal policy is the use of taxes and government spending to affect macroeconomic objectives such as economic growth and employment.

Fiscal policy measures

Fiscal policy can be used either to expand or to contract economic activity in order to achieve macroeconomic objectives and promote economic stability.

Expansionary fiscal policy is used to stimulate the economy, by increasing government spending and/or lowering taxes. For example, by increasing social security payments (such as unemployment benefits and state pensions), domestic consumption should increase. This type of fiscal policy is used to reduce the effects of an economic recession (see Chapter 29), by boosting gross domestic product and reducing unemployment.

By contrast, **contractionary fiscal policy** is used to reduce the level of economic activity by decreasing government spending and/or raising taxes. For example, countries such as China and the USA have used property taxes to slow down escalating house prices. Contractionary fiscal policies are used to reduce inflationary pressures during an economic boom (see Chapter 29).

In the short term, expansionary fiscal policy has a negative impact on the government's budget as revenues fall (because of lower taxes) and government spending increases. As the economy improves in the long run, people earn and spend more money (helping to raise tax revenues) and there is less need for the government to boost its own expenditure to stimulate the economy. The opposite case is true for the use of contractionary fiscal policy (with a probable positive impact on the budget in the short run, but a negative impact in the long run).

Case study: China's housing bubble

China's phenomenal economic growth rate fuelled the demand for housing, making house prices skyrocket. Low interest rates and increased bank lending were further causes of the 'housing bubble' in China.

The government stepped in to slow down the housing market. In 2013, government measures included higher stamp duties (property sales taxes) and the requirement for existing homebuyers to have a minimum 60 per cent deposit if they wanted to purchase a second property. Mainland Chinese homebuyers wishing to purchase property in neighbouring Hong Kong also faced higher barriers, including an additional 15 per cent sales tax for non-permanent residents.

Fiscal policy is also used to **redistribute income and wealth** in the economy. Some countries have quite high rates of income tax to reallocate resources from wealthier individuals to the poorer members of society. Austria, Belgium, Cuba and Senegal, for example, all have a top tax band of 50 per cent. However, this can cause severe distortions to the labour market.

Effects of fiscal policy on government macroeconomic aims

Fiscal policy can be used to achieve a government's macroeconomic aims. Examples are provided below.

- **Economic growth** — government capital expenditure on infrastructure (such as railways, motorways, schools and hospitals) helps to boost investment in the economy. Lower rates of corporation tax can help to attract foreign direct investment (FDI) into the country, thereby boosting the economy's potential output.

- **Low inflation (stable prices)** — lower taxes, and hence higher FDI, can boost the productive capacity of the economy in the long run, which helps to keep the general price level relatively low. Contractionary fiscal policy measures also help prevent price levels from soaring.
- **Employment (low unemployment)** — cuts in income tax can be used to create incentives for people to seek employment and to work harder. Government support for business start-ups, through subsidies or tax concessions, can also create incentives for entrepreneurs, thus helping to lower unemployment.
- **Healthy balance of payments** — relatively low rates of taxation help to keep domestic firms competitive, thereby benefiting exporters. The government might also choose to subsidise domestic industries to improve their international competitiveness. These fiscal measures should benefit the country's balance of payments.
- **Redistribution of income** — the use of both progressive taxes and government spending (on welfare benefits, education and healthcare) helps to redistribute income and wealth in the economy.

Exam-style questions

a Explain why expansionary fiscal policy can cause a budget deficit for the government.

[4]

b Analyse how fiscal policy can be used to promote long-term economic growth.

[6]

Chapter review questions

1. What is meant by the government budget?
2. What is the difference between a budget deficit and a budget surplus?
3. What are the various reasons for government spending?
4. What are the various reasons for taxation?

5 How can taxes be classified?
6 What is the difference between direct and indirect taxes?
7 What is the difference between progressive, proportional and regressive taxes?
8 What are the principles of taxation?
9 How does tax avoidance differ from tax evasion?
10 What is meant by fiscal policy?
11 What are the differences between expansionary and contractionary fiscal policy?
12 How might a government use fiscal policy to achieve its macroeconomic aims?

Revision checklist

- ✔ The government budget refers to the government's financial plans in terms of planned revenues and expenditure. The budget can be in balance, deficit or surplus.
- ✔ Reasons for government spending include: to provide essential goods and services, to redistribute income and wealth, and to correct market failures.
- ✔ The main reason for taxation is to raise funds for government expenditure.
- ✔ A tax is a government levy on income or expenditure.
- ✔ Taxation directly impacts on consumers, the government and the economy as a whole.
- ✔ The tax burden refers to the amount of tax that households and firms have to pay.
- ✔ Classifications of tax include: direct and indirect; and progressive, proportional and regressive.
- ✔ The principles of a good tax are: equity, economy, convenience, certainty, efficiency and flexibility.
- ✔ Fiscal policy is the use of taxation and government expenditure strategies to influence the level of economic activity and the government's macroeconomic aims.
- ✔ Taxation and government spending have a direct impact on all five

macroeconomic aims.

27 Monetary policy

By the end of this chapter, students should be able to:

- define money supply
- define monetary policy
- understand monetary policy measures
- discuss the effects of monetary policy on macroeconomic aims.

Money supply

Money is any commodity that can be used as a medium of exchange for the purchase of goods and services. The **money supply** refers to the amount of money in the economy at a particular point in time. This consists of coins, banknotes, bank deposits and central bank reserves (see Chapter 16).

Definition

Money supply refers to the amount of money in the economy at a particular point in time, e.g. coins, banknotes, bank deposits and central bank reserves.

The money supply includes banknotes in circulation

Monetary policy

Monetary policy is the manipulation of interest rates, exchange rates and the money supply to control the amount of spending and investment in an economy. Interest rates can refer to the price of borrowing money or the yield from saving money at a financial institution. The money supply refers to the entire quantity of money circulating in an economy, including notes and coins, bank loans and bank deposits (see Chapter 16).

Definition

Monetary policy refers to the use of interest rates, exchange rates and the money supply to control macroeconomic objectives and to affect the level of economic activity.

Direct control of the **money supply** is relatively difficult as the definition of money is quite loose and banks can create credit fairly easily (see Chapter 16). Manipulation of **exchange rates** (see Chapter 38) is also rather difficult for many countries due to the reliance on international trade and compliance with the regulations of the World Trade Organization. Hence, most governments rely on **interest rate policy** to achieve economic stability. In most countries, the central bank or monetary authority (see Chapter 38) is responsible for making exchange rate changes.

Monetary policy is used to control spending and investment in an economy

Monetary policy measures

There are three main monetary policy measures, as described below.

- **Changes in interest rates** — the main monetary policy measure is the use of interest rates to influence the level of economic activity. For example, higher interest rates will make borrowing more expensive and create more of an incentive to save, tending to reduce overall spending in the economy.
- **Changes in money supply** — the government can control the money supply in order to influence the level of economic activity. For example, allowing commercial banks to lend more money (rather than leaving a higher proportion of their deposits at the central bank) will tend to boost consumption and investment expenditure in the economy.
- **Changes in foreign exchange rates** — the foreign exchange market has a direct impact on the domestic money supply. For example, domestic customers need to purchase foreign currency in order to buy imports. The buying and selling of foreign currencies (see Chapter 38) will therefore affect the money supply in an economy.

Like fiscal policy, monetary policy can be used either to expand or to contract economic activity in the economy.

Expansionary monetary policy, also known as **loose monetary policy**, aims to boost economic activity by expanding the money supply. This is done mainly by lowering interest rates. This makes borrowing more attractive to households and firms because they are charged lower interest repayments on their loans. Those with existing loans and mortgages have more disposable income, so they have more money available to spend.

With **contractionary monetary policy**, also known as **tight monetary policy**, an increase in interest rates tends to reduce overspending and limit investment in the economy. This slows down economic activity. Tight monetary policy is used to reduce the threat of inflation, although it can harm economic growth and therefore cause job losses in the long run.

The effects of monetary policy measures on macroeconomic aims

Monetary policy measures can enable the government to achieve its macroeconomic aims (see Chapter 25):

- **Economic growth** — the monetary policy measure of lower interest rates can be used to achieve economic growth. This will tend to reduce the cost of borrowing for households and firms, thus boosting their consumption and investment respectively. Savers will receive a lower rate of return, discouraging savings and encouraging more spending. Finally, those with existing loans and mortgages will have lower repayments costs, and so will have more money to spend at their discretion. The combination of lower savings, more consumption and more investment will lead to economic growth.
- **Full employment/low unemployment** — lower interest rates, as described above, will tend to cause economic growth. More spending and investment in the economy will tend to create more jobs.
- **Stable prices/low inflation** — economic growth stimulated by lower interest rates will result in higher consumption and investment expenditure. This will increase the productive capacity of the economy, so more can be produced without having to incur higher prices. By contrast, higher interest rates are used to limit consumption and investment in order to control the rate of inflation.
- **Balance of payments stability** — a lower exchange rate, through government

intervention in the foreign exchange market (see Chapter 38), will tend to improve the international competitiveness of the country. Hence, this should help to improve the balance of payments (see Chapter 39).

Case study: Quantitative easing

Following the global financial crisis of 2008, the UK and US central banks made significant cuts in interest rates to encourage people to spend money, rather than to save it. However, with interest rates at their lowest levels in history, near zero per cent, they could not go any lower.

The Bank of England and the Federal Reserve had one other option — quantitative easing (QE). This form of monetary policy injects money directly into the economy. The central bank purchases bonds, which are a debt security or a promise to pay a lender at a later date. The institutions selling these bonds to the government, such as commercial banks or insurance companies, then have ‘new’ money in their accounts, thus helping to boost the money supply and to promote lending (and hence spending).

Activity

Japan’s interest rates averaged about 3 per cent between 1972 and 2017, and have rarely gone beyond zero per cent since 1999. Use the internet to investigate the reasons behind Japan’s policy of extremely low interest rates. Here’s a starting point: http://goo.gl/50gnF

Study tip

There is no single interest ‘rate’ in an economy but a structure of different interest rates. This is because there is no single market for loans, such as bank overdrafts, credit cards and mortgages. Different rates of interest are charged for all of these different kinds of loan. Borrowers also have different levels of risk — for example, lending money to governments and large multinational companies tends to be less risky than lending money to sole traders or partnerships.

Limitations of monetary policy

As with fiscal policy, there are time lags in the reaction to interest rate changes in the economy. This can make the effectiveness of monetary policy less certain or even destabilising for the economy.

Furthermore, economic activity is not only dependent on interest rates. Other factors such as consumer and business confidence levels have an impact on GDP. During the global financial crisis of 2008, despite interest rates being close to or equal to zero per cent in countries such as Japan and the USA, the lack of business and consumer confidence led to a prolonged economic recession.

Some economists argue that the use of monetary policy can be counterproductive because it restricts economic activity and discourages foreign direct investment in the country. For example, higher interest rates raise the costs of production for firms, as existing and new loans become more expensive. This has a negative impact on profits, job creation, research and development expenditure, and innovation. Hence, higher interest rates (used to combat inflation) can conflict with other macroeconomic objectives, especially with economic growth and employment.

Exam-style question

Which option is **not** an example of monetary policy?

[1]

A Capital investment in research and development
B Interest rate policy
C The money supply
D Bank credit control

Exam-style questions

1 Explain how monetary policy can be used to influence the level of economic activity.

[4]

2 Explain how the use of interest rate policy can help a country to control its inflation rate.

[4]

Chapter review questions

1 What is meant by the money supply?

2 What is monetary policy, and what are the three categories of monetary policy measures?

3 How does loose monetary policy differ from contractionary monetary policy?

4 How can monetary policy be used to achieve an economy's macroeconomic aims?

5 What are the limitations of using monetary policy to control economic activity?

Revision checklist

- ✔ The money supply refers to the amount of money in the economy at a particular point in time, such as coins, banknotes, bank deposits and central bank reserves.
- ✔ Monetary policy refers to the use of interest rates, exchange rates and the money supply to control macroeconomic objectives and to affect the level of economic activity.
- ✔ Monetary policy measures include: controlling the money supply, the manipulation of exchange rates, and the use of interest rate policy.
- ✔ Expansionary monetary policy is used to boost economic activity by expanding the money supply or lowering interest rates.
- ✔ Tight monetary policy involves an increase in interest rates in order to reduce overspending and limit investment in the economy.

28 Supply-side policy

By the end of this chapter, students should be able to:

- define supply-side policy
- understand various supply-side policy measures
- discuss the effects of supply-side policy measures on government macroeconomic aims.

Supply-side policies

Supply-side policies are long-term strategies aimed at increasing the productive capacity of the economy by improving the quality and/or quantity of factors of production (see Chapter 2). Examples of supply-side policies are: education and training, labour market reforms, lower direct taxes, deregulation, improving incentives to work and invest, and privatisation.

Definition

Supply-side policies are long-term measures to increase the productive capacity of the economy, leading to an outward shift of the production possibility curve.

Education is a supply-side policy

With more and improved factors of production, the economy can produce more goods and services. This can be shown by an outward shift of the country's production possibility curve from PPC_1 to PPC_2 in Figure 28.1.

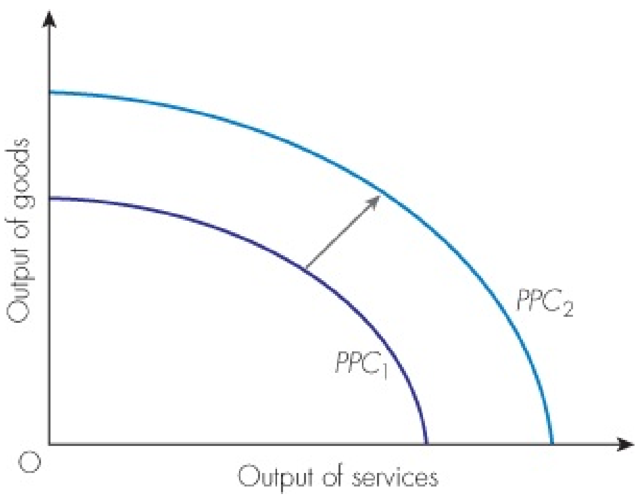


Figure 28.1 Supply-side policies and the *PPC*

Supply-side policy measures

Education and training

Improved education and training in the economy result in a workforce with better skills, productivity, flexibility and mobility. Hence, increased spending on education and training is likely to eventually improve the productive capacity of the economy.

However, there is often under-provision of educational services in a market economic system (see Chapter 14), so there is often a need for government intervention. The government may choose to spend money directly on providing education and training, or it may prefer to provide incentives for private firms to supply these services. For example, government-funded retraining schemes can help the unemployed to improve their chances of finding paid employment. Increased government spending on education is another example. The government is likely to set and monitor quality standards of teaching in schools. However, such supply-side policies will cost the government a lot of money, requiring higher taxes.

Labour market reforms

Supply-side economists argue that there are benefits of making labour markets more flexible, as this results in greater productivity. Such labour market reforms include reducing or removing:

- the power of trade unions (see Chapter 19)
- unemployment benefits (see Chapter 30)
- minimum wages (see Chapter 18).

Labour market reforms help to promote greater competition through the removal of rigidities in labour markets. Such barriers include excessive and complex employment legislation and the threat of strike action from trade unions, which hinder efficiency in labour markets. In the long run, such supply-side policies should reduce unemployment as labour markets become more internationally competitive.

Lower direct taxes

Lower direct taxes (see Table 28.1) can create incentives for work, especially for people on low wage rates, because they get to keep a greater proportion of what they earn. Over time, higher disposable income provides a boost to consumption expenditure and hence an increase in GDP.

Table 28.1 Personal income tax rates, selected countries

Country	Highest income tax rate (%)	Lowest income tax rate (%)	Corporate tax rate (%)	Sales tax (VAT / GST) (%)
Qatar	0	0	10	0
Kuwait	0	0	15	16
Russia	13	13	20	18
Isle of Man	20	10	0	20
Singapore	22	0	17	7
Nigeria	24	7	30	5
New Zealand	33	10.5	28	15
Vietnam	35	5	20	10
Taiwan	45	6	17	5
Sweden	60	31	22	25

Source: adapted from Trading Economics

Deregulation

Deregulation refers to the reduction or removal of barriers to entry in order to make markets more competitive. Increased competition in an industry tends to lead to lower prices and better-quality output of goods and services. An example of deregulation is allowing new firms to enter an industry previously dominated by a monopolist, such as a single provider of telecommunications services in a country. The aim of this is to make the market more competitive and increase efficiency. However, the expected benefits of deregulation only materialise (if at all) after new firms have entered and competed in the market, which could take a long time to happen.

Incentives to work

Direct tax cuts encourage people to find work or to work harder. In general, countries that impose lower rates of income tax will tend to create greater incentives to work. In Qatar and Kuwait, no income tax is charged (see Table 28.1). Lower rates of indirect taxes, such as value added tax (VAT) and goods and services tax (GST), can create incentives for households and individuals to spend. In addition, the government could reduce welfare benefits to the unemployed, thereby creating more of an incentive for them to seek employment.

Incentives to invest

Tax incentives can also stimulate firms to invest in the economy in order to maximise their profits in the long run. In general, countries that impose lower rates of corporate tax (see Table 28.1) will tend to create greater incentives for firms to invest so they can maximise their returns. By contrast, high corporate tax rates in countries such as Nigeria and New Zealand (see Table 28.1) can reduce incentives to invest in these nations.

Alternatively, governments may provide firms with subsidies to give them an incentive to invest in **enterprise zones**. These are locations with relatively high rates of unemployment, where the government creates financial incentives for firms to relocate. Such incentives include tax rebates and reduced regulations in order to attract private sector investments. Enterprise zones are common in the UK, USA, China and India.

Supply-side policies focus on the importance of investment in research and development (R&D), new product development, new technologies and infrastructure, thus contributing to growth of the economy. As with all forms of supply-side policies, capital increases the productive capacity and productivity of the economy in the long run. For example, America's investment expenditure has generated new products for consumption, such as Apple's iPhone (smartphones) and iPad (tablet computers), and Tesla's environmentally friendly electric cars. Such investments have created huge competitive advantages at an international level for the USA.

Privatisation

This is the policy of selling off state-owned assets (such as government properties or public sector businesses) to the private sector so they can be run more efficiently. Private sector firms are motivated by profit, so they can, in theory, develop better products and deliver better services. Competition, productivity and efficiency are essential components of the private sector, thus helping to boost the productive potential of the economy.

Privatisation of state industry was a fundamental part of the UK's supply-side policy in the 1980s and 1990s, which helped to raise much government revenue, cut public sector expenditure and foster an entrepreneurial culture. Chapter 15 provides more information about privatisation.

The effects of supply-side policy measures on macroeconomic aims

Supply-side policy measures can enable the government to achieve its five macroeconomic aims (see Chapter 25):

- **Economic growth** — supply-side policy measures can be used to achieve sustainable economic growth by increasing the productive capacity of the economy. For example, investment in education and cuts in corporate taxes can help to boost economic growth in the long run.
- **Full employment/low unemployment** — an increase in the economy's productive capacity will tend to increase national output, thereby creating jobs in the economy in the long term. Also, supply-side policies such as investment in training can help to reduce both frictional and structural unemployment (see Chapter 30).
- **Stable prices/low inflation** — as supply-side policies increase the productive potential of the economy, they help to prevent the general price level from rising beyond control. A limitation of using demand-side policies such as fiscal and monetary policies (see Chapters 26 and 27) to achieve economic growth is that they stimulate demand-pull inflation. Supply-side-policy measures increase the productive capacity of the economy, resulting in economic growth, without higher prices.
- **Balance of payments stability** — since supply-side policies can improve productivity and national output without putting upward pressure on the general price level, the international competitiveness of the country should improve. This helps to boost the economy's export earnings. Therefore, supply-side policies tend to improve a country's balance of payments (see Chapter 39).
- **Redistribution of income** — supply-side policies such as greater investment in education and training, along with greater incentives to work, tend to benefit low income earners more than high income earners. For example, a cut in the basic rate of income tax means that low income earners have a proportionately higher disposable income. They are more likely to spend any extra income they have due to the lower rate of direct tax.

Activities

1. Investigate the supply-side policies in your home country, or a country of your choice.
2. How have these policies helped or hindered the productive capacity of the economy?

The main criticism (or limitation) of supply-side policies is the time that it takes to reap the benefits. For example, it might take decades for a nation to enjoy the benefits of an improved education system or better infrastructure in the country.

Exam-style question

Which option is **not** a supply-side policy?

[1]

A Deregulation of markets
B Human capital investment
C Progressive income tax policies
D Tax reforms to create incentives to work

Exam-style questions

1 Define the term 'supply-side policies'.

[2]

2 Analyse how supply-side policies can help to achieve any **two** macroeconomic objectives.

[6]

Activity

Use the Internet to research the number of years of schooling in five countries of your choice. Try to choose a combination of low-, middle- and high-income countries.

a Present your findings based on the mean average years of schooling.
b How do your figures differ between males and females?
c How close is the relationship between a country's mean average years of schooling and its gross domestic product (GDP)?

Chapter review questions

1 What is meant by supply-side policy?

2 What are the main supply-side policy measures?
3 How does investment in education and training create productive capacity in the economy?
4 How do labour market reforms create greater flexibility in the economy?
5 How do lower taxes create incentives to work and invest?
6 What is deregulation?
7 What are enterprise zones?
8 How does privatisation create greater productive capacity in the economy?
9 How do supply-side policies affect the five macroeconomic aims?
10 What is the main criticism (or limitation) of supply-side policies?

Revision checklist

- ✔ Supply-side policies are long-term measures to increase the productive capacity of the economy, leading to an outward shift of the production possibility curve.
- ✔ Examples of supply-side policy measures are: education and training, labour market reforms, lower direct taxes, deregulation, incentives to work, incentives to invest and privatisation.
- ✔ Supply-side policies focus on the importance of investment in research and development (R&D), new product development, new technologies and infrastructure.
- ✔ Lower direct taxes tend to create incentives for work, especially for those on low wages.
- ✔ Reducing welfare benefits to the unemployed can create incentives for them to seek employment.
- ✔ Deregulation involves the reduction or removal of barriers to competitive markets.
- ✔ Lower direct taxes can create incentives for firms to invest in their pursuit of profit maximisation.
- ✔ Privatisation is the act of selling state-owned assets in order to increase competition, productivity and efficiency.
- ✔ Supply-side policy measures can be used to achieve sustainable

economic growth, full employment/low unemployment, stable prices/low inflation, balance of payments stability and a redistribution of income in the economy.

29 Economic growth

By the end of this chapter, students should be able to:

- define economic growth
- measure economic growth using real gross domestic product (GDP) and GDP per head
- discuss the causes and consequences of recession
- discuss the causes and consequences of economic growth
- discuss the effectiveness of policies to promote economic growth.

Economic growth

Economic growth is the annual increase in the level of national output — that is, the annual percentage change in the country's **gross domestic product** (GDP). Hence, in theory, an increase in any of the components of GDP (consumption, investment, government spending and net exports) can cause economic growth.

Definitions

Economic growth is the annual increase in the level of national output, i.e. the annual percentage change in gross domestic product.

Gross domestic product measures the monetary value of goods and services produced within a country for a given period of time, usually one year.

Economic growth increases the long-term productive capacity of the economy, as shown by the outward shift of the production possibility curve in Figure 29.1.

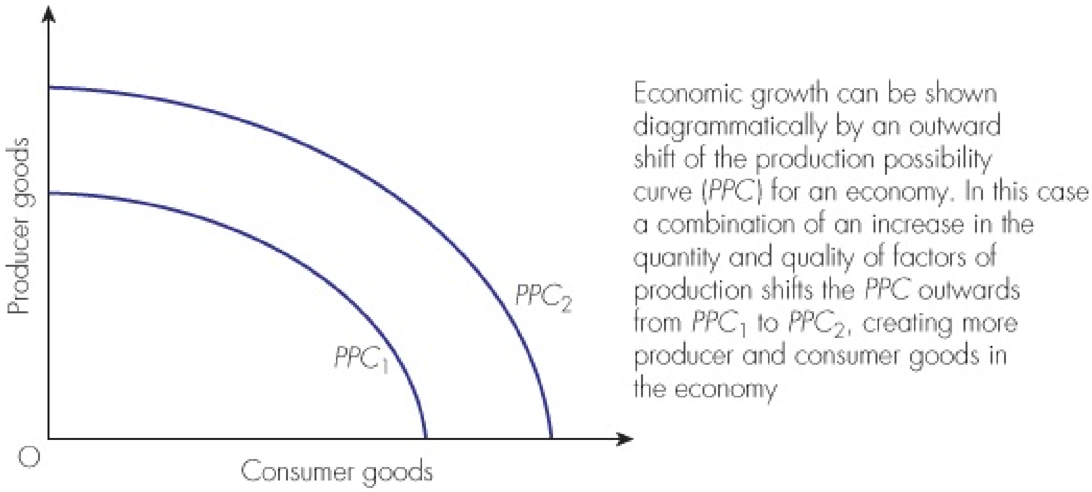


Figure 29.1 Economic growth

Measurement of economic growth

Economic growth can be measured using real gross domestic product (real GDP) and GDP per head (or GDP per capita). These are arrived at from a calculation of nominal GDP as follows.

Nominal gross domestic product (nominal GDP) measures the monetary value of goods and services produced within a country during a given period of time, usually one year. The components of nominal GDP are:

- **Consumption** expenditure (*C*) — this refers to the total spending on goods and services by individuals and households in an economy. Examples are spending on housing, transport, food, clothing and domestic holidays.
- **Investment expenditure** (*I*) — this refers to the capital spending of firms used to increase production and to expand the economy's productive capacity. Examples are spending on new machinery and technologies, and on the construction of new factories.
- **Government** spending (*G*) — this is the total consumption and investment expenditure of the government. Examples are spending on infrastructure (such as rail and road networks) and on the construction of new schools and hospitals. The calculation of government spending ignores payments made to others without any corresponding output, such as unemployment benefits.
- **Export** earnings (*X*) — this measures the monetary value of all exports sold to foreign buyers. For example, France exports a huge amount of wine, dairy products and fruit, so the earnings from these exports are included in the measure of its GDP.

- **Import** expenditure (M) — this measures the monetary value of all payments for imports. France imports a lot of cars, oil and smartphones. The spending on these items means that money leaves the French economy, so this must be deducted in the calculation of its GDP. The difference between the values of a country's exports and imports ($X - M$) is called **net exports**.

Definitions

Nominal gross domestic product (nominal GDP) measures the monetary value of goods and services produced within a country during a given period of time, usually one year.

Consumption is the value of all private household consumption within a country.

Investment expenditure is the sum of capital spending by all businesses within a country.

Therefore, a country's GDP is calculated using the formula:

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

From this, two measures can be used to gauge the level of economic growth:

- **Real GDP** refers to the value of national income (GDP) that is adjusted for inflation. It reflects the true value of goods and services produced in a given year because inflation artificially raises the value of a country's output.
- **GDP per head** (or **GDP per capita**) measures the gross domestic product of a country divided by its population size. This is a key measure of a country's economic growth and standards of living, as GDP per head indicates the mean average national income per person. Ceteris paribus, the larger the population size, the lower the GDP per head for a certain level of GDP (see Table 29.1).

Definitions

Net exports refers to the monetary value of the difference between a nation's export earnings and its import expenditure.

Real GDP refers to the value of national income (GDP) adjusted for inflation to reflect the true value of goods and services produced in a given year.

GDP per head measures the average value of annual GDP per capita (person).

Table 29.1 GDP per capita: selected countries, 2017

Country	GDP per capita (US$)	Nominal GDP (US$bn)
USA	51,638.10	18,036.65
China	6,497.50	11,064.66
India	1,751.70	2,088.80
Indonesia	3,834.06	861.93
Netherlands	51,268.47	750.28
Kenya	1,133.46	63.40
Luxembourg	107,035.96	56.80

Source: Trading Economics

Causes and consequences of recession

Economic growth occurs when there is an increase in the level of economic activity in a country over time. The **business cycle** (also known as the **trade cycle**) describes the fluctuations in economic activity in a country over time. These fluctuations create a long-term trend of growth in the economy (see Figure 29.2).

Definition

The **business cycle** (or **trade cycle**) describes the fluctuations in the economic activity of a country over time, creating a long-term trend of economic growth in the economy.

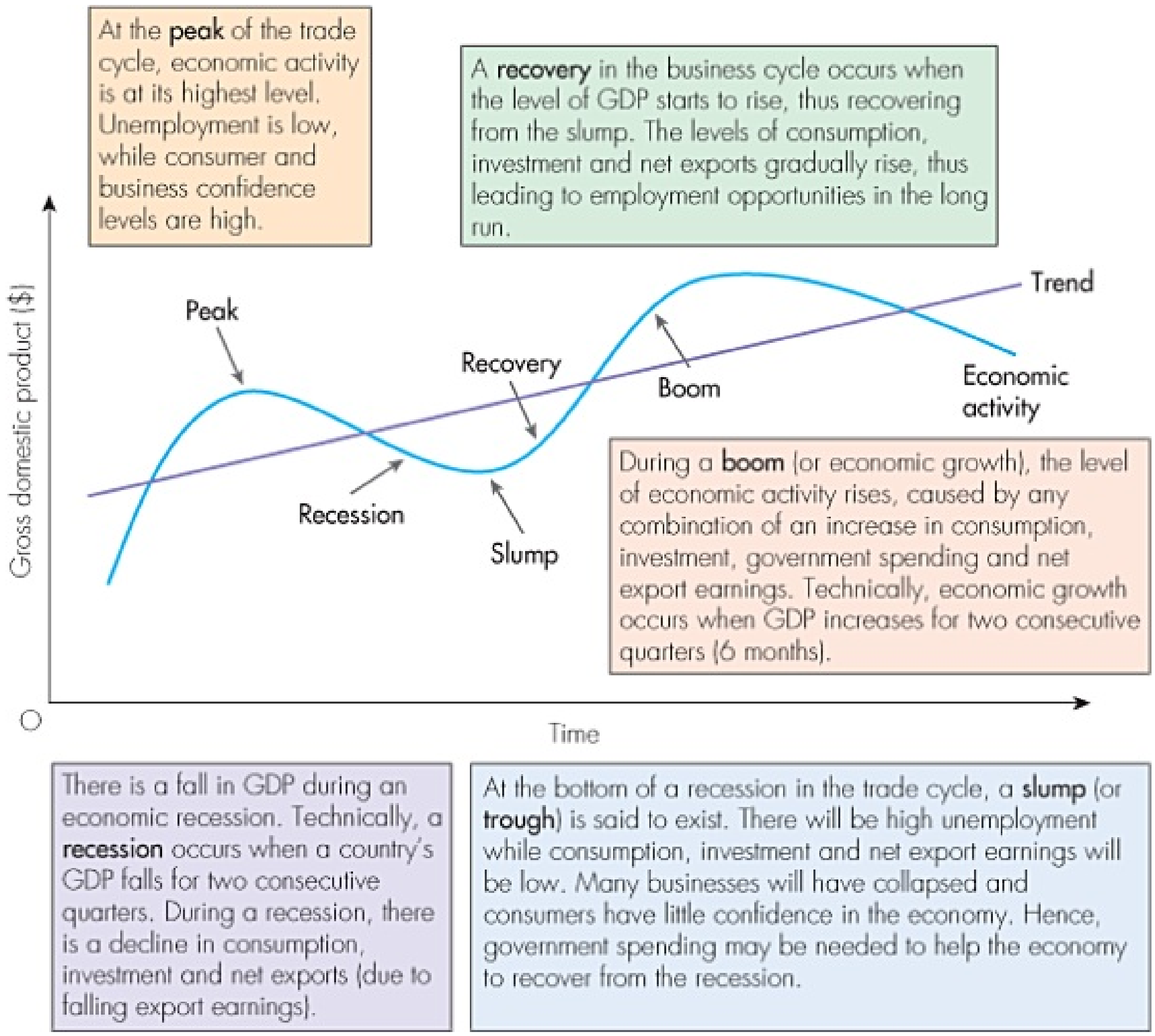


Figure 29.2 The business cycle

There are several interrelated reasons why a **recession** may come about:

- a higher level of unemployment
- higher interest rates, which discourages investment but raises demand for savings
- greater uncertainty in the economy
- lower rates of disposable income, causing a fall in consumer spending
- lower levels of government expenditure
- a decline in the demand for exports
- lower levels of consumer and business confidence.

Definition

Recession occurs in the business cycle when there is a fall in GDP for two consecutive quarters.

Case study: Recession in the PIGS economies

Following the global financial crisis of 2008, the economies of Portugal, Ireland, Greece and Spain (PIGS) faced a major economic downturn in their business cycles. By 2013, Greece and Spain were recording unemployment rates of 26.8 and 26.6 per cent respectively. Spain's youth unemployment rate (among those aged 21 and below) reached 55 per cent — the highest in EU history. Under such extreme economic circumstances, the government needs to intervene to help the economy to recover. All four PIGS economies received financial bailouts of the following amounts:

- Portugal = $114 billion
- Ireland = $113 billion
- Greece = $159 billion
- Spain = $130 billion

Activity

List four ways in which a government can deal with the problem of mass unemployment. Discuss which one of these four policies is the most effective, and why.

Causes and consequences of economic growth

An increase in any of the components of GDP (consumption, investment, government spending or net exports) can cause economic growth. In addition, an increase in the quantity and/or the quality of factors of production can also create economic growth, such as an increase in the labour supply or improvements in the state of technology.

The factors that account for the differences in the economic growth rates of different countries include variations in the following:

- **Factor endowments** — this refers to the quantity and quality of a country's factors of production. For example, Saudi Arabia is well endowed in the supply of oil, France has plenty of arable land for its agricultural output, and Australia has many natural resources such as coal, gold and iron ore. These countries can therefore specialise production on a large scale and benefit from economies of scale (see Chapter 20) and export their lower-price products in overseas markets. By contrast, countries that lack natural resources, land and productive labour will tend to struggle to achieve economic growth.
- **The labour force** — the size, skills and mobility of the economy's workforce has an impact on the country's economic growth. For example, India's large labour force and Germany's highly skilled workers have contributed to the economic growth of these countries. The mobility of labour refers to the extent to which workers can change between jobs (known as **occupational mobility**) and the extent to which they are willing and able to move to different locations for employment (known as **geographical mobility**). Generally, the more occupationally and geographically mobile workers are in a country, the greater its economic growth is likely to be.
- **Labour productivity** — this refers to the amount of goods and services that workers produce in a given time period. It is often referred to as **output per worker**, expressed as a monetary value (GDP divided by the country's labour force). Labour productivity (the productive use of labour) is a key determinant of economic growth. It depends on several interrelated factors such as the qualifications, experience, training and motivation of the labour force. Technological advances can also enhance labour productivity, such as the use of internet technologies in e-commerce (online trading). An increase in the labour productivity of a country helps to improve its international competitiveness and hence its prospects for economic growth.
- **Investment expenditure** — investment is a component of overall demand in the economy, so any increase in investment should help to boost the country's GDP. Investment helps to boost the country's productive capacity in the long run. Investment expenditure on physical capital, such as the use of computers in production (see Chapter 21), can also help to improve labour productivity. In order to remain competitive in the long run, countries must invest in capital resources.

Japan’s Honda, Nissan and Toyota production plants in the UK help to create jobs in the UK and therefore boost its GDP

Activity

Discuss in pairs the reasons for the following:

a Why government spending on infrastructure (such as road and rail networks) and training programmes for the unemployed are examples of investment expenditure.

b Why the spending by foreign tourists in Paris represents export earnings for France.

c Why investment is important for a country’s economic growth.

Positive consequences of economic growth

In general, economic growth is desirable due to its positive consequences for members of society. These advantages include the following:

- **Improved standards of living** — economic growth tends to lead to higher standards of living for the average person. Higher income levels in a country enable people to spend more money to meet their needs and wants (see

Chapter 1). This helps to eliminate absolute poverty in the country.

- **Employment** — economic growth leads to higher levels of employment in the economy. This helps to raise consumption and encourages further investment in capital, helping to sustain economic growth.
- **Tax revenues** — economic growth is associated with higher levels of spending in the economy. This generates more tax revenues for the government. For example, the government can collect more from sales taxes (on consumption), corporate tax (on the profits of firms) and import taxes. Hence, there are more funds for the government to use to further sustain the growth of the economy.

Exam-style questions

According to the Economist Intelligence Unit, the economy of Macau, a self-administering region of China, grew by 14.3 per cent in 2013 — the highest economic growth rate for any country in the year. The island nation is the world's biggest gambling market ahead of Las Vegas, so it enjoys huge tax revenues from gambling proceeds. In 2011, Macau enjoyed a stunning 20.7 per cent growth rate. This rate is not sustainable, but Macau was still enjoying 7 per cent GDP growth in 2017. The government is investing huge amounts of money to attract a wider range of tourists, and casino giants such as Sands and MGM Resort are also investing large sums of money in the economy.

a Define *economic growth*. [2]

b Explain how investment in Macau helps to boost its economic growth. [4]

Negative consequences of economic growth

Despite the advantages of economic growth, there are also potential drawbacks:

- **Environmental consequences** — high rates of economic growth can create negative externalities such as pollution, congestion, climate change and land erosion (see Chapter 14). Such environmental impacts can damage people's wellbeing and quality of life in the long run.

- **Risk of inflation** — if the economy grows due to excessive demand, there is the danger of demand-pull inflation (see Chapter 31). This can lead to prices of goods and services rising to unstable levels, with negative consequences for the economy, such as a decline in the country's international competitiveness.
- **Inequalities in income and wealth** — although the country as a whole might experience economic growth, not everyone will benefit in the same way. Economic growth often creates greater disparities in the distribution of income and wealth — the rich get richer and the poor get relatively poorer, creating a widening gap between the rich and poor. *Forbes* magazine reported that in 2017, the top ten billionaires in the USA (who happened to all be male) had a combined wealth of over $427 billion — equal to the wealth of the poorest 3.6 billion people on the planet! Put another way, their wealth was worth the same as the poorest half of the world's population. The wealth of these ten billionaires was more than twice as much as Vietnam's GDP, and 24 times greater than the GDP of Cambodia!
- **Resource depletion** — economic growth often involves using up the world's scarce resources at rates that are not sustainable. For example, deforestation and overfishing have led to problems in the ecosystem.

Hence, economic growth does not necessarily resolve a country's socioeconomic problems, such as resource depletion, market failures (see Chapter 14) and income inequality.

Pollution — a negative consequence of rapid economic growth in China

Activity

In small groups, research the economic problems of overfishing. Websites such as http://overfishing.org and http://ocean.nationalgeographic.com will help. Be prepared to present your findings to the rest of the class.

Policies to promote economic growth

Economic growth can be promoted by using macroeconomic policies to increase demand in the economy and/or boost the productive capacity of the economy. These policies include demand-side policies (namely fiscal and monetary policies) and supply-side policies.

- **Fiscal policy** involves the use of taxation and/or government spending to control the level of economic activity in the economy. If demand in the economy is too low, the government may choose to stimulate economic growth by cutting taxes and/or increasing its own expenditure in order to boost the level of economic activity. This should also have a positive impact on employment in the economy. See Chapter 26 for more about fiscal policy.
- **Monetary policy** involves the central bank changing interest rates in order to control the level of demand and hence economic activity. To promote economic growth, lower interest rates can be used to cut the costs of borrowing to consumers and firms. This should help to fund consumer expenditure and business investments, thereby boosting economic growth. See Chapter 27 for more about monetary policy.
- While both fiscal and monetary policies target demand in order to achieve economic growth, **supply-side policies** are used to increase the economy's productive capacity. These policies seek to increase competition, productivity and innovation in order to promote economic growth. Examples include government funding to encourage education and training. A reduction in corporate taxes can also encourage risk taking and foreign direct investment in the economy. In the long run, supply-side policies increase the productive capacity of the economy, thereby promoting economic growth. See Chapter 28 for more about supply-side policy.

Study tip

While economic growth is generally seen as a desirable macroeconomic objective, remember that individuals do not benefit equally from economic growth.

Exam-style questions

In Sri Lanka, economic growth has seen the increased use of pesticides and chemical fertilisers to increase the amount of crops produced. The growth of the tourism industry has brought about an increase in the construction of roads, hotels and guest houses. This has created jobs but at a cost to natural wildlife habitats.

1 Identify the social costs and benefits of economic growth in Sri Lanka. [4]

2 Discuss the potential long-term impacts of economic growth in Sri Lanka and whether the benefits outweigh the costs. [8]

Chapter review questions

1 What is meant by real gross domestic product (GDP)?
2 What is economic growth and how is it calculated?
3 What are the causes of economic growth?
4 What are the consequences, both positive and negative, of economic growth?
5 What is meant by a recession?
6 What is the business cycle?
7 How do calculations of GDP per head help to measure economic growth?
8 What are the main policies used to promote economic growth?

Revision checklist

✔ Economic growth is the annual increase in the level of national output — that is, the annual percentage change in the country's gross domestic product (GDP). It can be represented in a diagram by an outward shift of the PPC.

- ✔ Economic growth can be measured using real gross domestic product (real GDP) and GDP per head (or GDP per capita).
- ✔ Nominal gross domestic product (nominal GDP) measures the monetary value of goods and services produced within a country, per year. It is calculated using the formula: $C + I + G + (X – M)$.
- ✔ Real GDP refers to the value of national income (GDP) that is adjusted for inflation.
- ✔ GDP per head (GDP per capita) measures the GDP of a country divided by the population size.
- ✔ The business cycle (also known as the trade cycle) describes the fluctuations in economic activity in a country over time: boom, recession, slump and recovery.
- ✔ Causes of economic growth depend on the quality and quantity of a country's factors of production, such as factor endowments, the labour force, labour productivity and investment expenditure.
- ✔ There are both positive and negative consequences of economic growth.
- ✔ Policies to promote economic growth include: expansionary fiscal policy, loose monetary policy and supply-side policies.

30 Employment and unemployment

By the end of this chapter, students should be able to:

- define employment, unemployment and full employment
- explain changing patterns and level of employment
- measure unemployment
- explain causes/types of unemployment
- discuss the consequences of unemployment
- discuss the policies to reduce unemployment.

Employment, unemployment and full employment

Employment refers to the economic use of labour as a factor of production. For example, people may work in the primary, secondary or tertiary sectors of the economy (see Chapter 20). Employment also includes those who are self-employed.

Definition

Employment refers to the use of factors of production in the economy, such as labour.

High employment, or low unemployment, is a key macroeconomic objective of all governments. There are several reasons for this:

- High employment raises standards of living for the average person in the country (see Chapter 32).
- It promotes economic growth — another key macroeconomic objective (see Chapter 29).
- It increases tax revenues (due to higher levels of income and spending in the economy), which are used to finance government spending.
- It reduces the financial burden and opportunity cost to the government as

spending on welfare benefits falls.

- It prevents 'brain drain' from the economy. This can occur during periods of high unemployment when highly skilled workers leave the country in search of job opportunities elsewhere.
- It reduces income and wealth inequalities — poorer people are more affected by unemployment as they lack savings and wealth.

Unemployment occurs when people of working age are both willing and able to work but cannot find employment. The United Nations International Labour Organization (ILO) states the lower limit of the working age to be 15 years old. While there is no official upper limit, many countries use an age limit of between 65 and 70. For example, the official retirement age for females in the UK is 66 years and 5 months, while the retirement age is 67 years for all workers in Norway, Poland and the USA. Figure 30.1 shows the unemployment rates in Portugal from 2007 to 2017.

Definition

Unemployment occurs when people of working age are both willing and able to work but cannot find employment.

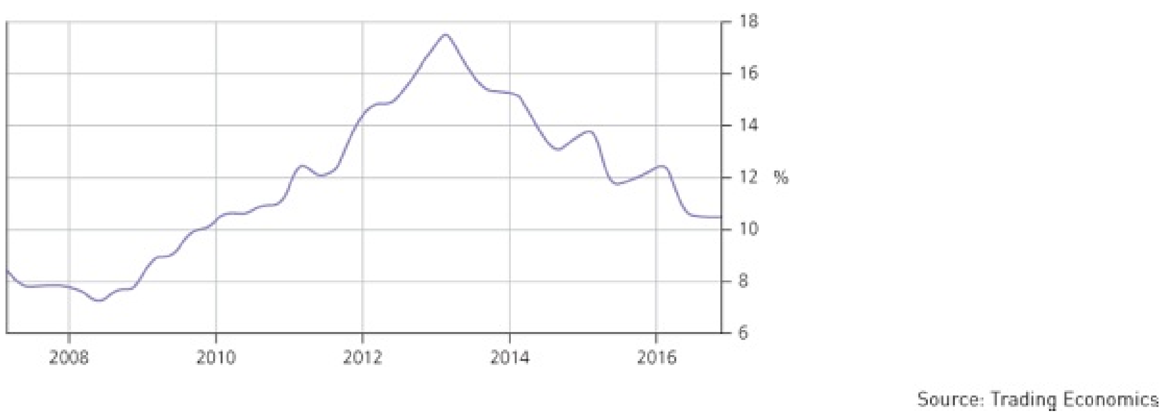


Figure 30.1 Unemployment rates: Portugal, 2007–17

Full employment refers to the ideal situation when everyone in a country who is willing and able to work has a job. Governments strive to ensure that everyone who is able and willing to work finds employment. This helps the economy to make the most of its human resources.

Definition

Full employment means that everyone in a country who is willing and able to work has a job.

Study tip

Not all people of working age are *willing* to participate in employment. This will depend on the country's welfare benefits scheme and social attitudes, such as attitudes towards women in the workforce.

Changing patterns and levels of employment

Employment patterns change over time with changes in economic trends. For example, there have been large job losses in manufacturing industries in the USA and the UK as many firms have shifted their operations to India and China. On the other hand, other job opportunities in the tertiary sector have been created in the USA and the UK.

Changing employment patterns include the following:

- **Employment sector** — as a country develops, the number of people employed in the primary sector tends to fall, with the majority of workers being employed in the tertiary sector (see Table 30.1).

Table 30.1 Output by sector (%): selected countries, 2017

Country	GDP — composition by sector (%)		
	Primary	Secondary	Tertiary
Luxembourg	0.2	11.1	88.7
USA	1.1	19.4	79.5
Denmark	1.1	23.4	75.5
Nepal	29.4	20.2	50.4
Ethiopia	36.2	17.0	46.8
Somalia	60.2	7.3	32.5

Source: CIA, *World Factbook*

- **Delayed entry to the workforce** — as more people study to tertiary education level, the average age of employees entering the workforce rises. Graduates could be aged around 25 by the time they complete their first degree and master's degrees. More females and mature students have also entered tertiary education, again limiting the potential size of the economy's workforce.

- **Ageing population** — this occurs when the average age of the population rises, partly due to lower birth rates and longer life spans in developed economies. The lower labour supply means that firms are more willing to employ older employees and hire people beyond their retirement age. The economic consequences of an ageing population are examined in Chapter 34.
- **Formal sector employment** — as an economy develops, there is an increase in the proportion of workers employed in the formal economy and a decline in the proportion who work in the informal sector. Employment is formal, with workers paying income taxes and contributing to the country's official GDP.
- **Female participation rates** — as a country grows and develops, there tends to be a greater proportion of women active in the labour force (see Table 30.2). This is due to changes in social attitudes towards women in the economy. In economically developed countries, women are choosing to have fewer children and at a later age, partly due to the high costs of raising children but also because more women opt to pursue a professional career.

Definitions

Formal sector employment refers to officially recorded employment, where workers pay income taxes and contribute to the country's official GDP.

The **female participation rate** measures the proportion of women who are active in the labour force. As an economy grows and develops, there tends to be a higher female participation rate.

Table 30.2 Female participation rates (% of the female population): selected countries, 1990 and 2016

Country	1990	2016
Australia	52	58
Bahrain	28	39
Germany	43	55
Jordan	9	14
Kuwait	35	48
Mexico	34	45
Nigeria	39	48
Qatar	41	53
Samoa	40	23

Source: World Bank

- **Public sector employment** — as more countries around the world move towards a market economy, with less direct government intervention, there is a decline in the proportion of people employed in the public sector.
- **Flexible working patterns** — changes in the world economy have meant that firms need to be far more flexible in order to compete internationally. Examples of flexible working patterns include firms hiring more part-time staff, allowing employees to work from home, introducing flexible working hours and outsourcing non-core functions (such as accounting, cleaning, security and ICT) to other service providers.

Measuring unemployment

There are two main ways of measuring (or defining) unemployment: the claimant count and the labour force survey.

The **claimant count** measures the number of people who are out of work and claiming unemployment benefits. To qualify for benefits, they must prove they are actively seeking employment. Critics of this measurement argue that the claimant count underestimates the true level of unemployment, because many people are not eligible for unemployment benefits, such as those who are only seeking part-time work or people on job retraining schemes.

The **labour force survey** (LFS) is an alternative measure of unemployment produced by the ILO. It uses a standardised household-based survey to collect work-related statistics, such as employment status, education and training opportunities. The LFS is used by all member states of the European Union and other countries too. Questionnaires are collected face-to-face or completed over the telephone.

Definitions

The **claimant count** measures the number of people who are out of work and claiming unemployment benefits.

The **labour force survey** uses the ILO's standardised household-based survey to collect work-related statistics.

The ILO measures a country's unemployment based on the number of people who are:

- willing to work, but unable to find it
- actively looking for work — that is, they have looked for a job in the last 4 weeks, and
- able to start work within the next 2 weeks, or
- waiting to start a new job within the next 2 weeks.

Job-seekers look at employment advertisements at a labour market in China

To measure unemployment, economists calculate the **unemployment rate**, which shows the proportion of the country's workforce (those of working age) that is unemployed. It is calculated by the formula:

$$\frac{\text{Number of unemployed}}{\text{Workforce}} \times 100$$

Alternatively, this can be expressed as:

$$\frac{\text{Number of unemployed}}{\text{Number of unemployed} + \text{employed} + \text{self employed}} \times 100$$

Definition

The **unemployment rate** is a measure of the percentage of a country's workforce that is out of employment.

Exam-style questions

1 Calculate the unemployment rate if the population is 65 million people, of whom 36 million are employed and 4 million are unemployed.

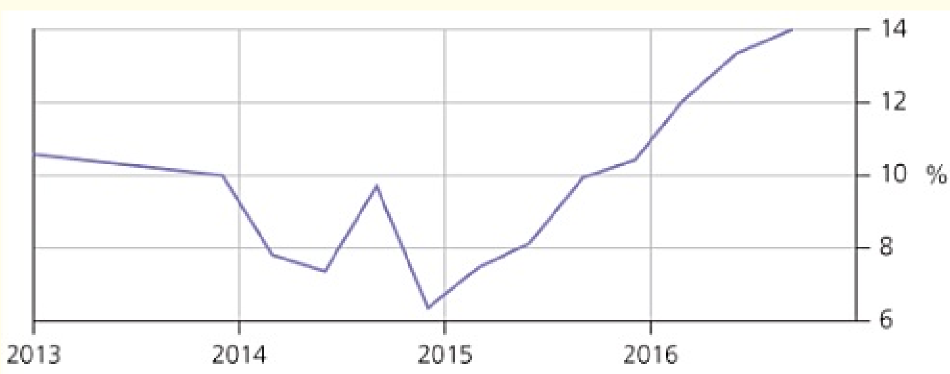
[2]

2 Calculate the number of unemployed people in a country with the following population data and an unemployment rate of 8.5 per cent:

[2]

- Population = 46 million
- Age 0–14 = 17 million
- Age 15–64 = 20 million
- Age ≥ 65 = 9 million

3 Having a population of over 188 million, Nigeria is one of the most populated countries in Africa. With over 42 per cent of the population aged below 15, the country has a large dependency ratio of almost 86 per cent. Gender inequalities mean less than 45 per cent of working-age females are in employment. Most people are employed in primary industries. Nigeria is a large producer of crude oil, with about 90 per cent of its export earnings coming from the sale of oil. Figure 30.2 shows the unemployment rates in Nigeria between 2013 and 2017.



Source: Trading Economics

Figure 30.2 Nigeria's unemployment rate, 2013–17

A Describe the changing pattern of employment in Nigeria from

2013 to 2017.

[2]

B Nigeria’s working population is around 87.7 million. With an unemployment rate of 13.9 per cent, calculate the number of unemployed people in the country.

[2]

C Explain two possible factors contributing to the trend described in part **a**.

[4]

4 According to the International Monetary Fund (IMF), Pakistan’s annual unemployment rate between 2012 and 2017 was kept steady at between 5.9 and 6.5 per cent. This, according to the Central Intelligence Agency (CIA), meant that Pakistan’s gross domestic product grew by 4 per cent in 2015 and another 4.7 per cent in 2016. These changes have helped to reduce some of the poverty in Pakistan.

A Explain why it might be difficult at times to know the exact rate of unemployment in a country.

[4]

B Analyse the possible consequences of low unemployment for the Pakistani economy.

[6]

Causes and types of unemployment

Several causes of unemployment are covered in the Cambridge International syllabus. These causes can be explained by examining the various types of unemployment.

- **Frictional unemployment** is transitional unemployment which occurs when people change jobs due to the time delay between leaving a job and finding or starting a new one. Therefore, frictional unemployment always exists in the economy because it takes time for the labour market to match available jobs with the people looking for jobs.
- **Structural unemployment** occurs when the demand for products produced in a particular industry continually falls, often due to foreign competition. The

industry therefore suffers from structural and long-term changes in demand for its products. The UK, for example, has suffered from structural unemployment in shipping, textiles, steel production, coal mining and car manufacturing. Those who have become unemployed after working in such industries usually find it quite difficult to find a new job, so retraining is needed.

- **Cyclical unemployment**, also known as **demand-deficient unemployment**, is the most severe type of unemployment as it can affect every industry in the economy. It is caused by a lack of demand which causes a fall in national income. In Figure 30.3, the fall in demand in the economy from AD_1 to AD_2 causes national income to fall from Y_1 to Y_2, therefore creating mass unemployment and causing the general price level to fall from P_1 to P_2. Demand-deficient unemployment is experienced during an economic downturn — that is, during recessions and slumps.

Definitions

Frictional unemployment is transitional unemployment which occurs when people change jobs or are in-between jobs.

Structural unemployment occurs when the demand for products produced in a particular industry continually falls, often due to foreign competition.

Cyclical unemployment is unemployment caused by a lack of demand, which causes a fall in national income. It is a severe type of unemployment as it can affect every industry in the economy.

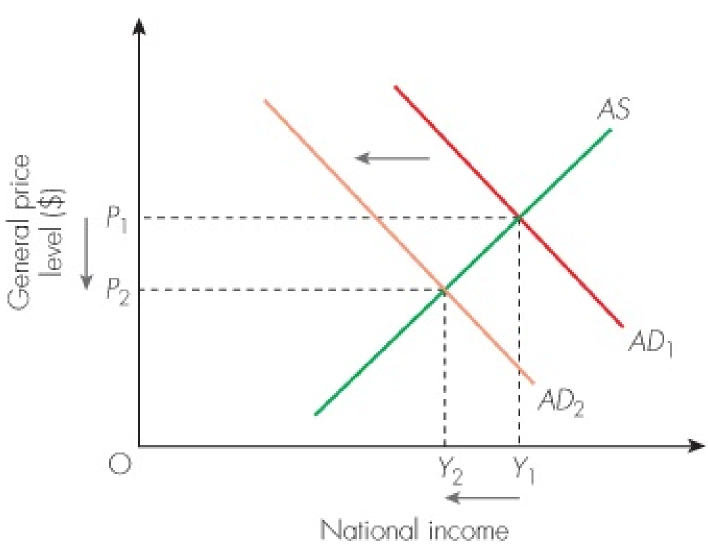


Figure 30.3 Cyclical unemployment

Activity

Find real-world examples of frictional, seasonal and cyclical unemployment, with an image or picture to represent each type of unemployment.

While Spain and Greece saw record unemployment rates of 21.9 per cent and 24.9 per cent respectively in 2017, these are relatively modest compared to the countries with the world's highest unemployment rates (see Table 30.3).

Table 30.3 The world's highest unemployment, 2017

Ranking	Country	Average unemployment rate (%)
1	Djibouti	53.9
2	Solomon Islands	34.8
3	Mauritius	31.1
4	Bosnia and Herzegovina	30.3
5	The Gambia	30.1

Source: The Heritage Foundation, 2017

Activity

Find out the current unemployment rate in your country or a country of your choice. How does this compare with the rates for the past five years? A good starting point is www.tradingeconomics.com or the website of the International Labour Organization (www.ilo.org). What trends can you identify? Investigate the possible causes of these unemployment trends.

Consequences of unemployment

Unemployment affects a range of stakeholders: the individuals who are unemployed themselves, firms (employers) and the economy as a whole. The consequences of unemployment include the following:

- The individuals who are unemployed may suffer from stress, depression, other health problems, low self-esteem, a lack of dignity and homelessness. In extreme cases, unemployment can even lead to suicides.
- Family and friends may also suffer from lower incomes as a result of unemployment. This often leads to arguments and even separation or divorce.
- The local community can suffer if there is mass unemployment, as a result of poverty, falling house prices (and hence asset values) and increased crime rates.
- Firms lose out as there are lower levels of consumer spending, investment and profits. Business failures and bankruptcies are therefore more likely to occur during periods of high unemployment.
- The government may face higher expenditure on welfare benefits and healthcare for the unemployed. Hence, prolonged periods of high unemployment can lead to increased government debts.
- Taxpayers stand to lose due to the opportunity costs of unemployment — namely, increased reliance on taxpayer’s money to finance unemployment and welfare benefits.
- The economy as a whole suffers from being less internationally competitive due to falling levels of spending and national output.

Policies to reduce unemployment

Governments can try to deal with the problems of unemployment in a number of ways. This will partly depend on the causes of unemployment in the economy. There are four general policies for reducing unemployment: fiscal policy (see Chapter 26), monetary policy (see Chapter 27), supply-side policy (see Chapter 28) and protectionist policies (see Chapter 37).

- **Fiscal policy** — this is the use of taxation and government spending policies to influence the level of economic activity. It can be used to tackle unemployment caused by demand-side issues, such as cyclical and structural unemployment. The use of expansionary fiscal policy (such as tax cuts and increased government spending) boosts the level of consumption and investment in the economy. This causes an increase in real GDP, which brings about more employment opportunities.

- **Monetary policy** — this refers to the use of interest rates to affect the level of economic activity. When interest rates are lowered, the cost of borrowing falls, thus encouraging households and firms to spend and invest. In Figure 30.4, higher spending in the economy shifts the demand for labour curve from D_{L1} to D_{L2}. This results in employment in the economy increasing from N_1 to N_2. The resulting rise in real wage rates from W_1 to W_2 also helps to attract more labour, causing an expansion along the supply of labour (S_L) curve. Like fiscal policy, monetary policy tackles demand-side causes of unemployment.

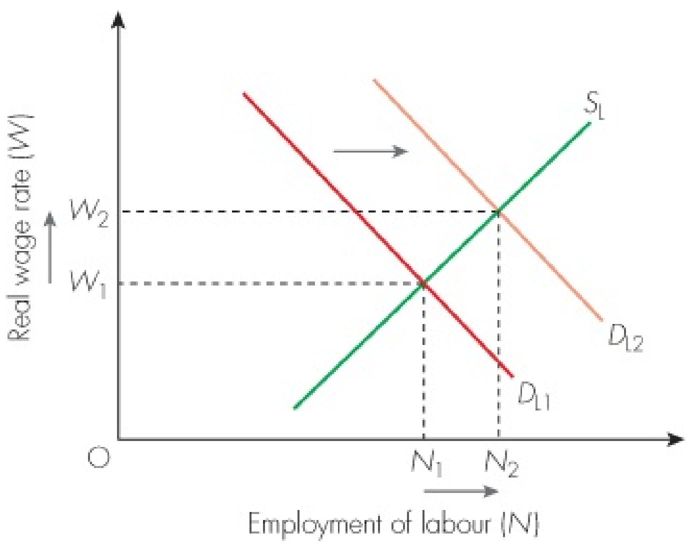


Figure 30.4 Monetary policy and the labour market

- **Protectionist measures** such as tariffs and quotas (see Chapter 37) can be used to safeguard domestic jobs from the threat of international competition. For example, the Japanese government imposes up to 778 per cent import taxes on rice — the highest rate in the world — in order to protect agricultural jobs in the country.
- **Supply-side policies** — these government strategies are used to deal with imperfections in the labour market and to reduce unemployment caused by supply-side factors. Thus, these policies are aimed at addressing frictional and voluntary unemployment, although they can also be used to help reduce structural and cyclical unemployment. Examples of supply-side policies are as follows:
  - **Investment in education and training** helps unemployed people to gain new skills so they can find employment. An example is retraining structurally unemployed manufacturing workers to help them find work in the tertiary sector. Education and training expenditure should also help

future generations to become more skilled and employable.

- A **reduction in trade union powers** will mean that labour unions are not in such a strong bargaining position to obtain higher wages (see Chapter 19). Strong trade unions have often been able to demand annual pay rises in excess of inflation. Hence, government intervention to reduce the influence and power of trade unions can help to reduce unemployment.
- **Incentives** can be offered to firms for training and hiring the long-term unemployed. For example, the government can offer tax allowances and/or subsidies to reduce the costs of training and hiring workers. Similarly, special economic zones could be set up in areas of high unemployment to create jobs. However, firms might be reluctant to do this because of the lower productivity and greater risks of hiring the long-term unemployed.
- **Reducing welfare benefits** will give unemployed people an incentive to find a job rather than to rely on state welfare benefits. If it is made more difficult for people to claim unemployment benefits, they become more proactive in searching for jobs. This could significantly help to reduce unemployment.

While supply-side policies tend to have more permanent impacts on employment, these effects take longer to achieve when compared to demand-side policies aimed at reducing unemployment in the economy.

Exam-style questions

In June 2010, Tesco opened Britain's first supermarket without any checkout workers. Instead, one person was hired to supervise five self-service checkouts, mainly to assist customers who had not used a self-service checkout before. The UK's largest retailer employs around 470,000 workers but critics argue that such technological advancements will cause mass job losses. In 2017, Tesco announced it would cut night-shift shelf stackers in some of its supermarkets, putting more jobs at risk.

a Define *unemployment*.

[2]

b Analyse the ways in which the UK government could reduce technological unemployment.

[6]

Exam-style question

Which option is least likely to suggest why it is difficult to compare the unemployment rates of different countries?

A Different countries calculate unemployment in different ways
B The minimum age to work differs in different countries
C The retirement age varies between countries
D There is no agreement on the measurement of unemployment

Chapter review questions

1. How does the pattern of employment in the three employment sectors change as an economy develops?
2. Why have most developed countries seen a delay in labour entering the workforce?
3. How have ageing populations in developed economies affected employment patterns?
4. How does the International Labour Organization measure unemployment?
5. How is the unemployment rate calculated?
6. Why is employment a macroeconomic objective of all governments?
7. Outline the main types (and hence the causes) of unemployment.
8. What are the consequences of high unemployment in the economy?
9. What are the four main government policies that can be used to reduce domestic unemployment?
10. Give three examples of supply-side policies that can be used to reduce unemployment.

Revision checklist

✔ Employment refers to the economic use of labour as a factor of production, with people working in the primary, secondary and tertiary sectors of the economy.

- ✔ Unemployment occurs when people of working age are both willing and able to work but cannot find employment.
- ✔ As a country develops, the number of people employed in the primary sector tends to fall, with the majority being employed in the tertiary sector.
- ✔ Changing employment patterns include: delayed entry into the workforce, ageing populations, higher female participation rates, a lower proportion of public sector employment and flexible working patterns.
- ✔ Unemployment can be calculated using either the claimant count or the labour force survey.
- ✔ Types of unemployment include: frictional, structural and cyclical unemployment.
- ✔ Policies to tackle the problems of unemployment include: fiscal policy, monetary policy, protectionist measures and supply-side policies (for example, investment in education and training, a reduction in trade union power, creating incentives for firms to train and employ people, and reducing welfare benefits).

31 Inflation and deflation

By the end of this chapter, students should be able to:

- define inflation and deflation
- measure inflation and deflation using the Consumer Price Index (CPI)
- discuss the causes of inflation and deflation
- discuss the consequences of inflation and deflation
- discuss the policies to control inflation and deflation.

Inflation and deflation

Inflation is the sustained rise in the general price level in an economy over time. This does not mean the price of every good and service increases, but on average prices are rising.

Definition

Inflation is the sustained rise in the general level of prices of goods and services over time, as measured by a consumer price index.

Governments aim to control inflation because it reduces the value of money and the spending power of individuals, governments and firms. For example, the inflation rate in Syria was around 51 per cent in 2017, meaning that the general price level in Syria increased by an average of about 51 per cent in a year. Hence, a product priced at 100 Syrian pounds would increase to 151 Syrian pounds by the end of the year. This makes conditions far less predictable for economic stability in Syria than in other countries with low and stable rates of inflation such as Canada, the UK and the USA (see Table 31.1).

Table 31.1 Inflation rates around the world, selected countries 2017

Country	Inflation rate (%)

Venezuela	741.00
South Sudan	425.90
Suriname	48.70
Sudan	33.50
Mozambique	21.57
Rwanda	13.00
Iran	11.90
Ethiopia	8.50
Brazil	4.57
USA	2.40
UK	2.30
Canada	1.60
Singapore	0.70
Switzerland	0.60

Source: www.tradingeconomics.com

Figure 31.1 The USA's relatively stable inflation rates (2007–17)

Case study: Hyperinflation in Zimbabwe

Major economic problems in Zimbabwe caused the country to suffer from extortionate rates of inflation between 2003 and 2009. In June 2006, the Central Bank introduced a new 100,000 Zimbabwean dollar banknote (less than $1 back then). However, by July 20 08, inflation had reached a whopping 231,000,000 per cent! Several months later in January 2009, the Zimbabwean government launched the 100 trillion Zimbabwean dollar banknote (ZWD100,000,000,000,000)! This meant the currency became worthless, and was eventually abandoned. Today, the southern African country still does not have its own official currency, with many preferring to use the US dollar. With GDP per capita at $487 (around $1.33 per day), around 80 per cent of the country's 12.6 million people live in extreme poverty.

Definition

Hyperinflation refers to very high rates of inflation that are out of control, causing average prices in the economy to rise very rapidly.

Exam-style questions

The hypothetical data below shows the inflation rates for a country over three years.

Year	1	2	3
Inflation rate (%)	2.5	1.7	2.3

a Define the meaning of 'inflation rate'.

[2]

b Explain why the rate of inflation was at its highest in the third year.

[4]

Definition

Deflation is the sustained fall in the general price level in an economy over time, i.e. the inflation rate is negative.

Study tip

Low rates of inflation, of one or two per cent, are not usually harmful to the economy as higher prices can encourage firms to supply more output. It is when inflation rises too quickly that it can disrupt decision making for individuals, firms and governments.

Whilst the price of goods and services tends to rise, the price of some products actually falls over time. This is perhaps due to technological progress or a fall in consumer demand for the product, both of which can cause prices to fall. **Deflation** is defined as the persistent fall in the general price level of goods and services in the economy, i.e. the inflation rate is negative. Some of the countries that experienced deflation in 2017 are shown in Table 31.2.

The causes of deflation can be categorised as either demand or supply factors. Deflation is a concern if it is caused by falling demand for goods and services (often associated with an economic recession and rising levels of unemployment).

Table 31.2 Deflation rates around the world, 2017

Country	Deflation rate (%)
Somalia	-3.5
Chad	-3.1
Seychelles	-1.2
Benin	-1.0
Iraq	-0.8
Barbados	-0.5
Togo	-0.4
Saudi Arabia	-0.4

Aruba	-0.3

Source: www.tradingeconomics.com

Deflation can be caused by higher levels of supply of goods and services, thus increasing the productive capacity of the economy. This drives down the general price level of goods and services whilst increasing national income. Such deflation is called **benign deflation** (non-threatening deflation). For example, supply-side policies such as investment in education and infrastructure (see Chapter 28), higher productivity, improved managerial practices, technological advances or government subsidies for major industries all help to raise national income in the long run. A greater level of capacity in the economy helps to reduce the general price level. This has happened in China during the past three decades with the Chinese government pouring huge amounts of investment funds into building new roads and rail networks (the country plans to spend $503 billion on railway expansion by 2020!).

Deflation can also be caused by lower levels of demand in the economy, thus driving down the general price level of goods and services due to excess capacity in the economy. This causes **malign deflation** (deflation that is harmful to the economy). For example, during an economic recession, household consumption of goods and services falls due to lower GDP per capita and higher levels of unemployment. A fall in the level of demand in the economy reduces the national income, forcing down the general price level. This happened in Greece for much of the past decade as the economy has struggled to get out of a severe recession. This cause of deflation is a concern as it is associated with a decline in national income and standards of living.

Study tip

The extent to which an economy is affected by deflation will depend on the severity of deflation. Morocco's experience of zero rate inflation in 2017 would have been very different from Somalia's -3.5 per cent inflation rate in the same year.

Figure 31.2 Greece inflation rate

Case study: Swine flu H1N1

In 2009 the world suffered from a pandemic of swine flu, a highly contagious respiratory disease caused by the H1N1 influenza virus found in pigs but with the potential to affect humans. The outbreak of the infectious disease in Northern Ireland, the USA, China and India slowed down economic activity to the extent that it caused deflation in all four countries, and falling rates of inflation in other affected nations such as Australia, the Philippines and Britain.

Measuring inflation and deflation

Definition

The **Consumer Price Index** (CPI) is a weighted index of consumer prices in the economy over time. It is used to measure the cost of living for an average household.

The **Consumer Price Index** (CPI) is a common method used to calculate the inflation rate. It measures price changes of a representative basket of goods and services (those consumed by an average household) in the country. For example, items such as staple food products, clothing, petrol and transportation are likely to be included. However, different statistical weights are applied to reflect the relative importance of the average household's expenditure. For example, a 10 per cent increase in the price of petrol will affect the average household far more than a 50 per cent increase in the price of light bulbs, batteries or bananas. Changes in the CPI therefore represent changes in the cost of living for the average household in the economy.

The statistical weights in the CPI are therefore based on the proportion of an average household's spending on the items in the representative basket of goods and services. For example, if food items account for 15 per cent of the typical household's total spending, then 15 per cent of the weights in the index would be assigned to food items. Therefore, items of expenditure that take a greater proportion of the typical household's spending are assigned a larger weighting. Changing fashions and trends, such as greater household expenditure on smartphones, online apps and tablet computers, require a review (or update) on the weights in the CPI.

The CPI is used for international comparisons of inflation rates, partly because it uses a wide sample of the population when calculating and assigning statistical weights to the index. The CPI, as the key measure of inflation for most countries, is also important as a benchmark when central banks set interest rates (see Chapter 27).

Calculating the CPI

A price index is used to indicate the average percentage change in prices compared to a starting period called the **base year**. The CPI compares the price index of buying a representative basket of goods and services with the base year, which is assigned a value of 100. Hence, a price index of 115.2 means that prices have in general increased by 15.2 per cent since the base year. If prices were to rise by another 5 per cent in the subsequent year, the price index number would become 120.96 (i.e. 115.2 × 1.05), or 20.96 per cent higher since the base year. Price changes in the CPI are measured on a monthly basis but reported for a twelve-month period.

Definition

The **base year** refers to the starting year when calculating a price index.

Calculating changes in the CPI will give the rate of inflation. To do so, two steps are involved:

- Collection of the price data for a representative basket of goods and services, collected on a monthly basis.

- Assigning the statistical weights, representing different patterns of spending over time.

The simplified example below, with three products in the representative basket, shows how a CPI is calculated. Assume 2016 is the base year, when the total basket price was $20.

Table 31.3 Calculating the total basket price

Product	Price in 2017	Price in 2018
Pizza	$9	$10
Cinema ticket	$10	$11
Petrol	$3	$3.5
Total basket price	$22.0	$24.5

To calculate the inflation rate between 2017 and 2018, first calculate the price indices for the two years in question:

- 2017: $22/$20 × 100 = 110 (prices in 2017 were 10 per cent higher on average than in 2016).
- 2018: $24.5/$20 × 100 = 122.5 (prices in 2018 were 22.5 per cent higher on average than in 2016).

The inflation rate between 2017 and 2018 is the percentage change in the price indices during these two periods:

$$\frac{(122.5 - 110)}{110} \times 100 = \mathbf{11.36\%.}$$

However, the products measured in the CPI are of different degrees of importance to the typical household, so statistical weights are applied to reflect this. Suppose, for example, in a particular country, food consumption accounts for 40 per cent of the average household spending, whereas entertainment represents 20 per cent, transport represents 25 per cent and all other items of expenditure represent the remaining 15 per cent. To create a weighted price index, economists multiply the price index for each item of expenditure (in the representative basket of goods and services) by the statistical weight for each item. Applying these weights gives the following results:

Table 31.4 Creating a weighted price index

Product	Price index	Weight	Weighted index
Food	110.0	0.40	110 × 0.4 = 44.0
Entertainment	115.0	0.20	115 × 0.2 = 23.0
Transport	116.4	0.25	116.4 × 0.25 = 29.1
Others	123.3	0.15	123.3 × 0.15 = 18.5
Weighted index			**114.6**

Whilst the price of food has increased the least since the base year (by only 10 per cent), food accounts for 40 per cent of the typical household's spending. So, this 10 per cent price increase has a much larger impact on the cost of living than the 15 per cent increase in the price of entertainment, which accounts for only 20 per cent of the average household's expenditure. Without using weights, the average price index would be 116.18, i.e. (110 + 115 + 116.4 + 123.3) / 4. However, the statistical weights reduce the price index to 114.6 because the relatively higher prices of non-food items account for a smaller proportion of spending by the typical household. This shows that prices have, on average, increased by 14.6 per cent since the base year. Therefore, the use of a weighted price index is more accurate in measuring changes in the cost of living, and hence inflation.

Activity

a Calculate the inflation rate if the consumer price index changes from 123.0 to 129.15.

b Calculate the price index if there is 3.0 per cent inflation during the year if the index was previously at 130.

c Calculate how much a basket of goods and services which is currently priced at $1,200 would cost if the CPI increased from 125 to 135.

Study tip

Although the CPI is the most widely used price index for measuring inflation, it only takes an average measure. Thus, the CPI hides the fact that the price of some products increases more rapidly than others, whilst the price of other products might have actually fallen.

Exam-style questions

The data below is for a hypothetical country, Jukeland.

Item	Consumer Price Index	Weight
Clothing	110	10
Food	120	20
Housing	130	30
Others	140	40

a Define what is meant by a ‘consumer price index (CPI)’.

[2]

b ‘The typical household in Jukeland spends more money on housing than on food or clothing’. Explain this statement.

[4]

Causes of inflation and deflation

There are two main causes of inflation: demand-pull inflation and cost-push inflation. **Cost-push inflation** is caused by higher costs of production, which makes firms raise their prices in order to maintain their profit margins. For example, higher raw material costs, increased wages, and soaring rents causes economic activity to fall, thereby reducing real national income.

Definition

Cost-push inflation is a cause of inflation, triggered by higher costs of production, thus forcing up prices.

Higher rents in popular locations can cause cost-push inflation

Demand-pull inflation is caused by higher levels of demand (total demand in the economy), thus driving up the general price level of goods and services. For example, during an economic boom, household consumption of goods and services increases due to higher GDP per capita and higher levels of employment. This causes an increase in real national income but forces up the general price level in the economy.

Definition

Demand-pull inflation is a cause of inflation, triggered by higher levels of demand in the economy, thus driving up the general price level.

Exam-style questions

1 Which option would not cause demand-pull inflation?

[1]

A Higher interest rates to make borrowing more difficult
B Higher level of consumer and producer confidence in the

economy

C Increase in government spending

D Reduction in direct taxes

2 What is unlikely to cause cost-push inflation? [1]

A A reduction in indirect taxes

B An increase in demand for exports

C Higher interest rates

D Increase in raw material costs

Definition

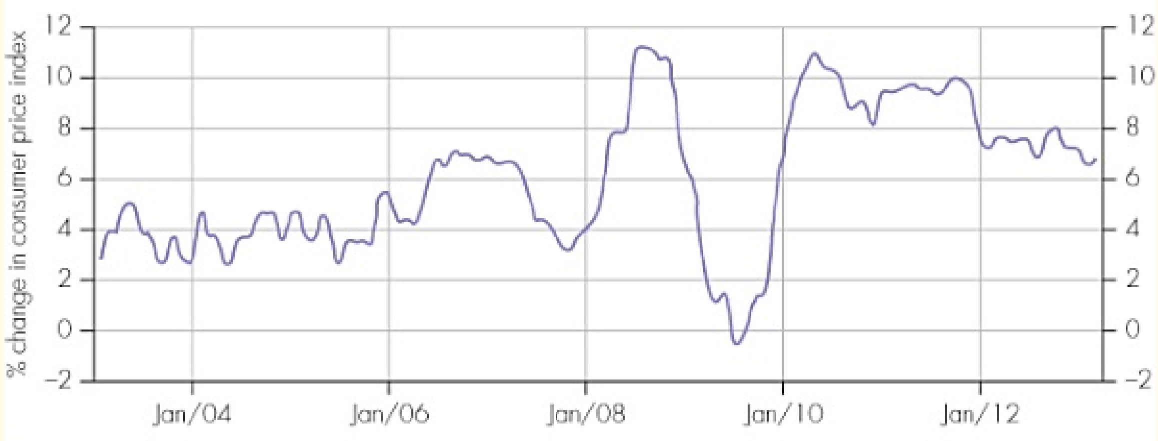
Imported inflation is a cause of inflation triggered by higher import prices, forcing up costs of production and thus causing domestic inflation.

Other possible causes of inflation are:

- Monetary causes of inflation are related to increases in the money supply (see case study on Zimbabwe) and easier access to credit, such as loans and credit cards.
- **Imported inflation** occurs due to higher import prices, forcing up costs of production and therefore causing domestic inflation.

Exam-style questions

Study the graph below which shows the inflation rates in India between 2003 and 2013, and answer the questions that follow.



Source: tradingeconomics.com; Ministry of Statistics and Programme Implementation (MOSPI), India

a Identify when the rate of inflation was at its highest and lowest in India.

[2]

b Explain the difference between cost-push inflation and demand-pull inflation.

[4]

c Analyse why the global financial crisis of late 2008 would have caused a fall in India's rate of inflation.

[6]

Activity

Discuss in small groups of 2–3 people the economic strategies you would use to control demand-pull inflation and cost-push inflation. You may want to refer to Chapters 26 and 27 to help with this activity.

Consequences of inflation and deflation

Consequences of inflation

Inflation can complicate planning and decision making for households, firms and governments with many consequences as outlined below.

- **Menu costs** — Inflation impacts on the prices charged by firms. Catalogues, price lists and menus have to be updated regularly and this is costly to businesses. Of course, workers also have to be paid for their time to reprice goods and services.

- **Consumers** — The purchasing power of consumers goes down when there is inflation, i.e. there is a fall in their real income because money is worth less than before. Therefore, as the cost of living increases, consumers need more money to buy the same amount of goods and services.
- **Shoe leather costs** — Inflation causes fluctuations in price levels so customers spend more time searching for the best deals. This might be done by physically visiting different firms to find the cheapest supplier or searching online. Shoe leather costs therefore represent an opportunity cost for customers.
- **Savers** — Savers, be they individuals, firms or governments, will lose out from inflation, assuming there is no change in interest rates for savings. This is because the money they have saved is worth less than before. For example, if interest rates average 2 per cent for savings accounts in a country but its inflation rate is 3 per cent, then the real interest rate on savings is actually minus 1 per cent. Hence, inflation can act as a disincentive to save. In turn, this leads to fewer funds being made available for investment in the economy.
- **Lenders** — Lenders, be they individuals, firms or governments, will also lose from inflation. This is because the money lent out to borrowers becomes worth less than before due to inflation.
- **Borrowers** — By contrast, borrowers tend to gain from inflation as the money they need to repay is worth less than when they initially borrowed it, i.e. the real value of their debt declines due to inflation. For example, if a borrower took out a mortgage at 5 per cent interest but inflation was 3.5 per cent, this means the real interest rate is only 1.5 per cent.
- **Fixed income earners** — During periods of inflation, fixed income earners (such as salaried workers and pensioners whose income does not change with their level of output) see a fall in their real income. Thus, they are worse off than before as the purchasing power of their fixed income declines with higher prices. Even if employees receive a pay rise, the rate of inflation reduces the real value of this. For example, if workers get a 4 per cent pay rise but inflation is 3 per cent, then the real pay increase is only 1 per cent.

Exam-style questions

Study the following data and answer the questions that follow.

Year	Inflation rate (%)	Wage increase (%)
1	2.5	3.0
2	3.1	3.5
3	2.9	3.1

a Describe which year saw the largest increase in real wages. [2]

b Explain why average wages were higher in Year 3 than Year 2. [2]

- **Low income earners** — Inflation harms the poorest members of society far more than those in high incomes. Low income earners tend to have a high price elasticity of demand (see Chapter 11) for goods and services. By contrast, those on high incomes and accumulated wealth such as hip-hop artists (see Table 31.5) are not so affected by higher prices.

Table 31.5 The five wealthiest hip-hop artists

Rank	Artist	Net wealth ($m)
1	Sean ‘Diddy’ Combs	750
2	Andre ‘Dr Dre’ Young	710
3	Shawn ‘Jay-Z’ Carter	610
4	Bryan ‘Birdman’ Williams	110
5	Aubrey ‘Drake’ Graham	60

Source: *Forbes* Rich List 2016

- Exporters — The international competitiveness of a country will tend to fall when there is domestic inflation. In the long run, higher prices make exporters less price-competitive, thus causing a drop in profits. This leads to a fall in export earnings, lower economic growth and higher unemployment.
- Importers — Imports become more expensive for individuals, firms and the government due to the decline in the purchasing power of money. Essential

imports such as petroleum and food products can cause **imported inflation** (higher import prices, forcing up costs of production and thus causing domestic inflation). Hence, inflation can cause problems for countries without many natural resources.

- **Employers** — Workers are likely to demand a pay rise during times of inflation in order to maintain their level of real income. As a result, labour costs of production rise and, other things being equal, profits margins would fall. Those in highly skilled professions such as surgeons, doctors, pilots and barristers are in a strong bargaining position because their skills are in short supply and in high demand. This can create a **wage-price spiral** whereby demand for higher wages to keep in line with inflation simply causes more inflation.

  Inflation also harms employers located in expensive areas. Table 31.6 shows the world's most expensive cities, which means employers in these areas have to pay relatively high wages to attract workers. For example, Tokyo has been the most expensive city in the annual Economics Intelligence Unit (EIU) Worldwide Cost of Living Index a total of 14 times in the past 20 years.

- **Business confidence levels** — Inflation also affects employers as it causes uncertainty. The combination of uncertainty and the lower than expected real rates of return on investment (due to higher costs of production) tends to lower the amount of planned investment in the economy.

Definition

A **wage-price spiral** occurs when trade unions negotiate higher wages to keep income in line with inflation but this simply causes more inflation as firms raise prices to maintain their profit margins.

Singapore tops the most expensive cities index

The consequences of deflation

The consequences of deflation depend on whether we are considering benign deflation or malign deflation. The consequences of benign deflation are positive as the economy is able to produce more, thus boosting national income and employment, without an increase in the general price level. This therefore boosts the international competitiveness of the country. However, malign deflation is generally harmful to the economy. The consequences of malign deflation include the following:

- **Unemployment** — As deflation usually occurs due to a fall in demand for goods and services in the economy, this causes a fall in the demand for labour, i.e. deflation causes job losses in the economy.
- **Bankruptcies** — During periods of deflation, consumers spend less so firms tend to have lower sales revenues and profits. This makes it more difficult for firms to repay their costs and liabilities (money owed to others, such as outstanding loans and mortgages). Thus, deflation can cause a large number of bankruptcies in the economy.
- **Wealth effect** — As the profits of firms fall, so do their valuations, i.e. share prices fall during times of deflation. This means that dividends and the capital returns on holding shares fall, thus reducing the wealth of shareholders.
- **Debt effect** — The real cost of debts (borrowing) increases when there is deflation. This is because real interest rates rise when the price level falls. For example, if interest rates average 1.0 per cent but the inflation rate is –1.5 per cent, then the real interest rate is 2.5 per cent (imagine the situation of falling

house prices whilst having to pay interest on mortgages taken out when prices were higher). Thus, with deflation and the subsequent rising real value of debts, both consumer and business confidence levels fall, further adding to the economic problems in the country.

- **Government debt** — With more bankruptcies, unemployment and lower levels of economic activity, tax revenues fall whilst the amount of government spending rises (due to the economic decline associated with malign inflation). This creates a budget deficit for the government, meaning that it needs to borrow money even though the real cost of borrowing rises with deflation.
- **Consumer confidence** — Deflation usually causes a fall in consumer confidence levels as consumers fear things will get worse for the economy. Thus, they may postpone their spending, especially on consumer durable goods such as cars and furniture, as they expect prices to fall even further in the future or they will wait until the economy improves. This clearly does not help the economy to recover, thereby causing a downwards deflationary spiral.

Table 31.6 The world's most expensive cities

Rank	City
1	Singapore
2	Hong Kong
3	Zurich, Switzerland
4	Tokyo, Japan
5	Osaka, Japan
6	Seoul, South Korea
7	Geneva, Switzerland
7	Paris, France
9	New York, USA
9	Copenhagen, Denmark

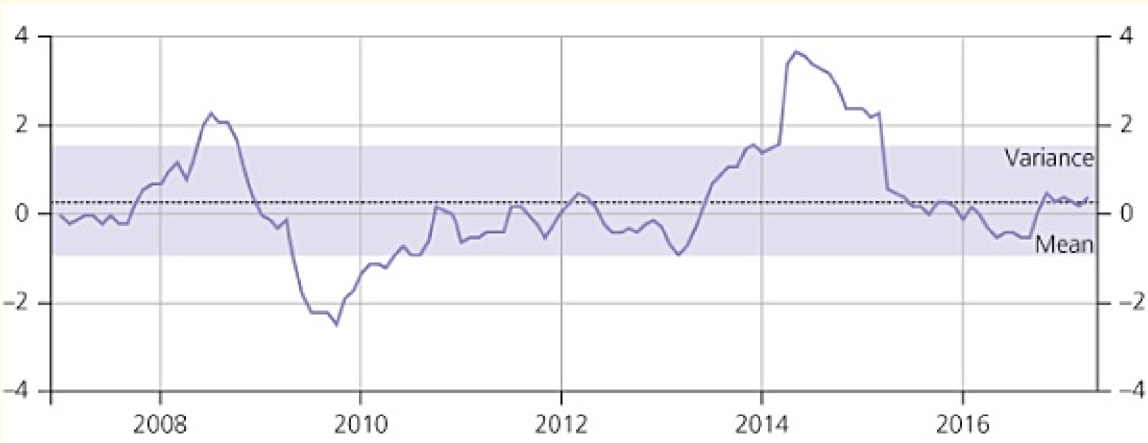
Source: EIU: Worldwide Cost of Living Index, 2017

Study tip

A fall in the rate of inflation (known as **disinflation**) means that prices are still rising, only at a slower rate. Be clear about the meaning of **deflation** — an actual fall in the general price level. **Reflation** is the opposite of disinflation, which occurs when the rate of inflation increases.

Exam-style questions

1 Over the past decade, Japan has suffered from periods of deflation (see chart).



Source: tradingeconomics.com; Ministry of International Affairs & Communications, Japan

a Define the term deflation.

[2]

b Explain what evidence there is in the chart to suggest that Japan has suffered periods of deflation during the past 10 years.

[4]

c Analyse the impact of prolonged deflation for the Japanese economy.

[6]

2 Iran's inflation rate climbed above 30 per cent in 2013, having reached 31.5 per cent at the end of the Islamic country's calendar year. The country, with a population of 74.8 million, had experienced

double-digit inflation rates for most of the past decade. At the end of 2010, the government reduced food and fuel subsidies, thereby fuelling inflation. In addition, international sanctions due to Iran's disputed nuclear programme forced down the value of the Iranian rial, the country's official currency. This added pressure on higher prices in the economy.

Period	Inflation (%)
March 2012	26.4
Dec 2012	27.4
March 2013	31.5

Source: Reuters (http://goo.gl/2yGLB)

a With reference to the data above, explain why prices in Iran were generally higher in 2013 than in 2012.

[4]

b Explain two reasons why the Iranian government might aim to control the level of inflation in its economy.

[4]

c Analyse how some Iranians are likely to have been more affected than others by the double-digit inflation rates.

[6]

Activity

Discuss the impact of an increase in oil prices on the rate of inflation in your country or a country of your choice. Which stakeholders are affected the most? Why?

Policies to control inflation and deflation

Inflation can be controlled by using macroeconomic policies to slow down the growth of demand in the economy and/or boost the rate of growth of the economy's overall supply of goods and services. These policies include the following.

Fiscal policy

Fiscal policy involves the use of taxation and/or government spending to control the level of economic activity in the economy. If the general level of demand in the economy is too high (causing demand-pull inflation), the government may choose to 'tighten fiscal policy' by raising taxes and/or reducing its own expenditure in order to reduce the level of economic activity.

During times of deflation, it can be very difficult to break out of a downward deflationary spiral. To do so would require a significant boost to demand in the economy. The government may choose to cut direct taxes, leading to an increase in real incomes and thus greater levels of demand. This should result in higher levels of economic activity, which has a positive effect on employment and economic growth.

See Chapter 26 to read about fiscal policy.

Monetary policy

Monetary policy involves the central bank changing interest rates in order to control the level of economic activity. For example, higher interest rates may reduce consumer and investment expenditure as the cost of borrowing (to fund household spending and business investments) soars.

Lower interest rates can also be used to control deflation as the cut in interest rates reduces the exchange rate, ceteris paribus. This is because foreign investors receive a lower return on their investments. The resulting fall in the exchange rate brings about a fall in the price of imports and hence an increase in the demand for exports.

See Chapter 27 to read about monetary policy.

Supply-side policies

Whilst both fiscal and monetary policies target the demand side of the economy in order to tackle the issue of inflation or deflation, supply-side policies are used to increase the economy's productive capacity. These policies seek to increase competition, productivity and innovation in order to maintain lower prices. Some countries, such as Iran and France, have used subsidies for food and fuel to reduce prices in the economy.

A reduction in corporate tax rates can also encourage risk-taking and greater investment. Countries that do not charge any corporate tax include Bahrain, the Bahamas, the Cayman Islands, the Isle of Man and the United Arab Emirates.

In the short run, fiscal and monetary policies are used to control inflation or deflation. In the long run, supply-side policies boost the productive capacity of the economy, thereby giving it flexibility to grow without suffering from the costs of inflation.

See Chapter 28 to read about supply-side policy.

Chapter review questions

1. What is meant by inflation?
2. What is the Consumer Price Index?
3. Why are weights used in the calculation of the CPI?
4. What is a base year?
5. What are the two key causes of inflation?
6. Outline the main consequences of inflation.
7. What is deflation?
8. What are the two main causes of deflation?
9. Outline the main consequences of deflation.
10. What policies can be used to deal with inflation and deflation?

Revision checklist

In this chapter you have learned:

- ✔ Inflation is the sustained rise in the general price level in an economy over time.
- ✔ Deflation is the persistent fall in the general price level of goods and services in the economy, i.e. the inflation rate is negative.
- ✔ The Consumer Price Index (CPI) is used to calculate the inflation rate by measuring price changes of a representative basket of goods and services.
- ✔ Cost-push inflation is caused by higher costs of production, which makes firms raise their prices in order to maintain their profit margins.
- ✔ Demand-pull inflation is caused by higher levels of total demand in the economy, thus driving up the general price level of goods and services.
- ✔ Costs of inflation include: menu costs, shoe leather costs, lower

consumer and business confidence, and reduced international competitiveness (as exports become more expensive).

- ✔ Losers of inflation include: consumers, lenders, savers, fixed income earners, low income earners, exporters and employers.
- ✔ Winners of inflation include: borrowers and importers.
- ✔ The consequences of deflation include: unemployment, bankruptcies, negative wealth effect, declining confidence levels and higher debt burdens.
- ✔ Policies to tackle inflation include: deflationary fiscal policies, tight monetary policies and supply-side policies.

SECTION 5

Economic development

Chapters

34 Population

35 Differences in economic development between countries

This section of the syllabus explores the important concept of economic development, in the pursuit of improved standards of living. Indicators of living standards are examined, namely real GDP per capita and the Human Development Index (HDI). As an economy develops, there are variations in the size and composition of its population. The causes of poverty are studied together with economic policies to alleviate it and to redistribute income. Finally, there is an examination of the reasons for the differences in economic development between countries, such as: population growth; the relative size of the primary, secondary and tertiary sectors; levels of saving and investment; education; and healthcare.

32 Living standards

By the end of this chapter, students should be able to:

- understand indicators of living standards
- understand the components of real GDP and the HDI
- understand the advantages and disadvantages of real GDP and HDI as measures of living standards
- compare living standards and income distribution
- discuss reasons for differences in living standards and income distribution within and between countries.

Indicators of living standards

Economists believe that sustained economic growth is an important macroeconomic objective (see Chapter 29) because it is the most practical measure of the **standard of living** in a country. This refers to the social and economic wellbeing of individuals in a country at a particular point in time. For example, China's phenomenal economic growth over the past three decades (see Figure 32.1) has led to an increase in living standards for the majority of its population. With an average growth rate of 10 per cent per year, the income of the average Chinese citizen would have doubled every seventh year.

Definition

Standard of living refers to the social and economic wellbeing of individuals in a country at a particular point in time.

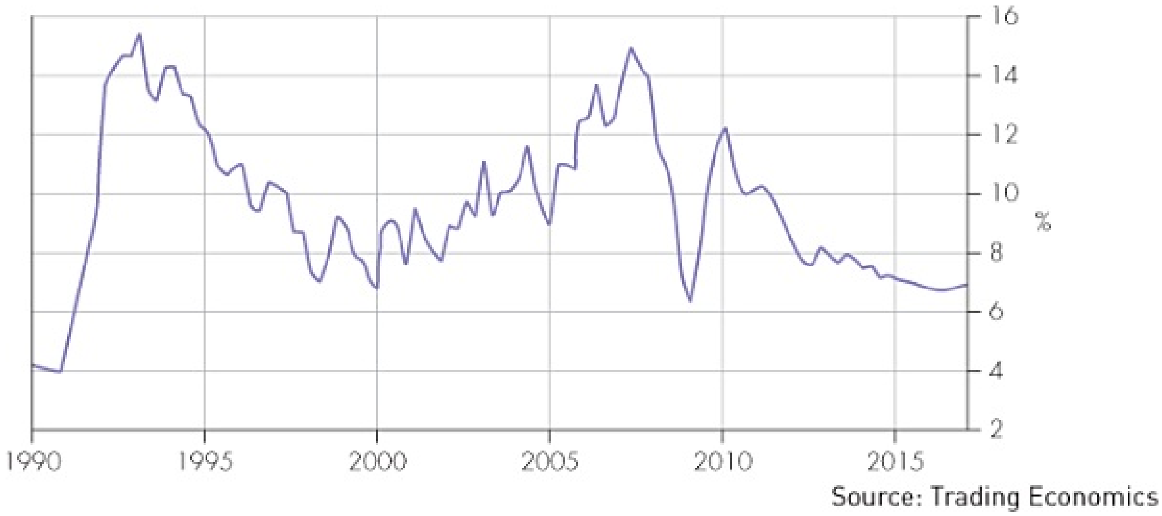


Figure 32.1 China's economic growth rate, 1989–2017

The two main measures or indicators of living standards are **GDP per capita** (or GDP per person) and the **Human Development Index** (HDI).

Components of real GDP per capita

As a single measure of standards of living, real GDP is perhaps the best indicator. Higher real GDP means that people have more to spend on goods and services. Real GDP is also relatively easy for economists to calculate.

One problem in using GDP figures (see Chapter 29) to measure standards of living is that the size of the population is ignored. For example, China's GDP is significantly larger than that of Luxembourg or Sweden. However, China's much larger population means that Sweden and Luxembourg's GDP per head of the population is greater (see Table 32.1). Hence, **GDP per capita** is a better indicator of standards of living.

Table 32.1 GDP per capita: selected countries, 2017

Country	GDP ($bn)	GDP per capita ($)	Population (millions)
China	10,730	14,600	1,373.54
Sweden	511.4	49,700	9.88
Luxembourg	60.98	102,000	0.582

Source: adapted from CIA, *World Factbook*

Another consideration is inflation — the persistent increase in the general level of prices over time (see Chapter 31). Inflation erodes the value of GDP because the value of money falls if there is inflation.

For example, if a country's GDP increases by 5 per cent in a year but inflation also increases by 5 per cent, then the real value of its GDP has not changed. Hence, for a more accurate measure of GDP as an indicator of living standards, the monetary value of GDP must be adjusted for price changes. This adjusted measure is known as **real GDP**. Hence, **real GDP per capita** is an even better indicator of living standards than GDP per capita.

Study tip

Real GDP figures do not take into consideration variations in the cost of living in different parts of the world. For example, while real GDP per capita might be relatively high in Singapore (around $53,000) and Hong Kong (about $42,500), these are the two most expensive places to live in the world (see Table 31.6).

Components of the Human Development Index (HDI)

An alternative measure of living standards that looks at factors beyond real GDP is called the **Human Development Index** (HDI). This is a composite indicator of living standards in a country, combining three dimensions of human development:

- **Healthcare** — this indicator measures life expectancy at birth. The better the healthcare in a country, the greater its social and economic wellbeing tends to be.
- **Education** — this indicator measures the mean years of schooling and the expected years of schooling in the country. In general, the higher the average years of schooling, the greater the degree of human development.
- **Income levels** — the higher the national income (or GDP) of a country, the greater human development tends to be. Hence, poor countries such as Mozambique, Afghanistan, Sudan and Rwanda tend to have a low HDI. Wealthy countries such as Norway, New Zealand and Canada have a high HDI.

Definition

The **Human Development Index** is the United Nations' composite indicator of living standards in a country, comprising three dimensions of human development: education, healthcare and income.

The main advantage of using the HDI rather than real GDP is that the former is a composite index — it considers several key indicators of standards of living, rather than a single one. In addition, improvements in education and healthcare are more likely than real GDP to indicate a country's level of social wellbeing, especially if income is not distributed very evenly in the economy.

However, there are limitations in using the HDI to measure living standards. These include:

- **Qualitative factors** — the HDI ignores qualitative factors affecting living standards, such as gender inequalities and human rights.
- **Income distribution** — the HDI does not take account of the inequitable distribution of income in the economy, and lacks accuracy as an indicator of living standards for the 'average' person.
- **Environmental issues** — the HDI ignores environmental and resource depletion resulting from economic growth.
- **Cultural differences** — although the HDI is a composite indicator, it ignores cultural variations and different interpretations of the meaning of standards of living.

Activity

Study the information below about the HDI of four countries. Identify which of the countries A, B, C and D are Australia, Ethiopia, Russia and Vietnam. Explain the reasoning behind your answers.

Country	HDI	Country	HDI
A	0.929	C	0.593
B	0.755	D	0.363

Activities

1 Use the internet to research the top ten countries as measured by the HDI.

2 Discuss whether the HDI is a good measure of living standards in these countries.

Comparing living standards and income distribution

There are many factors that cause differences in living standards and income distribution within and between countries. These factors include, but are not limited to, the following:

- **Productivity levels** — differences in productivity levels cause differences in wages and earnings. Highly skilled and experienced workers (see Chapter 18) earn higher salaries, so will tend to enjoy a higher standard of living.
- **Role of governments** — governments can use direct taxes (imposed on income, wealth or profits) to redistribute income in the economy. A mixed economy is more likely to do this than a market economy (see Chapter 13). A fairer distribution of income and wealth can help to raise living standards for the majority of a population.
- **Size of population** — the size and demographics of a population (see Chapter 34) have a direct impact on living standards. Densely populated cities tend to have higher rents due to limited space and high demand, as well as congestion, pollution and higher living costs (see Table 32.2).

Table 32.2 The world's most expensive cities to live in

1	Hong Kong SAR, China
2	Sydney, Australia
3	Vancouver, British Columbia, Canada
4	Auckland, New Zealand
5	San Jose, USA
6	Melbourne, Australia
7	Honolulu, Hawaii
8	Los Angeles, USA
9	San Francisco, USA

10	Bournemouth and Dorset, UK

Source: World Economic Forum

- **Distribution of national income** — although national income may be high, it may not be distributed in a socially desirable way. For example, there are huge wealth gaps in most societies (hence the need to redistribute national income). In addition, the composition of GDP is important to consider. For example, if it increases because of higher government spending on the military, this does not translate to better living standards for the majority of the population.
- **Regional differences** — there are regional income and wealth disparities within countries. For example, data from the Office for National Statistics (ONS) show the average income level in London is higher than in other parts of the UK. In 2016 the median average weekly income was £659.90 for Londoners but only £473.40 for those in Wales. Even within London there were differences, with those in the City of London earning an average of £48,203 per year, and those in Camden, London, earning £34,987.
- **General price level** — inflation (see Chapter 31) increases the cost of living, so an increase in the general price level tends to have a negative impact on standards of living. For example, economic instability in Venezuela caused the inflation rate to soar above 740 per cent in 2017. This means that something priced at 100 Venezuelan bolivar fuerte (VEF) at the beginning of the year would have increased in price to VEF840 by the end of the year.
- **Level of education** — there is a positive correlation between educational attainment and earnings (see Table 18.3 and Table 32.3). In general, the more educated and well qualified a person is, the higher their earning potential tends to be. This has a direct impact on their living standards.
- **Level of freedom** — various measures of living standards include consideration of civil liberties, political rights, religious freedom and economic rights. The Human Freedom Index measures 79 indicators of personal, civil and economic freedom. It is the most comprehensive index on freedom for countries around the world (see Table 32.4).

Table 32.3 The world's ten best school systems

1	Finland
2	Switzerland
3	Belgium

4	Singapore
5	Netherlands
6	Qatar
6	Ireland
8	Estonia
9	New Zealand
9	Barbados

Source: World Economic Forum

Table 32.4 Human Freedom Index, 2017

Rank	Country	Rank	Country
1	Hong Kong, SAR	152	Iran
2	Switzerland	150	Congo, Democratic Republic
3	Finland	150	Myanmar
4	Denmark	149	Zimbabwe
5	New Zealand	148	Yemen
6	Canada	147	Central African Republic
7	Australia	146	Algeria
8	Ireland	145	Ethiopia
9	United Kingdom	144	Venezuela
10	Sweden	143	Chad

Source: Fraser Institute

Exam-style questions

1 Which option is **not** a measure of a country's standard of living? [1]

- **A** Education indicators
- **B** Healthcare indicators
- **C** Population size
- **D** Real GDP per capita

2 Which statement best explains why a country's real GDP per capita is likely to affect its citizens' standard of living?

[1]

- **A** Higher real GDP per capita means the average citizen can buy more goods and services.
- **B** Inflation must be accounted for when considering living standards.
- **C** Real GDP per capita always falls when the population size increases.
- **D** Real GDP per capita is the only measure of living standards in a country.

Chapter review questions

1. What is meant by living standards?
2. How does real GDP per head differ from GDP per head?
3. What is the HDI?
4. What are the limitations of using the HDI as a measure of living standards?
5. What are the main reasons for differences in living standards and income distribution within and between countries?

Revision checklist

- ✔ Standard of living refers to the social and economic wellbeing of individuals in a country at a particular point in time.
- ✔ The two main indicators of living standards are GDP per head and the Human Development Index.
- ✔ GDP per capita is a measure of living standards that involves dividing a country's GDP by the size of the country's population.
- ✔ The Human Development Index is the United Nations' composite indicator of living standards in a country. It measures three dimensions of human development: healthcare, education and income levels.
- ✔ Factors that cause differences in living standards and income

distribution within and between countries include: different productivity levels, population size, the role of governments, the distribution of national income, regional differences in incomes, the general price level, the overall level of educational attainment and the level of freedom.

33 Poverty

By the end of this chapter, students should be able to:
- define absolute and relative poverty
- explain the causes of poverty
- discuss policies to alleviate poverty and redistribute income.

Poverty

Poverty is a condition that exists when people lack adequate income and wealth to sustain a basic standard of living. The eradication of poverty is a fundamental macroeconomic objective for many governments around the world. This is because poverty creates many social and economic problems, including poor health (such as malnutrition and famine), deaths, crime, high unemployment, the need for welfare provision and lower national output.

Definition

Poverty is a condition that exists when people lack adequate income and wealth to sustain a basic standard of living.

The United Nations defines poverty as *'a lack of income and productive resources to ensure sustainable livelihoods'*. This includes:

- hunger and malnutrition
- ill health and mortality from illness
- limited or lack of access to education and other basic services
- homelessness and inadequate housing
- unsafe environments
- social discrimination and exclusion.

Table 33.1 shows the countries with the highest and the lowest GDP per capita. According to the CIA *World Factbook*, Liechtenstein (located between Austria and Switzerland) had the highest GDP per capita (around $381 per day) while

Somalia (located next to Ethiopia and Kenya) had the lowest (at just $1.09 per day).

Table 33.1 The world's richest and poorest countries, 2016

Richest countries			Poorest countries		
Rank	**Country**	**GDP per capita ($)**	**Rank**	**Country**	**GDP per capita ($)**
1	Liechtenstein	139,100	1	Somalia	400
2	Qatar	129,700	2	Central African Republic	700
3	Monaco	115,700	3	Burundi	800
4	Luxembourg	102,000	4	Congo, Democratic Republic of the	800
5	Falkland Islands	96,200	5	Liberia	900
6	Macau	96,100	6	Tokelau	1,000
7	Singapore	87,100	7	Malawi	1,100
8	Bermuda	85,700	8	Niger	1,100
9	Isle of Man	84,600	9	Mozambique	1,200
10	Brunei	79,700	10	Eritrea	1,300

Source: CIA, *World Factbook*

Study tip

Poverty exists in all countries, although it is more visible in poorer countries which have mass poverty. Even in wealthy nations, economic recession or natural disasters can cause widespread poverty. It is therefore incorrect to assume that only low-income countries suffer from poverty.

Exam-style questions

According to the US Census Bureau, 15 per cent of individuals in the United States live below the poverty line (the minimum level of income judged to be adequate in a particular country). The aftershock of the global financial crisis meant rising unemployment and related problems for the economy. This resulted in over 46 million people living in poverty in the USA — more than at any point in the nation's history.

a Define the term *poverty*.

[2]

b Explain why poverty is a concern for the US government.

[4]

c Discuss whether the standard of living is always higher in developed than in developing countries.

[8]

There are two categories of poverty: absolute poverty and relative poverty.

Absolute poverty

Absolute poverty exists when there is extreme outright poverty. People in absolute poverty are undeniably poor. Their income, if any, is entirely spent on minimal amounts of food, clothing and shelter — that is, the basic human needs essential for survival. For many, absolute poverty can mean hunger, malnutrition and homelessness.

Definition

Absolute poverty exists when there is extreme outright poverty, i.e. income equal to or less than $1.25 per day.

There is more than one way to measure absolute poverty. The most common method is to calculate the number of individuals living below a certain level of income (called the **income threshold** or the **poverty line**). The most common income threshold, set by the World Bank, is $1.25 a day. Many people around the world still live below this amount, so such extreme poverty means they are unable to buy enough food to survive.

Since 1995, the United Nations has adopted the following definition of absolute poverty:

A condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services.

Case study: Burundi

Burundi is one of the poorest countries on the planet, with around 65 per cent of its population of 11.1 million people living below the poverty line. GDP per capita in the East African country is a meagre $800 (or $2.19 per day) and 45.8 per cent of the country's GDP comes from agriculture. Burundi has a staggering infant mortality rate of 60.4 deaths per 1000 live births — one of the highest rates in the world. The median age is just 17 years and life expectancy is 60.5 years.

Source: adapted from CIA, *World Factbook*

Relative poverty

Relative poverty is a comparative measure of poverty, rather than an absolute measure. People in absolute poverty are undeniably impoverished, whereas those in relative poverty have a lower standard of living in comparison to the average member of society. For example, it is rather pointless to compare what is meant by poverty for the average person living in Singapore or Luxembourg with the situation of someone living in poverty in Sierra Leone or Niger. Relative poverty measures the extent to which a person's financial resources fall below the average income for the country's population. Although real GDP (see Chapter 29) and standards of living (see Chapter 32) have grown over time, these gains are not evenly distributed across the population.

Definition

Relative poverty is a comparative measure of poverty, referring to those who have a lower standard of living in comparison to the average member of society.

Case study: The United Nations Sustainable Development Goals

On 25 September 2015, the United Nations devised the anti-poverty Sustainable Development Goals (SDGs). These consist of 17 international development goals to be achieved by 2030 to end poverty, protect the planet and ensure prosperity for all (see Figure 33.1).

Source: United Nations

Figure 33.1 The Sustainable Development Goals

Causes of poverty

Study tip

It is possible for people to be relatively well off but still to live in absolute poverty. This is because these people can earn more than the average person, yet still face financial difficulties in meeting their basic human needs.

Poor countries, with a high degree of poverty, have common characteristics. The causes (and consequences) of poverty include the following interrelated factors:

- **Unemployment** — people in poverty are likely to be unemployed, perhaps due to the combination of low literacy, lack of skills and poor health. Hence, labour productivity in less economically developed countries (LEDCs) also tends to be low, which again makes it difficult for people to break out of poverty. Labour productivity is a measure of the efficiency of labour in the production process, such as output per worker (see Chapter 21).
- **Low wages** — GDP per capita is calculated by dividing the gross domestic

product of a country by its population to find the income level of the average person. The lower the GDP per person, the poorer the country tends to be due to the low wages in the economy. This tends to be the case in countries with a high proportion of unskilled workers. This limits consumption and investment in the economy, and so can cause poverty. According to the World Bank, in 2017 Luxembourg had the highest GDP per head at $99,718 (about $273 per day), whereas Burundi had the lowest at just $277 (just $0.76 per day).

- **Illness** — illnesses caused by malnutrition and a lack of healthcare reduce life expectancy in a country. Life expectancy measures the number of years that the average person in a country is anticipated to live for, based on statistical trends. The lower the life expectancy, the poorer the country tends to be and so the greater the degree of poverty in the country. Data from the World Bank support this, with the likes of Swaziland, Sierra Leone, Central African Republic, Chad and Côte d'Ivoire all having life expectancy of between 49 and 52 years in 2017. By contrast, wealthy states such as Hong Kong, Japan, Italy, Iceland and Switzerland all have good healthcare provision, so life expectancy is between 83 and 84 years in these countries.
- **Age** — age is key factor causing poverty. For example, the root cause of child labour in many parts of the world is extreme poverty, which forces parents to allow their children to work. Poverty also exists among the elderly — a growing proportion of people are living longer, yet many elderly people have no income to sustain their standard of living.
- **Poor healthcare** — insufficient investment in health services hinders the ability of a country to develop and get out of poverty. Healthcare expenditure per capita is low in LEDCs. Their governments are unable to provide preventive and curative healthcare services for the mass population. According to the World Bank, in 2017 the USA spent 17.1% of its GDP on healthcare services, whereas this figure was only 3.6% in Chad, 3.6% in Ghana, 2.6% in Pakistan and just 1.5% in Timor-Leste.
- **Low literacy rates** — literacy rates measure the proportion of the population aged 15 and above who can read and write. Low-income countries have insufficient investment in education and training, so their literacy rates tend to be low. This has major consequences for employment, production and productivity, thus negatively impacting on GDP and making it extremely difficult to eradicate poverty. The vast majority of high-income countries will have 100% adult literacy rates whereas in 2017 low-income countries had very low literacy rates — for example, Mali (33%), South Sudan (32%), Guinea (30%) and Niger (19%).

- **High population growth** — population growth measures the annual percentage change in the population of a country. Poorer countries tend to have high population growth rates for several reasons: a lack of family planning and sex education, poor access to contraception and cultural norms (it is common and widely accepted to have a large number of children in some countries and cultures). Sharing a limited amount of resources among a growing population hinders the country's ability to lift itself out of poverty.
- **Poor infrastructure** — infrastructure refers to the transportation and communications networks necessary for the efficient functioning of an economy, such as buildings, railways, roads, airports, water systems, ICT systems including the internet and power supplies. According to the World Economic Forum, countries with very poor infrastructure include: Bosnia and Herzegovina, Angola, Mongolia, Nepal, Lebanon and Chad. Table 33.2 shows the number of internet users per 100 people in the most and the least connected countries in 2016.

Table 33.2 Internet users around the world

Most connected countries		Least connected countries	
Country	Internet users (per 100 people)	Country	Internet users (per 100 people)
Iceland	100.0	Eritrea	1.1
Faroe Islands	98.5	Timor-Leste	1.2
Norway	98.0	Burundi	1.5
Bermuda	97.4	Somalia	1.7
Andorra	96.5	Guinea	1.8

Source: adapted from Internet Live Stats

- **Low foreign direct investment (FDI)** — the lack of capital resources also limits the ability of a country to create income and wealth. FDI refers to cross-border investment made by multinational companies and other investors. Poor countries, with their lack of economic growth and poor infrastructure, do not tend to attract FDI due to the expected high risks and low financial returns. This keeps these countries stuck in poverty.
- **High public debt** — public debt refers to the money owed by the government (public sector). In general, low-income countries are far more likely to borrow money to finance their public sector expenditure, and the higher the public debt, the lower a country's standard of living tends to be. This is because the government will need to repay its loans, along with interest payments, rather

than using the funds for investment in the economy. However, the huge impact of the 2008 global financial crisis harmed developed as well as less developed countries (see Table 33.3). In fact, Japan tops the chart of government debts, partly because of the devastating earthquake and tsunami of March 2011, the worst natural disaster in the country's history. However, it is common for LEDCs to pay more for financing their public debts, partly due to the high interest rates imposed and partly due to a fall in the value of their currency. This makes repayment of public debt increasingly unsustainable for LEDCs, leading to further borrowing, ever-increasing debts and widespread poverty.

Table 33.3 Government debts around the world, 2016

Most indebted countries		Least indebted countries	
Country	**Public debt as % of GDP**	**Country**	**Public debt as % of GDP**
Japan	234.7	Wallis and Futuna	5.6
Greece	181.6	New Caledonia	6.5
Lebanon	161.5	Tajikistan	6.5
Italy	132.5	Gibraltar	7.5
Jamaica	130.1	Kiribati	8.6
Cabo Verde	128.6	Estonia	9.7
Portugal	126.2	Libya	10.0
Eritrea	119.8	Kosovo	10.6
Singapore	110.5	Uzbekistan	11.0
Grenada	110.0	Liberia	11.8

Source: CIA, *World Factbook*

- **Reliance on primary sector output** — low-income countries tend to over-rely on the production and export of primary sector output, such as agricultural products. These tend to have low prices and profit margins in comparison to manufactured products and tertiary sector services. Table 33.4 compares the output from the three sectors of the economy for selected countries.

Table 33.4 Output of the economy by sector: selected countries, 2016

Country	Sector of the economy (%)			GDP per capita ($)
	Primary	Secondary	Tertiary	
Sierra Leone	71.1	7.9	21.0	1,700
Central African Republic	58.0	11.7	30.3	700
Chad	53.0	12.8	34.2	2,600
Guinea-Bissau	45.0	13.3	41.7	1,600
Ethiopia	36.2	17.0	46.8	1,900
Denmark	1.1	23.4	75.5	46,600
United Kingdom	0.6	19.2	80.2	42,500
Germany	0.6	30.3	69.1	48,200
Luxembourg	0.2	11.1	88.7	102,000
Hong Kong	0.1	7.2	92.8	58,100

Source: adapted from CIA, *World Factbook*

- **Corruption and instability** — a final cause of poverty is the high degree of corruption and instability (economic, social and political) in a country. There are huge opportunity costs of civil war, dishonest government officials, fraudulent behaviour and the purchase of arms and weapons. Corruption and instability therefore hinder economic development, result in greater inequalities in income distribution, and create poverty.

Policies to alleviate poverty and redistribute income

Policies to help alleviate poverty and to redistribute income include the following:

- **Promoting economic growth** — any expansionary policy, such as lower taxes (see Chapter 26) or lower interest rates (see Chapter 27), can encourage consumer spending and investment expenditure in the economy. In the long run, this can help to create more jobs and alleviate the problems of poverty. Similarly, lower exchange rates (see Chapter 38) can encourage export sales as the price for foreign buyers is lower. As higher export earnings help to boost GDP, this can also help to create more jobs and wealth in the economy over time. Sustained economic growth helps to create more income and wealth for the country (see Chapter 29). This can then be redistributed to the deprived and underprivileged members of society.
- **Improving education** — government provision of education can help to

alleviate poverty. By improving access to education for everyone, it narrows the gap between the rich and the poor. In most cases, a person's level of education tends to affect their earnings and earning potential (see Table 18.3). Over time, policies to increase the quantity and quality of education in the economy will help to improve the human capital and productive capacity of the country, thereby creating economic growth and lowering poverty. Similarly, the provision of and increased access to other essential services, such as healthcare and housing, will also help.

- **Providing more generous state benefits** — government provision of welfare benefits gives financial assistance to enable the unemployed and disadvantaged to meet their basic needs. Examples of such payments include: unemployment benefit, state pension funds for the elderly, and child benefit (to reduce child poverty). State benefits help to redistribute income and alleviate poverty by ensuring every citizen has access to basic necessities. Macroeconomic policies aimed at reducing unemployment (see Chapter 30) also help, because unemployment is a major cause of poverty and inequality. Examples are government incentives to attract foreign direct investment and government-funded job creation and retraining schemes.
- **Using progressive taxation** — progressive tax systems (see Chapter 26) reduce the gap between the rich and poor members of a country. Higher-income groups pay a higher percentage of their incomes in tax, with the tax proceeds being used by the government to support lower-income groups or those without any income. This is a common method used to alleviate poverty and redistribute income and wealth in society.
- **Introducing (or increasing) a national minimum wage** — the introduction of a national minimum wage, or imposing a higher minimum wage rate (see Chapter 18), can improve the standard of living for low-income households. Hence, such policies help to alleviate poverty in the economy.

Activity

a Produce a short piece of writing of 500–750 words entitled 'A day in the life' of a teenager living in a LEDC of your choice.

b You need to gather the necessary data and information before you begin your writing.

c Your work must reflect the macroeconomic indicators, without actually mentioning the indicators by name.

d This can be in the format of an essay, diary entry, magazine article or letter.

Be prepared to share your findings with your teacher and classmates.

Chapter review questions

1 What is meant by poverty and what are the signs that there is poverty in the economy?

2 How does absolute poverty differ from relative poverty?

3 What are the main causes of poverty?

4 Why does an overreliance on primary sector output hinder the growth of low-income countries?

5 What are the main policies that can be used to alleviate poverty and redistribute income in the economy?

Revision checklist

- ✔ Poverty is a condition that exists when people lack adequate income and wealth to sustain a basic standard of living.
- ✔ Poverty creates problems for society and the economy because it causes poor health (such as malnutrition and famine), deaths, crime, high unemployment, the need for welfare provision and lower national output.
- ✔ Absolute poverty exists when there is extreme outright poverty — that is, income equal to or less than $1.25 per day. Such extreme poverty means people are unable to buy enough food to survive.
- ✔ Relative poverty is a comparative measure of poverty, referring to those who have a lower standard of living than the average member of society.
- ✔ Causes (and consequences) of poverty include: low GDP per capita, low life expectancy, low literacy rates, high population growth, poor infrastructure, low foreign direct investment, poor healthcare, low productivity, high public debt, overreliance on primary sector output, and corruption and instability in the economy.
- ✔ Policies to alleviate poverty and redistribute income include: policies

to promote economic growth, improving education, using progressive taxation and introducing (or increasing) a national minimum wage.

34 Population

By the end of this chapter, students should be able to:

- describe the factors that affect population growth
- explain reasons for the different rates of population growth in different countries
- describe the effects of changes in the size and structure of population on different countries.

Factors that affect population growth

Population refers to the total number of inhabitants of a particular country. Economists are interested in population size as people are essential for the economic prosperity of a country and also responsible for the depletion of the earth's scarce resources. **Population growth** refers to the rate of change in the size of a country's population. Change in population size can have huge and long-lasting effects on the world's economy and the natural environment.

Definitions

Population refers to the total number of inhabitants of a particular country.

Population growth refers to the rate of change in the size of a country's population.

The higher a country’s birth rate, the greater its population growth tends to be

Changes in three key factors affect the rate of population growth.

Birth rate

Definition

The **birth rate** measures the number of live births per thousand of the population in a year.

The **birth rate** measures the number of live births per thousand of the population in a year. It is measured by dividing the total number of births in a country by the population size, expressed per thousand of the population. For example, in 2016 Swaziland’s birth rate was approximately 29.4 per thousand of the population. The higher a country’s birth rate, the greater its population growth will tend to be. According to the CIA *World Factbook*, in 2017 Niger, Mali and Uganda had the highest birth rates (of 44.8, 44.4 and 43.4 respectively) whereas Monaco, Saint Pierre and Miquelona, and Japan had the lowest birth rates (of 6.6, 7.2 and 7.8 respectively).

A similar measure is the **fertility rate**, which measures the average number of children born per woman. This indicates the potential for population change in a country. Economists consider a fertility rate of two children per woman to be the minimum **replacement fertility rate** for a stable population (that is, the number of children that the average woman must have to replace the existing population). According to the CIA *World Factbook*, in 2017 Mali, Burundi and Zambia had the highest fertility rates (of 6.35, 6.08 and 5.85 respectively) whereas Singapore, Macau and Hong Kong had the lowest fertility rates (of 0.78, 0.92 and 1.09 respectively).

Definitions

The **fertility rate** measures the average number of births per woman. It is used as a component to measure population growth.

The **replacement fertility rate** is the number of children that the average woman must have to maintain a stable population size.

Death rate

This measures the number of deaths per thousand of the population in a year. It is measured by dividing the total number of deaths in a country by the population size, expressed per thousand of the population. For example, in 2016 Canada had a death rate of approximately 8.5 per thousand of the population. The lower a country's death rate, the greater its population growth will tend to be. According to the CIA *World Factbook*, in 2017 Lesotho, Bulgaria and Lithuania had the highest death rates (of 14.9, 14.5 and 14.5 respectively) whereas Qatar, the United Arab Emirates and Kuwait had the lowest death rates (of 1.5, 2.0 and 2.2 respectively). The death rate is dependent on factors that affect the quality of life, such as income levels, health technologies, nutrition and housing.

Definitions

The **death rate** measures the number of deaths per thousand of the population in a year.

Net migration rate

The size of a population can also change due to the physical movement of people in and out of a country. **Immigration** occurs when people enter a country to live and work. **Emigration** occurs when people leave a country to live and work abroad. The **net migration rate** measures the difference between the number of people entering and leaving a country per thousand of the population in a year. It is calculated using the formula:

Definition

The **net migration rate** measures the difference between immigration and emigration rates for a country, thus indicating the physical movement of people into and out of a country.

Net migration rate = immigration − emigration

If more people enter a country than leave in the year, there is said to be **net immigration**. By contrast, if more people leave a country than enter the country, there is said to be **net emigration**. In 2016 Qatar, the British Virgin Islands and Luxembourg had the highest net migration rates (of 18.2, 16.9 and 16.3 respectively). Micronesia, American Samoa and Tonga had the lowest net migration rates (i.e. net emigration rates) of −20.9, −20.6 and −17.8 respectively.

Study tip

The net migration rate measures the overall level of population change resulting from all migrants. It does not distinguish between worker migrants, refugees and unlawful (undocumented) migrants.

Reasons for different rates of population growth in different countries

The world's population has continually grown (see Figure 34.1). However, there are differences in population growth rates in different countries (see Table 34.1).

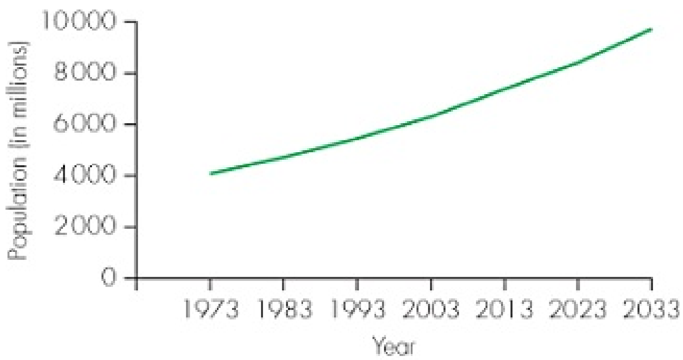


Figure 34.1 The world's population, 1973–2033 (projected)

Activity

What do you think is the exact size of the world's population? Take a look here to see how accurate or imprecise you were: www.census.gov/programs-surveys/international-programs.html

Table 34.1 The world's most and least populous countries, 2016

Most populous countries			Least populous countries		
Rank	**Country**	**Population (millions)**	**Rank**	**Country**	**Population**
1	China	1373.54	1	Pitcairn Islands	54
2	India	1266.88	2	Cocos (Keeling) Islands	596
3	USA	323.99	3	Vatican City	1000
4	Indonesia	258.32	4	Niue	1190
5	Brazil	205.82	5	Tokelau	1337

Source: CIA, *World Factbook*

Japan has an ageing population in which around 30 per cent of the population are aged over 60

There are several reasons for the different rates of population growth in different countries. These reasons involve differences in the factors that affect population growth (explained above):

- **Birth rate** — more economically developed countries (MEDCs) tend to have lower birth rates than less economically developed countries (LEDCs). This is partly due to education and access to contraception, the high costs of raising children, and women choosing to pursue careers and therefore opting to have fewer children and at a later stage in their lives.
- **Death rate** — due to better-quality education, healthcare, nutrition and sanitation, people in MEDCs tend to live longer. Famine, poverty, poor housing, high infant mortality rates and diseases tend to reduce life expectancy in LEDCs.
- **Net migration rate** — people migrate for different reasons, such as in search of better job opportunities, to take advantage of lower taxes, or to avoid civil unrest in the home country. For example, hundreds of thousands of Filipinos and Indonesians work as domestic helpers in Hong Kong, Singapore and Malaysia due to the higher salaries. The net effect of immigration and emigration will clearly have a direct impact on rates of population growth in different countries.

Activity

Investigate the costs of raising a child up to the age of 18 in your country or a country of your choice. Try to be as accurate as possible by including and itemising the costs of food, clothing, education, healthcare, recreation, entertainment, holidays and so on. Compare your results with others in the class. Why might such findings be of interest to economists?

Effects of changes in the size and structure of population on different countries

The optimum population

Definition

Optimum population exists when the output of goods and services per head of the population is maximised.

While there are reasons for different population sizes and rates of population growth in different countries, economists argue that there is an optimal (best or ideal) population for each country. An **optimum population** exists when the output of goods and services per capita (as measured by GDP per head) of the population is maximised (see Figure 34.2).

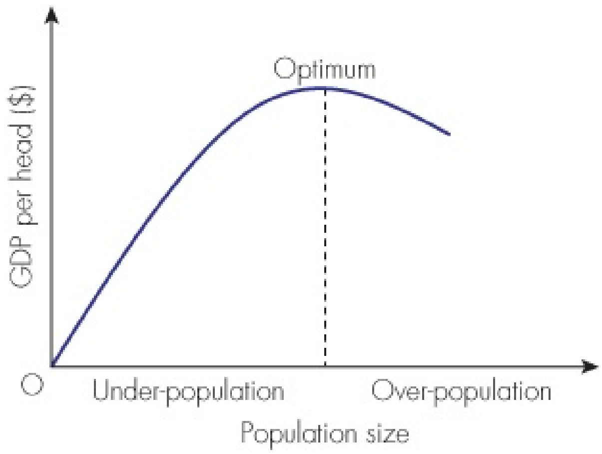


Figure 34.2 The optimum population

A country is **under-populated** if it does not have sufficient labour to make the best use of its resources. In this case, GDP per head of the population could be increased if there were more human resources. Fertility rates below the replacement level can lead to under-population, causing potential economic decline. In this case, to reach the optimum population, the government could introduce measures to increase the population size, such as encouraging immigration.

A country that is **over-populated** is too large, given the available resources of the country. Fertility rates above the replacement level can lead to potential over-population, with negative economic consequences such as famine, housing shortages, energy shortages and diseases. This causes a fall in GDP per capita as there are insufficient resources to sustain the population. In this case, to reach the optimum population, the government could introduce measures either to reduce the population size or to boost investment and productivity in the economy.

Over-population in Brazilian cities has resulted in vast slums due to housing shortages

Countries with the highest and lowest population growth rates are shown in Table 34.2.

Table 34.2 Countries with the highest and lowest population growth rates, 2017

Highest population growth			Lowest population growth		
Rank	**Country**	**Growth (%)**	**Rank**	**Country**	**Growth (%)**
1	South Sudan	3.92	1	Cook Islands	−0.288
2	Malawi	3.32	2	Saint Pierre and Miquelon	−1.09
3	Burundi	3.26	3	Latvia	−1.07
4	Niger	3.22	4	Lithuania	−1.06
5	Uganda	3.22	5	Moldova	−1.04

Source: adapted from CIA, *World Factbook*

Population distribution

Population distribution refers to the composition and structure of a country's population. The study of population distribution and trends in the composition of a population is called **demographics**. Such demographics include differences in the gender and age distribution.

Definitions

Population distribution refers to the composition and structure of a country's population.

Demographics is the study of population distribution and trends.

Gender distribution

This refers to the number of males compared to the number of females in the population. For the vast majority of countries, the gender split is quite even. Data from the CIA *World Factbook* for Denmark, for example, show the following gender ratios in 2017:

- At birth: 1.06 male(s) per female.
- Under 15 years: 1.05 male(s) per female.
- 15–64 years: 1.01 male(s) per female.
- 65 years and over: 0.8 male(s) per female.
- Total population: 0.97 male(s) per female.

Age distribution

This refers to the number of people in different age groups in the population. Low-income countries tend to have a relatively larger proportion of their population in the younger age groups. For example, around 39 per cent of the population in Ghana are aged 14 and below, with only about 4 per cent of the population aged 65 and over. By contrast, wealthier countries tend to have an ageing population with a growing number of people in older age groups. For example, under 13 per cent of people in Japan are aged 14 and below, while over 27 per cent are aged 65 and above.

Population pyramids are a graphical representation of the age and gender distribution of a country's population (see Figures 34.3 and 34.4).

Definition

Population pyramids are a graphical representation of the age and gender distribution of a country's population.

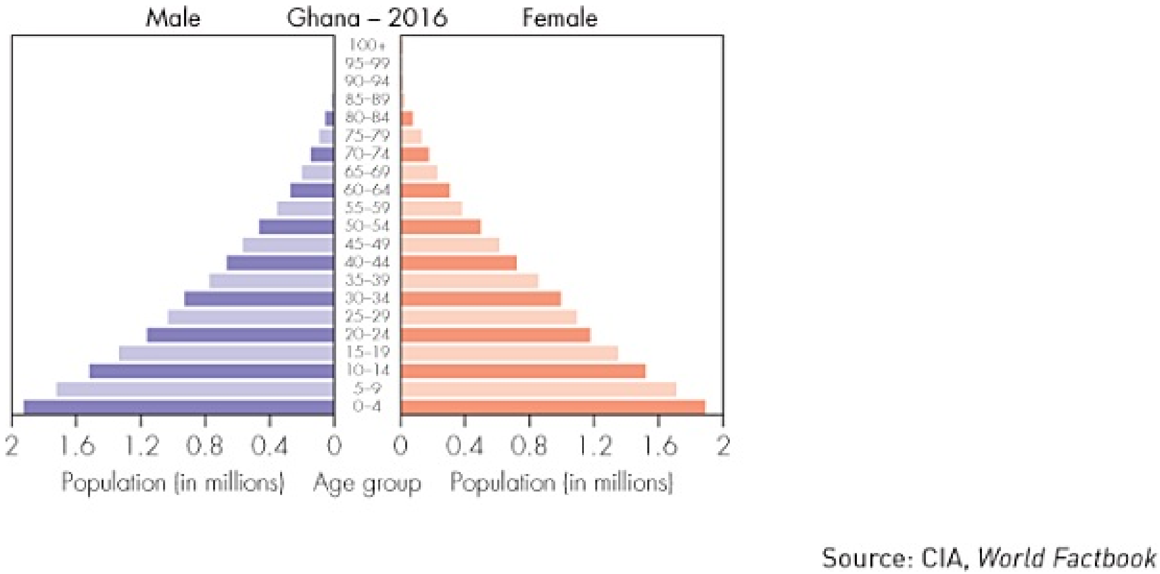


Figure 34.3 Ghana's age distribution (population pyramid), 2016

Study tip

Students are expected to be able to interpret population pyramids. They are not, however, expected to draw population pyramids.

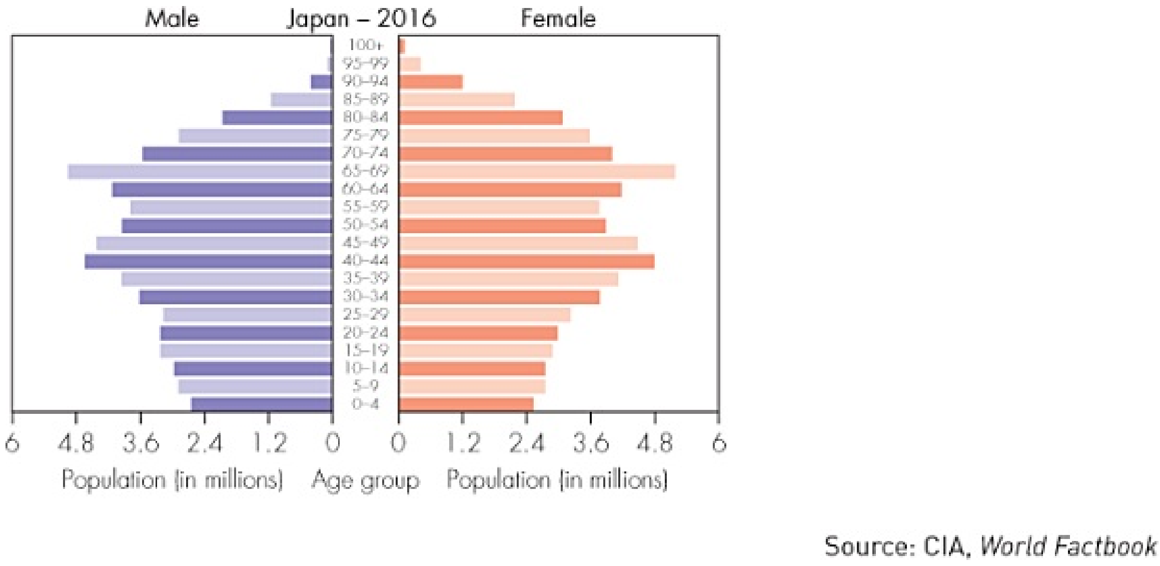


Figure 34.4 Japan's age distribution (population pyramid), 2016

Study tip

Population pyramids can provide insights into the social, political and economic stability of a country. The population distribution is shown along the x-axis, with males shown on the left and females on the right. The population is broken down into 5-year age groups, with the youngest age group at the bottom.

Dependency ratio

The **dependency ratio** is a comparison of the number of people who are not in the labour force with the number of people in active paid employment. For most economists, the **dependent population** typically includes all those aged between 0 and 14 (those below the school leaving age) and those aged 65 and above (those above the retirement age). However, it also includes full-time students and the unemployed. The dependency ratio measures the dependent population as a proportion of the total active labour force (the **working population** comprised those aged between 15 and 65). It is therefore calculated using the formula:

Definitions

The **dependency ratio** is a comparison of the number of people who are not in the labour force with the number of people in active paid employment.

The **working population** refers to the active labour force aged 15–65, i.e. those who are willing and able to work. This consists of those in paid employment, the self-employed and the unemployed.

Dependency ratio = dependent population ÷ working population

The higher the dependency ratio, the greater the tax burden on the working population to support those who are not economically active (not in paid employment). The dependency ratio can increase because of:

- higher birth rates, which mainly occur in less economically developed countries
- a higher compulsory school leaving age, raising the number of people classified as part of the dependent population
- social changes such as workers entering the labour force at a later stage due to greater demand for higher education, or more people choosing early retirement (thus reducing the size of the working population).

Activity

Investigate China's one-child policy (from 1979 to 2015) and answer the following questions:

a Why was the one-child policy introduced?

b What were the exemptions to the policy?

b What are the positive and negative consequences of the policy for future generations?

A good starting point is to watch this video clip on YouTube: http://goo.gl/7EnIV

China's army of 'little emperors' is seen as a consequence of the one-child policy

Exam-style questions

Study the data below from the CIA *World Factbook*, showing the gender ratios in China in 2017, and answer the questions that follow.

- At birth: 1.13 male(s) per female.

- Under 15 years: 1.17 male(s) per female.
- 15–64 years: 1.06 male(s) per female.
- 65 years and over: 0.92 male(s) per female.
- Total population: 1.06 male(s) per female.

a Describe how China's one-child policy might have influenced the gender ratios in China.

[2]

b Explain two economic implications for a country that has an uneven gender ratio.

[4]

Effects of population changes

Population growth

The world's population reached 1 billion people around 1804. This had doubled to 2 billion by 1927 and reached 5 billion in 1987. According to the United Nations, the world's population exceeded 7 billion people in October 2011 and will reach 9 billion by 2050. This phenomenal and unprecedented population growth offers both opportunities and challenges for economists.

The economic consequences of population growth were first presented by the Reverend Thomas R. Malthus (1766–1834). He suggested that uncontrolled population growth would put pressure on the resources of the country, thus negatively impacting living standards. This is because, according to Malthus, population growth occurs at a geometric rate — that is, it grows at a common ratio of 2 (1, 2, 4, 8, 16, 32 and so forth) whereas food production only grows at an arithmetic rate (1, 2, 3, 4, 5). If the theory materialised, this means that population growth would eventually exceed food output for the population. This has not happened in reality for two main reasons:

- slower population growth rates than expected, especially in more economically developed countries, due to social changes such as the high opportunity costs of raising children
- a geometric progression in food production due to advances in food technologies, such as improved farm machinery, irrigation systems, genetics, pesticides and fertilisers.

Economists have found that the core concern about the continuing depletion of the planet's finite resources and rising populations can be met by improved efficiency in the production of food and the development of alternative renewable energy sources.

Population distribution

The changing size and structure of the population (such as age and gender) can also have effects on an economy. These consequences include impacts on the following:

- **Consumers** — the demand for goods and services changes with variations in population trends. For example, customers have different demands based on their age and gender. Elderly people in a country that has an ageing population might spend proportionately more of their money on healthcare and related products. By contrast, parents with young children might spend more of their income on housing, education, clothing, family vacations and toys. Firms will seek to exploit these changes in demand for different goods and services.
- **Firms** — the demand for and supply of labour will change following long-term changes in population trends. For example, rapid population growth should increase the future supply of labour. By contrast, the combination of low birth rates and net emigration will reduce the future supply of workers in a country. According to the World Health Organization, a staggering 2 billion people will be aged 60 years and over by 2050 — more than triple the number in 2000. By the end of 2012, only Japan had more than 30 per cent of its population aged at least 60, but some 64 countries are expected to have reached this figure by 2050. The ageing population of these nations, especially in high-income countries, will have profound impacts on the future supply of labour.
- **Government** — a growing population can bring benefits if it means the government is able to collect more tax revenues from a larger workforce. However, it can also mean added pressure for the government to provide more public services, welfare benefits and state pensions. As a result, many governments have introduced compulsory pension savings schemes and have raised the official retirement age in their country. For example, France increased the retirement age from 60 to 62 years in 2011, with plans to increase this gradually to 68 years of age.
- **The economy** — continual population growth puts more pressure on an economy's scarce resources. This can lead to inflationary pressures or an

increase in the demand for imports if the country cannot produce enough to meet the needs and wants of the population. For example, land in prime locations is scarce, so a larger population in these areas is likely to force land prices to soar. Inflation can cause problems for the economy (see Chapter 31) and cause economic growth to slow.

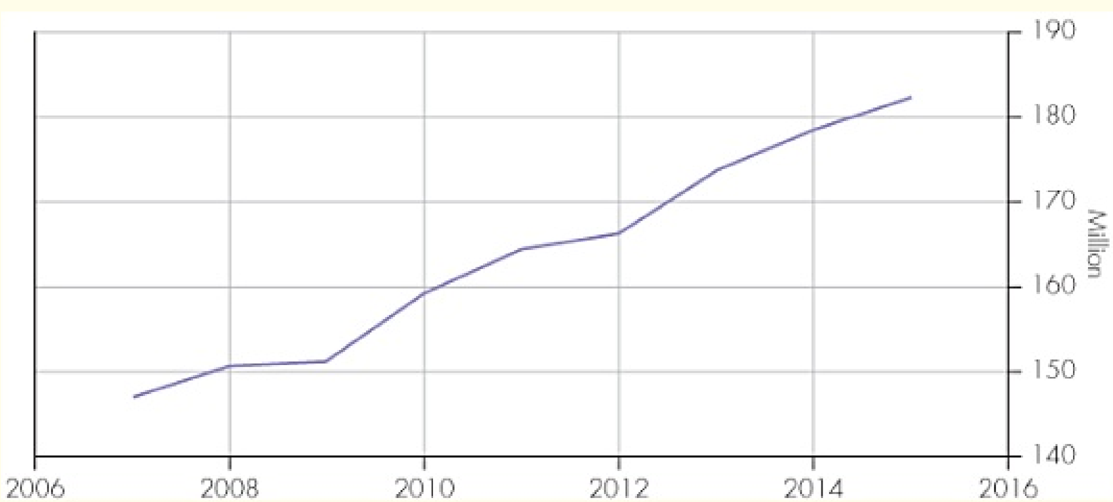
- **The natural environment** — an increase in the size of a population will also put strain on the environment. Non-renewable resources are depleted in the production process and the increased level of production also puts strain on the natural environment. For example, pollution and traffic congestion are by-products of over-populated regions of the world.

Activity

Use the internet to investigate the effects of the changing size and structure of the population on a country of your choice. Consider the impact of these changes on households, firms and the government in the country.

Exam-style questions

1 According to World Bank statistics, the population of Nigeria rose from around 45 million back in 1960 to over 182.2 million by 2015, an increase of about 305 per cent. Figure 34.5 illustrates the growth in Nigeria's population between 2007 and 2015.



Source: Trading Economics

Figure 34.5 Nigeria's population, 2007–15

a Explain one possible cause of the increase in the size of Nigeria's population.

[2]

b Explain two economic problems which could be associated with the increase in the size of Nigeria's population.

[4]

c Discuss two measures the Nigerian government could use to overcome the problems of population growth in its country.

[8]

2 The median age of the UK population back in 1985 was 35.4 years, but it had climbed to 40.0 by 2015. It is projected that the median age will reach 42.2 by the year 2035. The percentage of people aged 65 and above also increased in the same time period, from 15 per cent of the population to 17 per cent (an increase of 1.7 million people). By 2035 the proportion of the UK population aged 65 and over is expected to exceed 23 per cent.

a What is meant by an 'ageing population'?

[2]

b Explain two causes of the increase in the percentage of people aged 65 and above in the UK.

[4]

c Analyse the effects of an ageing population on government expenditure, government revenue and economic growth.

[6]

Chapter review questions

1 What are the three key factors that affect the rate of population growth?
2 How is the net migration rate calculated?
3 How do social changes impact on the population size and potential population growth?

4 How might economists use population pyramids?
5 What are the economic consequences of an ageing population?
6 What is the dependency ratio and why is it important?
7 What is the optimum population and why do governments strive to achieve this?
8 What are the economic consequences of rapid population growth for the economy and the natural environment?

Revision checklist

- ✔ Population refers to the total number of inhabitants in a particular country. Population growth refers to the rate of change in the size of a country's population.
- ✔ Changes in three key factors affect the rate of population growth: birth rate, death rate and net migration rate.
- ✔ Optimum population exists when the output of goods and services per head of the population is maximised. A country is under-populated if it does not have sufficient labour to make the best use of its resources. A country that is over-populated is too large, given the available resources of the country.
- ✔ Demographics is the study of population distribution and trends.
- ✔ Population distribution refers to the composition and structure of a country's population. Population pyramids are a graphical representation of the age and gender distribution of a country's population.
- ✔ Population changes have effects on consumers, firms, the government, the economy as a whole and the natural environment.

35 Differences in economic development between countries

By the end of this chapter, students should be able to:

- explain the causes and impacts of differences in economic development between countries.

Economic development

Economic development is an intangible concept that considers both quantitative and qualitative variables. Essentially, economic development refers to an increase in the standard of living within a country. Factors contributing to this include a reduction in poverty and income inequalities, and an increase in self-esteem, gender equality and political freedom.

Definition

Economic development is an intangible concept that considers both quantitative and qualitative variables in raising the standard of living within a country.

Factors accounting for differences in economic development

Various factors account for differences in the economic development of countries. These factors include differences in: income (GDP), productivity, population growth, the relative size of the primary, secondary and tertiary sectors, saving and investment, education and healthcare.

Differences in income

The higher the national income (real GDP per capita) of a country, the greater economic development tends to be. There is a positive relationship between a country's economic growth and its economic development — the wealthier a country is, the higher its standard of living tends to be.

Less economically developed countries (LEDCs) have a low national income per head of the population, partly due to their relatively low nominal GDP and partly due to their relatively high birth rate. Many LEDCs suffer from high levels of extreme poverty. According to the United Nations, 1.2 billion people currently live in extreme poverty, mostly in LEDCs.

Income is the most used single indicator of standards of living within a country (see Table 35.1).

Table 35.1 GDP per capita: selected countries, 2017

Country	GDP ($bn)	GDP per capita ($)	Population (million)
China	1,073.0	7,812	1,373.54
Indonesia	941.0	3,643	258.32
Sweden	511.4	51,758	9.88
Luxembourg	60.98	104,724	0.582

Source: adapted from CIA, *World Factbook*

Exam-style questions

With reference to Table 35.1, explain how national income as measured by GDP per capita can be used to measure economic development.

[4]

However, higher real GDP per head does not always lead to a higher standard of living for the majority of people, due to inequalities in the distribution of income. The composition of GDP should also be considered. For example, if a country spends significantly more money on national defence, then national income may grow but development does not necessarily occur. Finally, economic growth can bring about negative consequences such as pollution, climate change and environmental damage. So, other factors must also be considered when measuring differences in economic development between countries.

Differences in productivity

Economic development can vary between countries due to differences in productivity levels (see Chapter 21). For example, low-income countries are unable to gain access to the latest technologies and automated production systems. Such technologies help countries to be more efficient and productive, and so are likely to lead to economic development.

Different countries have different quantities and qualities of natural resources. Some countries have plentiful and productive resource endowments, such as Angola with its natural oil and mineral reserves. For many LEDCs, the main exports consist of relatively cheap agricultural products, so this hinders their ability to develop.

Countries that are able to attract foreign direct investment (FDI) will also enjoy higher levels of productivity. FDI should lead to an increase in the quantity and quality of physical capital in the economy, thereby boosting its productive capacity and competitiveness in the long run. This should help to create jobs, further creating economic development.

Differences in population growth

Rapid population growth (see Chapter 34) can limit any increase in real GDP as it reduces the GDP per capita. In addition, high population growth can hinder economic development as there are competing pressures on the earth's scarce resources, such as agricultural land.

Some LEDCs, such as Niger, Rwanda, Bangladesh and Ethiopia, have large and/or very fast-growing populations. This tends to reduce their GDP per capita, which limits their ability to develop economically. However, other LEDCs, such as Mali and Burkina Faso, do not have fast-growing populations (see Table 35.2).

Table 35.2 GDP per capita: selected LEDCs, 2017

	GDP ($bn)	Population (million)	GDP per head ($)
Niger	7.566	18.64	406
Rwanda	8.341	12.99	642
Bangladesh	226.80	156.19	1,452
Ethiopia	69.22	102.37	676
Mali	14.10	17.47	807
Burkina Faso	12.01	19.51	616

Source: adapted from CIA, *World Factbook*

Differences in size of primary, secondary and

tertiary sectors

Employment patterns are likely to change in the three production sectors as an economy develops.

- **Primary sector** output is concerned with the extraction of raw materials and other natural resources. Employment in this sector includes agricultural farming, fishing, mining and oil exploration. In LEDCs, primary sector activity tends to dominate in terms of output and employment.
- **Secondary sector** output involves manufacturing — that is, the use of natural resources to produce man-made resources such as machinery, vehicles, buildings and other capital goods. Examples of industries in this sector are car manufacturing, textile production, chemical engineering and textbook publishing. This is the predominant sector in most industrialising and developing countries.
- **Tertiary sector** output refers to the provision of services. Examples of professions in this sector are accountants, teachers, doctors, lawyers, financial advisers and retailers. The tertiary sector tends to be the most important in high-income economies.

As an economy develops, there tends to be a shift away from reliance on primary and secondary sector production towards tertiary output (see Table 35.3). In general, countries with a low level of GDP per capita are at the early stages of economic development, so most people work in the primary sector. As these countries advance, the majority of their GDP is generated from the secondary sector. Finally, in economically developed countries with high income per capita, the tertiary sector accounts for the largest share of employment and of the country's GDP.

Table 35.3 Comparison of employment by sector: selected countries, 2017

Country	Primary (%)	Secondary (%)	Tertiary (%)
Somalia	60.2	7.4	32.4
Kenya	32.7	18.0	49.3
China	8.6	39.8	51.6
India	16.6	29.9	45.5
United Arab Emirates	0.7	44.6	54.7
Luxembourg	0.2	11.1	88.7

Source: adapted from CIA, *World Factbook*

Differences in saving and investment

Savings (see Chapter 17) are required to give banks sufficient funds to lend to firms for investment purposes. However, most people in LEDCs are unable to have any savings as they barely have enough money to meet their basic needs. By contrast, the average person in more economically developed countries (MEDCs) is able to save some money. Firms are able to borrow these funds, via financial lenders such as banks, to pay for their investments. More savings and hence investments can contribute directly to economic development.

In some countries, institutional changes to the banking, legal and political systems are needed in order for economic transactions to be carried out with relative ease. These changes are required to facilitate international trade, attract FDI and boost both consumer and business confidence (see Chapter 17).

Differences in education

The level of education in a country is an indicator of its economic development. Economists measure the mean (average) years of schooling and adult literacy rates in different countries for this purpose. In general, the greater the level of education in a country, the higher its standard of living tends to be.

Table 35.4 Education indicators: selected countries, 2017

	Education indicators	
	Mean years of schooling (years)	**Adult literacy rate (% of population aged 15+)**
USA	13.3	99
Norway	12.6	100
New Zealand	12.5	99
Ethiopia	2.0	35.1
Niger	1.4	28.7
Mozambique	1.2	56.1

Sources: United Nations Development Programme and CIA, *World Factbook*

Case study: Finland's education system

Finland is often quoted as having the 'best' education system in the world, yet the country uses a rather unconventional approach to education. Finnish children do not have to start school until the age of 7. Children rarely take exams (they do not take a standardised test until the age of 16) and do not get regular homework until their teenage years. Science lessons are capped at 16 students to encourage greater productivity during class time. Teachers spend just 4 hours a day in the classroom, and 2 hours per week on their professional learning and development.

Of course, a relatively small population of 5.5 million people helps. For example, there are fewer students in Finland (about 600,000) than in New York City (over 1.1 million), although they have the same number of teachers.

Activity

Discuss how economists might measure which education system in the world is the 'best'.

Differences in healthcare

Healthcare is a key indicator of economic development. The better the healthcare in a country, the greater social and economic wellbeing tends to be. The quality of a country's healthcare can be measured in several ways, including the following:

- Life expectancy at birth. Life expectancy measures the number of years an average person in the country is expected to live.
- A country's annual expenditure on healthcare as a percentage of its GDP.
- Child mortality rates — that is, the number of deaths of children aged 5 and below, per thousand of the population (see Table 35.5).

Table 35.5 Healthcare indicators: selected countries, 2017

	Healthcare indicators	

	Life expectancy at birth (years), both genders	Under-5 mortality rate (per 1000 live births)
Hong Kong	83.74	3
Japan	83.31	3
Italy	82.84	4
Switzerland	82.66	4
Sierra Leone	50.19	120
Lesotho	49.50	90
Swaziland	49.18	61

Sources: United Nations Development Programme and UNESCO

An increase in the quantity and quality of human capital through improved education and healthcare will boost the productivity of the labour force.

Exam-style questions

Which option is least likely to increase productivity in an economy? [1]

A Advances in technology
B Greater specialisation of labour
C Improved education and training
D Longer working hours

Activity

In pairs, research the roles of the World Bank and the IMF in promoting economic development. How does the World Bank differ from the IMF? What are the terms and conditions of the loans that they make to countries? Be prepared to present your findings to the class.

Exam-style questions

Which of these is not a health indicator as a measure of economic development?

[1]

A Child mortality rates
B Health care expenditure as a percentage of GDP
C Life expectancy at birth
D Population growth rate

Chapter review questions

1 What is meant by economic development?
2 How do differences in the national income of different countries affect their economic development?
3 What are the limitations of using only national income as an indicator of economic development?
4 What is productivity and how might this affect the level of economic development?
5 How does population growth impact on a country's economic development?
6 Why do countries tend to move away from primary sector output as they develop?
7 How do savings and investment contribute to economic development?
8 How do a country's mean years of schooling and adult literacy rate indicate its level of economic development?
9 What does a country's quality of healthcare indicate about its economic wellbeing?

Revision checklist

✔ Economic development is an intangible concept that considers both quantitative and qualitative variables that indicate an increase in the standard of living within a country.

- ✔ The main factors that account for differences in the economic development of countries are differences in: income (GDP), productivity, population growth, the relative size of the primary, secondary and tertiary sectors, saving and investment, education and healthcare.
- ✔ Income is the most used single indicator of standard of living within a country. The wealthier a country is, the higher its standard of living tends to be.
- ✔ Differences in the productivity of factors of production can be explained by a country's ability to gain access to the latest technologies, differences in the quality and quantity of production resources, and the country's ability to attract FDI.
- ✔ Differences in population size and growth have a direct impact on real GDP per head. Economic development tends to be limited in countries with large and growing populations.
- ✔ As an economy develops, there tends to be a shift away from an overreliance on primary production, towards secondary sector production and then tertiary sector output.
- ✔ Savings are needed to enable banks to lend these funds to firms to finance their investment expenditure.
- ✔ In general, the greater the level of education in a country, the higher its standard of living tends to be.
- ✔ The better the healthcare in a country, the greater its social and economic wellbeing (and hence economic development) tends to be.

SECTION 6

International trade and globalisation

Chapters

38 Foreign exchange rates

39 Current account of balance of payments

In an increasingly globalised world, the trade between countries and the growth of multinational companies become ever more important. This final section of the syllabus explores the principles of specialisation (at a national level), the role of and reasons for free trade, the role of multinational companies, foreign exchange rates and the balance of payments. There is also consideration of trade protection in order to safeguard the economy from unfair foreign competition.

36 International specialisation

By the end of this chapter, students should be able to:
- understand specialisation at a national level
- discuss the advantages and disadvantages of specialisation at a national level.

Specialisation at a national level

Specialisation occurs when individuals, firms, regions or countries concentrate on the production of a particular good or service. For example:

- **Individuals** — people might specialise, for example, as accountants, bankers, construction workers, hair stylists, dentists or engineers. Specialisation allows workers to become more skilled and efficient at their jobs, thus increasing the quantity and quality of the goods or services being provided.

Hair stylists are specialists in their field

Activity

Discuss why primary school teachers are less specialised than secondary school teachers, who are less specialised than university lecturers.

- **Firms** — McDonald's, Burger King, KFC and Pizza Hut specialise in the output of fast food, whereas DHL, FedEx and TNT specialise in the provision of courier services. Further examples appear in Table 36.1.

Table 36.1 The world's three largest producers in selected industries, 2017

Industry	Rank		
	1st	2nd	3rd
Accountancy	Deloitte	PwC	Ernst & Young
Airline (freight)	FedEx Express	Emirates SkyCargo	UPS Airlines
Airline (passenger)	American Airlines	Delta Air Lines	United Airlines
Car manufacture	Volkswagen	Toyota	General Motors
e-commerce	Amazon	Google	Facebook
4K HD TVs	Samsung	LG	Sony
Mobile network operation	China Mobile	Vodafone	Airtel
Mobile phones	Samsung	Apple	Huawei
Personal computers	Lenovo	HP	Dell
Restaurant chain (sales)	McDonald's	Subway	Burger King
Social network sites	Facebook	WhatsApp	YouTube

- **Regions** — Silicon Valley in northern California, USA, specialises in the provision of high-tech information communication technologies; London, Tokyo and Shanghai are financial districts; Paris and Milan are major cities for fashion and design.

Hollywood, Los Angeles, USA, is famous for its motion pictures industry

- **Countries** — **international specialisation** occurs when countries concentrate on the production of certain goods or services due to cost advantages (cheaper production methods) and their abundance of superior resources. Bangladesh and India are major producers and exporters of textiles; Scotland is famous for its whisky; Thailand and Vietnam specialise in the production of rice; and Caribbean countries such as Jamaica and Tobago specialise in tourism. Other examples are outlined in Table 36.2.

Definition

International specialisation occurs when countries concentrate on the production of certain goods or services due to cost advantages, perhaps due to their abundance of resources.

Table 36.2 The world's three largest producers of selected products, 2017

Product	Rank		
	1st	2nd	3rd
Aluminium	China	Russia	Canada
Coal	China	USA	Australia
Coffee	Brazil	Vietnam	Indonesia
Copper	Chile	USA	Peru
Cotton	China	India	USA
Fruit	China	India	Brazil
Meat	China	USA	Brazil
Oil	Saudi Arabia	Venezuela	Iran
Rubber	Thailand	China	Indonesia
Sugar	Brazil	India	China
Tea	China	India	Kenya
Vegetables	China	India	USA

Source: *The Economist Pocket World in Figures*

Activity

Discuss how specialisation might work in schools, restaurants and supermarkets. What are the advantages and disadvantages of specialisation to the employees and firms in these markets?

Advantages and disadvantages of specialisation at a national level

Study tip

While this chapter considers the advantages and disadvantages of specialisation at a national level, remember that specialisation can also apply to individuals, firms, regions, machinery and technology (capital equipment).

Advantages of specialisation

The benefits of specialisation at a national level include the following:

- **Efficiency gains** — specialisation makes better use of scarce resources. As a result, productivity increases, thereby increasing the country's GDP. Taiwan and South Korea, for example, have been able to raise their standards of living by specialising in the production of manufactured consumer electronic devices. Taiwan's Foxconn is the world's largest manufacturer of smartphones and tablet computers for companies such as Samsung and Apple.
- **Labour productivity** — workers become more skilled in the jobs they do because they are able to concentrate on what they do best. Therefore, specialisation improves labour productivity (see Chapter 21) and enables better-quality products to be produced. Thus specialisation can benefit firms, regions and the country as a whole.
- **Increased productive capacity** — specialisation can help to shift the production possibility curve of a country outwards due to its increased productive capacity, as shown in Figure 36.1. Thus, specialisation leads to increased national output.
- **Economies of scale** — specialisation increases GDP and global trade. Therefore, firms are able to enjoy cost-saving benefits from large-scale operations, known as economies of scale (see Chapter 20). This can help to keep prices down and therefore control inflation (see Chapter 31).
- **Improved competitiveness** — specialisation helps to enhance international trade and exchange. Competitive prices also improve the international competitiveness of a country, thereby boosting its economic growth. In this

way, specialisation and trade are vital for improving a country's standard of living (see Chapter 32).

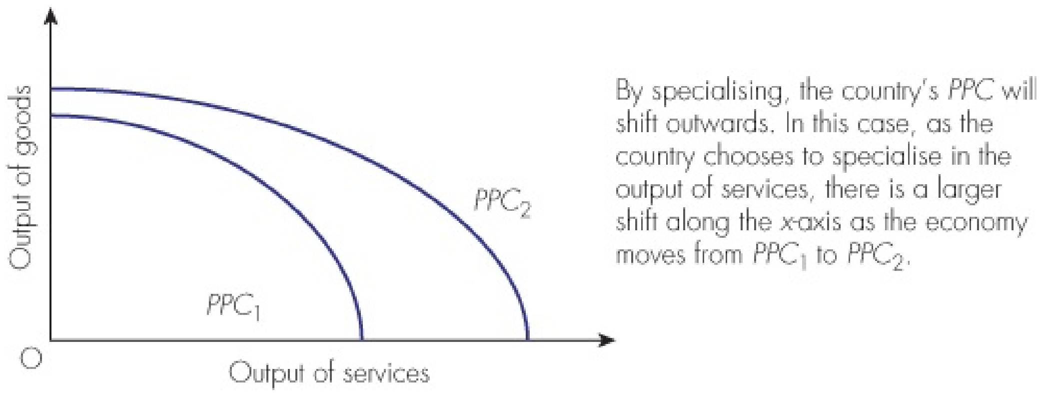


Figure 36.1 Specialisation and the *PPC*

Activity

Investigate the economic reasons behind China's rising dominance in one of the following industries (or another one of your choice): coal mining, oil, steel, automobiles, commercial banking, insurance or telecommunications. Be prepared to share your findings with the rest of the class.

Disadvantages of specialisation

Despite the potential benefits of national specialisation, there are several drawbacks.

- **Overspecialisation** can cause regional and structural unemployment (see Chapter 30). *The Full Monty*, a British movie which cost only \$3.5 million to produce but made over \$250 million at the box office, was about six unemployed men in the once-successful steel mills in Sheffield, UK. Although the film was produced as a comedy, it featured some key consequences of the collapse of steel production in the UK, such as regional unemployment, stress, depression and suicide.

Definition

Overspecialisation occurs when an individual, firm, region or country concentrates too much on producing a very limited number of goods and services. This exposes the economic agent to a far higher degree of risk.

Countries that overspecialise also suffer the most during an economic downturn as they do not have a variety of goods and services that they can rely on to survive. For example, Liberia is highly dependent on its agricultural output, which accounted for around 61 per cent of its GDP in 2017. Adverse weather conditions could wipe out much of its agricultural production, thus severely harming the economy.

- **Lack of variety for consumers** — specialisation often leads to standardised, mass-produced goods. An example is Foxconn, which manufactures the iPhone and iPad for Apple. These devices lack variety and only come in one of two colours. Domestic customers may look at alternative imported products from foreign suppliers, thereby reducing the competitiveness of domestic firms that overspecialise.
- **High labour turnover** — this occurs if lots of workers choose to leave their jobs in search of more challenging and less boring ones. Where a country has a labour turnover rate of 12.5 per cent, this means that one worker in every eight changes jobs each year. The higher the turnover rate, the more expensive it is for the economy as firms have to continually hire and train workers. Industries that suffer from high labour turnover tend to pay low wages to low-skilled workers, such as those working in call centres, retailing, catering (including fast-food restaurants), supermarkets and hotels.
- **Low labour mobility** — low-skilled and poorly paid workers tend to receive little training, so may not develop the necessary skills to find alternative jobs. Again, this can lead to structural unemployment in the economy. Highly skilled and specialised workers, such as pilots, dentists, software developers, financial advisers and attorneys can also find it extremely difficult to change to alternative professions and careers. A lack of labour market flexibility in an economy can reduced its overall efficiency and international competitiveness.
- **Higher labour costs** — firms that employ workers with highly specialised skills tend to face very high salary demands. For example, *Forbes* magazine estimates that in 2017 the earnings of the world's ten highest-paid supermodels exceeded $100 million, with Gisele Bündchen earning about $45 million. Dwayne Johnson, Hollywood's highest-paid actor, earned in excess of $64.5 million in 2017 (that's over $1.24 million per week!). However, high labour costs can have a negative impact on the profits of firms and potentially reduce their competitiveness.

Staffordshire used to have a thriving pottery industry (another example of overspecialisation) — now the area is full of derelict factories

In 2017, Dwayne Johnson earned $64.5 million dollars, making him Hollywood’s highest-paid actor

Exam-style questions

1 a Define the term ‘specialisation’.

[2]

b Explain why, during a recession, highly specialised firms are less likely to survive than diversified firms.

[4]

2 **a** Explain how the concept of specialisation can explain why nations trade with each other.

[4]

b 'Specialisation in international trade always benefits nations.' Analyse this statement.

[6]

Chapter review questions

1. What is meant by specialisation at a national level?
2. What are two examples of national specialisation?
3. How does the concept of national specialisation foster international trade?
4. What are the advantages of national specialisation?
5. What are the disadvantages of specialisation at a national level?

Revision checklist

✔ Specialisation occurs when individuals, firms, regions or countries concentrate on the production of a particular good or service.

✔ International specialisation occurs when countries concentrate on the production of certain goods or services due to cost advantages and superior resource allocation.

✔ Benefits of specialisation at a national level include: efficiency gains, higher labour productivity, increased productive capacity, economies of scale and improved competitiveness.

✔ Disadvantages of specialisation at a national level include: overspecialisation, lack of variety for consumers, high labour turnover, low labour mobility and higher labour costs.

37 Globalisation, free trade and protection

By the end of this chapter, students should be able to:

- define globalisation
- explain the role of multinational companies (MNCs)
- explain the benefits of free trade for consumers, producers and the economy
- understand the various methods of protection
- explain the reasons for protection
- discuss the consequences of protection.

Globalisation

Globalisation is the process by which the world's economies become increasingly interdependent and interconnected due to greater international trade and cultural exchanges. Globalisation has increased the exchange of goods and services throughout the world. Globalised markets include fast food, financial markets, motor vehicles, consumer electronics, sports (such as football) and entertainment (such as Hollywood movies).

Definition

Globalisation is the process by which the world's economies become increasingly interdependent and interconnected.

Globalisation has existing for a very long time, but has intensified. The increased use of social media and the continued expansion of multinational companies have contributed to the globalisation process.

Globalisation has resulted in positive and negative impacts:

- There is increased international trade, creating wealth and jobs throughout the world.

- There is freer movement of labour, capital, goods and services.
- By operating on a global scale, firms can enjoy greater economies of scale (lower costs per unit when operating on a larger scale).
- There is greater choice of goods and services for consumers around the world.
- There is greater cultural understanding and appreciation.
- However, globalisation has led to greater dependence on the global economy.
- It has also widened income and wealth gaps between the world's poorest countries and the world's richest nations (see Chapter 35).

Role of multinational companies

A **multinational corporation** (MNC) is an organisation that operates in two or more countries. Examples of some of the largest MNCs in the world are: Apple, Exxon Mobil, Johnson & Johnson, Coca-Cola and Volkswagen.

Definition

A **multinational corporation** is an organisation that operates in two or more countries.

Various factors have made it easier for MNCs to operate on a global scale. These include lower transportation costs, advances in technology such as e-commerce, more efficient communication systems and trade liberation.

The costs and benefits of MNCs

There are advantages and disadvantages of operating as a multinational corporation. MNCs also create costs and benefits to their host and home countries.

Advantages

The advantages of multinational corporations include the following:

- Through job creation, MNCs are able to help improve standards of living in the countries in which they operate. For example, Walmart, the world's largest retailer, employs over 2.3 million people worldwide.
- MNCs operate on a very large scale and are therefore able to exploit economies of scale (see Chapter 20). This means that MNCs can pass on cost

savings to their customers in the form of lower prices.

- By operating in overseas markets, MNCs are able to generate more profit by selling to a larger customer base. This benefits their home country too as profits are repatriated.
- MNCs are able to spread risks by operating in overseas markets. For example, adverse trading conditions in one part of the world can be offset by more favourable circumstances in other parts of the world.
- By producing in a foreign country, an MNC is often able to avoid any trade restrictions. For example, Japan’s Honda is able to avoid import taxes in the European Union as it has manufacturing plants in Belgium, Italy and France.
- MNCs can access new markets by locating overseas and this may reduce transportation costs as they no longer have to export products to these markets. For example, Japanese car manufacturers Honda, Nissan and Toyota all have factories in China — the world’s largest market for private cars.
- MNCs might choose to move or expand their operations in foreign countries to benefit from lower rates of corporation tax. This benefits both the MNC and the countries into which it chooses to expand. For example, corporation tax is far lower in Hong Kong, Singapore and Bahrain than in Japan, Australia and the UK.

A Levi’s store at AlphaOne shopping mall in Amritsar, India

Disadvantages

The disadvantages of multinational corporations include the following:

- Multinational corporations have often been criticised for their unethical and cost-cutting practices, such as poor working conditions and low wages for workers in low-income countries.

- While jobs might be created in overseas countries, MNCs can force local firms that are less competitive to close down. Their huge market power and ability to exploit economies of scale (see Chapter 20) mean that local firms might struggle to compete. Moving and expanding overseas can also have a detrimental impact on domestic employment.
- Since many MNCs earn far higher sales revenue than the gross domestic product (see Chapter 29) of the host country, they are often in a powerful position to exploit foreign governments over decisions such as the location of the business and access to finance (government subsidies, grants, loans and tax concessions).
- The overreliance on MNCs in low-income countries means that there are major consequences should a MNC choose to relocate its operations to another country. For example, in 2010 French supermarket chain Carrefour pulled out of Thailand and Malaysia, resulting in job losses.
- MNCs face an array of issues as a result of operating in different countries, such as different legal systems, tax regulations and environmental guidelines. The lack of local knowledge can also cause major problems for an MNC.
- The sheer size and geographic spread of an MNC's operations makes it harder to manage the overall business. Effective communication can also be an issue if workers are located in countries with different languages, national cultures and time zones.
- Fluctuating exchange rates (see Chapter 38) can make it difficult to measure and compare the values of an MNC's sales and profits in overseas markets.
- MNCs may be unsuccessful if they offer goods and services that do not appeal to local tastes and customs. For example, British retailer Tesco closed all of its US branch's 'Fresh & Easy' supermarkets between 2013 and 2015 as they were struggling to become profitable.

Activity

Research the global operations of an MNC that operates in your country and assess the advantages and disadvantages to the firm and the host country. Make a judgement about whether the benefits to the host country outweigh the costs.

Exam-style questions

Multinational companies are attracted to the United Arab Emirates (UAE) because of its low taxes, political stability and high GDP per capita. Examples of MNCs in the UAE are Microsoft, Marriott Group, DHL and Ericsson, along with a number of international engineering, law and accountancy firms. An influx of MNCs to the area brings workers from many countries and this creates a demand for international goods, services and schools. There are many shopping malls filled with international brands and Dubai (one of the seven Emirates that make up the UAE) has gained a reputation as a destination for shopping. This has attracted many tourists to Dubai for shopping and leisure trips.

a Explain the characteristics of a multinational company. [4]

b Analyse the benefits and costs of MNCs locating in the UAE. [6]

The benefits of free trade

International trade refers to the exchange of goods and services beyond national borders. It entails the sale of **exports** (goods and services sold to overseas buyers) and **imports** (foreign goods and services bought by domestic households and firms).

Free trade means that international trade can take place without any forms of protection (barriers to international trade), such as quantitative limits or taxes being imposed on exports.

Definitions

International trade refers to the exchange of goods and services beyond national borders.

Free trade means that international trade takes place without protectionist measures (barriers to international trade).

People queuing outside a job centre in Spain

The merits of international trade (that is, the reasons why countries trade with each other) apply to consumers, producers and the economy as a whole. These advantages include the following:

- **Access to resources** — international trade enables producers and consumers to gain access to goods and services that they cannot produce themselves. For example, the Maldives can purchase laptop computers, motor vehicles and Hollywood movies from the USA.
- **Lower prices** — free trade reduces the costs of trading. For example, it is cheaper for Germans to purchase foreign-produced smartphones made in China and Taiwan because of the high labour costs in Germany. Unfavourable weather conditions in Sweden mean it is better off importing tropical fruits from Jamaica. By contrast, trade protection increases the costs of trading. For example, the imposition of trade barriers would mean that both domestic firms and consumers have to pay more for imported goods and services.
- **Economies of scale** — as firms are operating on a larger scale in global markets, international trade enables them to benefit from economies of scale (see Chapter 20). These cost savings can be passed on to consumers in the form of lower prices and/or kept by the producers in the form of higher profits.
- **Greater choice** — free trade enables consumers and firms to access a larger variety of goods and services from different producers around the world. For example, while Germans can choose from domestic motor vehicles such as Audi, BMW and Mercedes-Benz, they are also able to choose from foreign suppliers such as Lexus (Japan), Jaguar (India) and Cadillac (USA).
- **Increased market size** — international trade enables firms to earn higher revenues and profits. For example, American firms can sell products to a domestic market of 322 million people, whereas they can reach a market of

more than 2.7 billion potential customers by selling their products to China and India.

- **Efficiency gains** — free trade forces domestic producers to focus on improving the quality of their output due to foreign competition. For example, competition from Japanese car makers and South Korean electronics firms has forced American producers such as General Motors and Apple to create better-quality products. By contrast, protectionist measures give domestic firms a false sense of security and limit their exposure to fair and genuine competition. This can make domestic firms inefficient.
- **Improved international relations** — the absence of trade barriers encourages international trade and cooperation between countries. By contrast, if a country imposes trade barriers, other nations are likely to retaliate by doing the same.

Study tip

Make sure you can distinguish between the merits of **international trade** and the merits of **free trade** — they are not quite the same, as all not international trade entails free trade. Thus, the advantages of free trade (without any trade barriers) are greater than the benefits of international trade (which may entail some trade barriers).

Activities

1 Look at some of the products you have at home, such as a television, watch, car and clothes. How many have these products have been imported? Why might this be?

2 Use the internet to investigate the types of goods and services that are exported and imported from one high-income country and one low-income country of your choice. Find out the main trading partners of these countries. As a starting point, you may want to use *The Economist's* country briefs (www.economist.com) and/or the CIA website (http://goo.gl/wGmYn).

Exam-style questions

Bangladesh is one of the world's largest producers of rice and tropical fruit. In Brunei Darussalam, crude oil and natural gas account for around 90 per cent of the country's gross domestic product. This makes Brunei Darussalam one of the leading producers of oil in Southeast Asia.

a Describe one problem for Brunei Darussalam in relying on oil exports.

[2]

b Explain two reasons why countries such as Bangladesh and Brunei Darussalam trade with each other.

[4]

c Analyse how Bangladesh's export of rice and tropical fruit helps its farmers to achieve economies of scale.

[6]

Protection

Despite the benefits of free trade, there are also strategic and economic reasons for trade protection. **Protection** refers to the use of trade barriers to restrain foreign trade, thereby limiting overseas competition.

Methods of protection

The most common type of trade protection is **tariffs**. The other types of trade protection, collectively known as **non-tariff barriers**, include import quotas, subsidies and embargoes. These are explained below.

- **Tariffs** — a tariff is a tax on imports. For example, the USA places a 35 per cent tariff on all tyres imported from China. Tariffs increase the costs of production to importers, thus raising the price of foreign goods in the domestic market and lowering the quantity of products imported (see Figure 37.1).

Definitions

Protection refers to the use of trade barriers to restrain foreign trade, thereby limiting overseas competition.

A **tariff** is a tax on imports, which increases production costs for foreign firms.

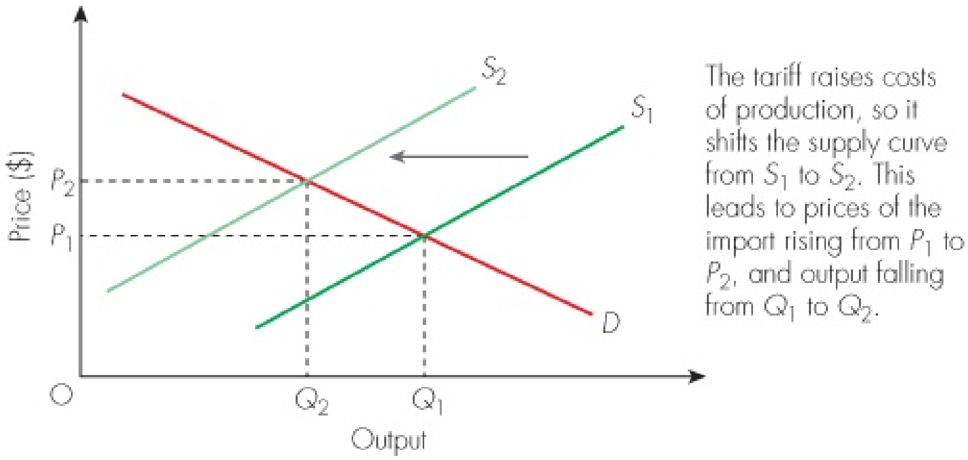


Figure 37.1 The impact of tariffs

- **Import quotas** — an import quota sets a quantitative limit on the sale of a foreign good in a country. For example, the Indonesian government imposes import quotas on fruits and vegetables from Thailand. The quota limits the quantity imported and thus raises the market price of foreign goods (see Figure 37.2).

Definition

An **import quota** is a quantitative limit on the sale of a foreign good.

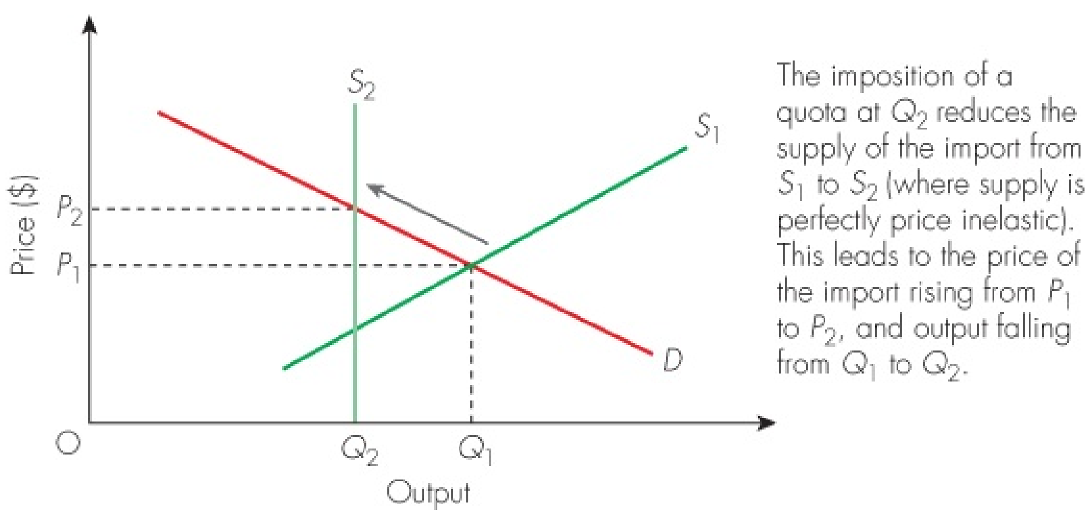


Figure 37.2 The impact of import quotas

- **Subsidies** — governments can provide subsidies (lump-sum payments or cheap loans to domestic producers) to help domestic firms to compete against foreign imports. Subsidies lower the costs of production for home firms, thereby helping to protect local jobs. For example, the European Union subsidises its farmers to encourage agricultural output (see Figure 37.3).

Definition

A **subsidy** is a form of government financial assistance to help cut production costs of domestic firms, enabling them to compete against foreign producers.

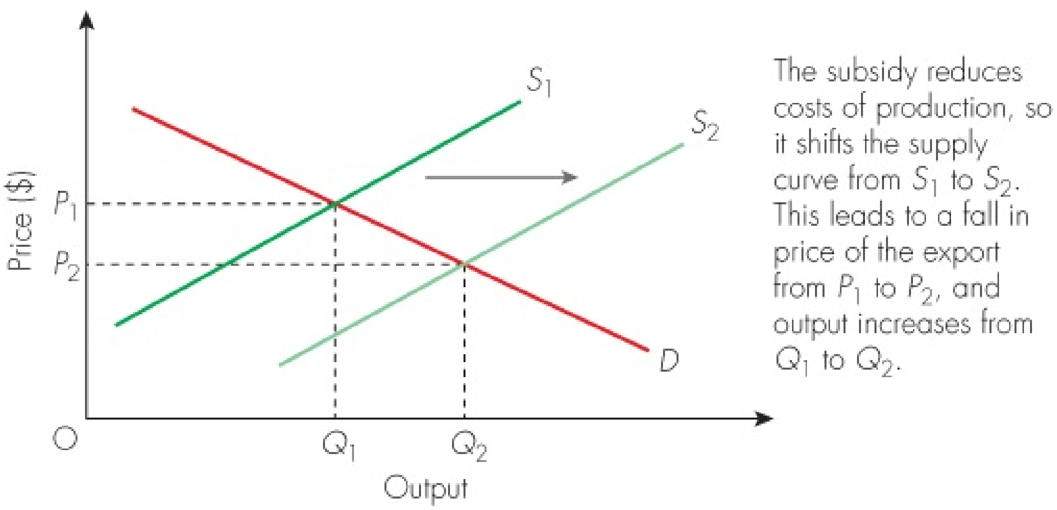


Figure 37.3 The impact of subsidies

- **Embargo** — an embargo is a ban on trade with a certain country, often due to a trade dispute or political conflict. An embargo rarely benefits local consumers, who suffer from a lack of choice and higher prices (due to the lack of supply). For example, Malaysia has imposed trade embargoes on the Philippines while the USA has trade embargoes with Cuba.

Definition

An **embargo** is a ban on trade with a certain country.

- **Rules and regulations** — countries often use bureaucratic rules and regulations as a form of protection. Examples are strict rules regarding food safety, environmental standards and product quality. These rules and regulations consume a lot of time and increase the costs for overseas firms, while also helping to protect domestic consumers.

Exam-style questions

1 British beef is sold throughout the world. Using an appropriate demand and supply diagram, explain the consequences on the price and quantity demanded of British beef if an import tariff is imposed on British beef.

[4]

2 Different stakeholders are affected by the imposition of an import tariff. Discuss the impacts of an import tariff on producers and consumers of British beef.

[8]

Arguments for protection

Protectionist measures may be introduced because they offer the following advantages:

- Protectionist measures help to safeguard **infant industries** (new, unestablished businesses) from foreign competition. The Chinese government, for example, only allows 20 Hollywood movies to enter the country's cinemas each year, thus allowing the Chinese movie industry to develop.
- Protection from free trade can also help to safeguard **domestic jobs**. French car maker Renault made 7500 workers unemployed between 2013 and 2016, partly due to the higher sales of Japan's Toyota across Europe. In extreme cases, fierce competition from foreign rivals can even force domestic firms out of business.
- It prevents foreign countries from **dumping** their goods in the domestic economy. Dumping occurs when foreign firms sell their products in large quantities at prices deliberately below those charged by domestic firms, often even below the cost of production. This clearly gives the foreign firms an unfair price advantage, so protectionist measures may be needed. The European Union has accused China of dumping its glass solar panels and the USA has accused Vietnam of dumping its shrimps.
- Protection can be a source of **government revenue**. For example, India imposes tariff of $535 per 10 grams on the import of gold, thus helping to raise tax revenue for the government.
- Protection might also be required to overcome a **balance of payments deficit**

(see Chapter 39). If a country's expenditure on imports exceeds the revenue earned from its exports, the country will experience problems as it spends more than it earns. Protectionist measures to restrict imports would help to deal with this imbalance.

- In terms of **strategic arguments**, the government might use protectionism to safeguard the country from being too dependent on goods and services from other countries. For instance, if a war were to break out then protectionist measures give the country the ability and capacity to produce all the goods and services that it needs, rather than having to rely on foreign countries. A country such as Canada or the UK might want to have more oil production in order to be less reliant on imports from oil-rich nations that have the ability to distort world oil prices and oil supplies.

Lost in Thailand is China's highest-grossing home-grown film. Trade protection enables the Chinese movie industry to develop

Exam-style questions

China accounts for over 25 per cent of the world's output of car tyres. Since 2009, it has been the world's largest producer, consumer and exporter of tyres. The China Passenger Car Association reported that over 24 million new cars were sold in China in 2016, with annual sales growth of 10 per cent expected over the next few years.

According to the USA's Bureau of Labor Statistics, the average US employer had to pay about $35 per hour (salary and benefits) to hire a production-line worker whereas an employer in China could do the same for just $1.36 per hour. The USA simply cannot compete, thus prompting the need for protectionist measures.

a With reference to the above information, explain two reasons why countries use trade protection.

[4]

b Discuss which method of trade protection would be best for the USA to impose.

[8]

Arguments against protectionism

Despite the merits of protectionism, there are potential drawbacks. These disadvantages include the following:

- Government intervention **distorts market signals** and therefore can lead to a global misallocation of resources. For example, domestic consumers may not be able to purchase lower-priced imports which are of higher quality than those produced domestically. Protected firms and industries can become too reliant on the government and thus become inefficient.
- Protection can lead to **increased costs of production** due to the lack of competition and incentives to be innovative. Domestic producers may need to pay higher prices for vital imported raw materials and components, so this could lead to imported inflation (see Chapter 31), thus leading to higher domestic prices.
- Other countries are likely to react by **retaliating** and imposing their own trade barriers. For example, in October 2012 the US International Trade Commission imposed tariffs on imports of solar cells from China and by January 2013 Beijing had imposed a 5-year anti-dumping tariff on two chemicals (ethylene glycol and diethylene glycol) from the USA. Such actions may hinder global economic growth and prosperity.

Case study: The Banana Wars

The Banana Wars were a trade dispute between the European Union and Latin American countries that lasted for two decades, making it one of the longest trade disputes since the Second World War. Latin American banana exporters argued that an EU tariff imposed against them was unfair. It had been introduced to protect banana growers in former European colonies, which were exempt from the tariff.

A formal agreement ending the dispute was signed in late 2012 between the EU and ten Latin American countries. The EU agreed to reduce its tariffs on imported bananas from €176 ($230) per tonne to €114 ($148) over eight years.

Activity

Use the internet to investigate the following:

a What is the World Trade Organization (WTO)?

b What are the main functions of the WTO?

c How effective has the WTO been in encouraging free trade?

Chapter review questions

1 What is globalisation?
2 What are multinational companies?
3 What are the advantages of disadvantages of MNCs?
4 What is free trade?
5 What are the merits of free trade?
6 Why is trade protection used?
7 How do tariff and non-tariff trade barriers differ?

Revision checklist

- ✔ Globalisation is the process by which the world's economies become increasingly interdependent and interconnected.
- ✔ A multinational corporation (MNC) is an organisation that operates in two or more countries.
- ✔ Advantages of MNCs include: job creation, economies of scale and spreading of risks.
- ✔ Disadvantages of MNCs include: unethical and cost-cutting practices, forcing domestic firms out of business, and potential to exploit foreign governments (especially those in low-income countries).
- ✔ International trade is the exchange of goods and services beyond national borders.
- ✔ Free trade means that international trade takes place without protectionist measures (barriers to international trade).
- ✔ Advantages of free trade include: access to resources (choice), lower prices, efficiency gains and improved international relations.
- ✔ Protection refers to the use of trade barriers to restrain foreign trade, thereby limiting overseas competition.
- ✔ Methods of protection include: tariffs and non-tariff barriers (import quotas, subsidies and embargoes).
- ✔ Reasons for protection include: to protect infant industries and safeguard domestic jobs, to prevent dumping, to generate tax revenue, to tackle a balance of payments deficit and for strategic reasons.
- ✔ Arguments against protection include: market distortions and inefficiencies, higher production costs for domestic suppliers relying on imported supplies, and possible retaliation from foreign countries.

38 Foreign exchange rates

By the end of this chapter, students should be able to:

- define foreign exchange rates
- explain the determination of foreign exchange rates
- explain the causes of foreign exchange rate fluctuations
- explain the consequences of foreign exchange rate fluctuations
- distinguish between floating and fixed foreign exchange rate systems.

Foreign exchange rates

An **exchange rate** refers to the price of one currency measured in terms of other currencies. For example, the exchange rate of the US dollar in terms of the pound sterling might be $1.35 = £1 (or $1 = £0.74). This means that a British tourist spending $600 on hotel accommodation in the USA would have spent the equivalent of £444.44 ($600 ÷ 1.35).

Definition

An **exchange rate** refers to the price of one currency measured in terms of other currencies.

Exchange rates can change over time, so if the US dollar fell against the pound sterling to $1.50 = £1, then the tourist would pay £400 ($600 ÷ 1.5) for staying at the hotel in the USA. In other words, the British tourist would pay the same price in US dollars, but this equates to fewer pound sterling.

Activities

1 Use www.oanda.com (or another relevant internet website) to find which country uses the following currencies:

a ringgit

b dong
c lek
d won
e kwacha

2 How many countries can you find that use these currencies?

a peso
b real
c pound
d franc
e dollar

Exam-style questions

1 Suppose the exchange rate between the Australian dollar (AUD) and the Chinese yuan renminbi (CNY) is AUD1 = CNY6.5. Calculate the price in renminbi for customers in China buying textbooks priced at AUD65 from Australia.

[2]

2 Suppose that the exchange rate between the Canadian dollar (CAD) and the British pound (GBP) is CAD1 = GBP0.65 and the exchange rate between the Canadian dollar and the euro (EUR) is CAD1 = EUR0.75. Calculate the exchange rate of the British pound against the euro.

[2]

Determination of exchange rates in foreign exchange market

In theory, the demand for exports of goods and services increases if exports become cheaper. Likewise, the demand for imports falls if the price of imports rises. Since different countries use different forms of money, exchange rates are fundamental in facilitating international trade (see Chapter 37).

Consider the following as an example. Table 38.1 shows that the price of a

64GB iPad is HKD6000 (Hong Kong dollars). Study the impact that fluctuations in the exchange rate of the pound sterling have on the price of the iPad for British tourists in Hong Kong.

Table 38.1 The price of an iPad at different exchange rates (GBP : HKD)

Exchange rate (GBP : HKD)	HKD price ($)	GBP price (£)
£1 = $10.5	6,000	571.43
£1 = $11.5	6,000	521.74
£1 = $12.5	6,000	480.00
£1 = $13.5	6,000	444.44

Hence, as the exchange rate of the pound sterling increases from $10.5 to $13.5, the price of the iPad falls from £571.43 to £444.44 for the British tourist in Hong Kong. This means that as the value of a country's currency rises, its demand for imports tends to increase. Hong Kong's exports to the UK should therefore increase.

Looking at this from the perspective of Hong Kong, the fall in its exchange rate (from $10.5 = £1 to $13.5 = £1) means that imports will become more expensive. For instance, suppose that a Hong Kong supermarket imports supplies from the UK. An order valued at £50,000 used to cost the Hong Kong firm HK$525,000 (i.e. £50,000 × $10.5), but will now cost $675,000 (i.e. £50,000 × $13.5). This means that as the value of a country's currency falls, its demand for imports tends to fall. The UK's exports to Hong Kong should therefore fall.

However, the demand for some imports is **price inelastic** (see Chapter 11) because they are not readily available in the domestic economy yet are essential for production (such as oil and other vital raw materials). Therefore, domestic firms have to spend more on these essential imports when the exchange rate falls in value. For example, if the Mexican peso (MXN) falls against the Canadian dollar (CAD) from 12.5:1 to 14:1, then Mexican firms buying Canadian oil at a price of CAD100 per barrel pay a higher price of MXN1400 per barrel instead of the previous price of MXN1250 per barrel. This means Mexican firms may need to reduce their price by around 12 per cent to remain competitive, despite their higher costs of production resulting from the fall in the value of the Mexican peso.

In the same way that changes in the exchange rate can affect the demand for exports and imports, they can also affect the amount of tourism revenue, the profitability of businesses and therefore the rates of unemployment and economic growth.

Demand for oil is price inelastic, so it is not very responsive to exchange rate fluctuations

Floating and fixed exchange rate systems

There are two broad exchange rate systems: floating and fixed.

Floating exchange rate systems

In the **floating exchange rate system**, the value of a currency is determined by the market forces of demand for the currency and supply of the currency. For example, overseas tourists buy (demand) the foreign currency by selling their domestic currency. Countries that adopt this system allow the value of their currency to be determined by market forces. Examples are Belgium, Chile, Luxembourg, Spain, Japan, New Zealand, Sweden and the United Kingdom.

Definition

A **floating exchange rate system** means that the currency is allowed to fluctuate against other currencies according to market forces, without any government intervention.

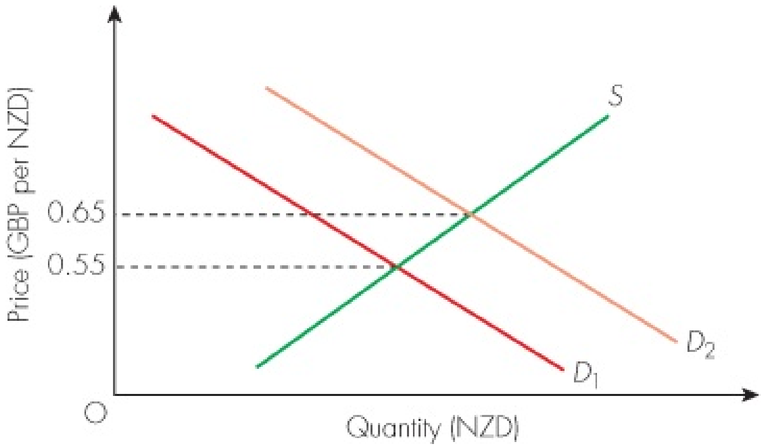


Figure 38.1 Changes in interest rates and the impact on exchange rates

If banks in New Zealand offer investors higher interest rates than those in the UK, this can cause investors to take advantage by buying the New Zealand dollar (NZD). This will increase the demand for the NZD, thus shifting its demand from D_1 to D_2 in Figure 38.1. This raises the price (or exchange rate) of the NZD from £0.55 to £0.66. By contrast, a fall in interest rates is likely to drive investors away as they search for investments that generate better a financial return.

In a floating exchange rate system, there is an **appreciation** in the exchange rate if the exchange rate is rising against other currencies. By contrast, there is a **depreciation** of the exchange rate if its value falls against other currencies.

Fixed exchange rate systems

Under a **fixed exchange rate system**, the government intervenes in **foreign exchange markets** to maintain its exchange rate at a predetermined level. For example, the Hong Kong dollar has been pegged (fixed) against the US dollar since 1972. Since 1983 the HKD has been pegged to both the USD (at a rate of HKD7.8 = USD1) and the Macanese pataca (MOP) (at a rate of HKD1 = MOP1.03).

The main advantage of fixing exchange rates is that it reduces uncertainties for international trade. This allows firms, both foreign and domestic, to be certain about future costs and prices, thereby encouraging international trade and exchange.

Definitions

Appreciation of a currency occurs when there is an increase in its value relative to another currency operating in a floating exchange rate system.

Depreciation of a currency occurs when there is a fall in its value relative to another currency operating in a floating exchange rate system.

A **fixed exchange rate system** exists when the central bank (or monetary authority) buys and sells foreign currencies to ensure the value of its currency stays at the pegged value.

A **foreign exchange market** is the marketplace where different currencies can be bought and sold.

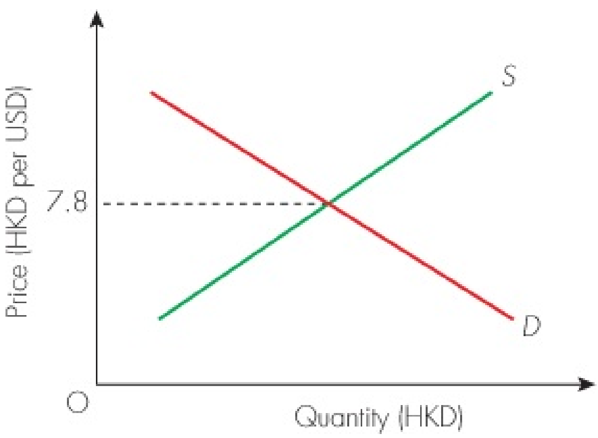


Figure 38.2 The fixed exchange system

In Figure 38.2, the exchange rate between the USD and the HKD is fixed (or 'pegged') at HK$7.8 = US$1 (although it is allowed to fluctuate within a small range of HK$7.75 to HK$7.85). This is achieved by the respective governments buying and selling foreign currencies to maintain this 'peg'.

For example, if the HKD declines against the pegged USD, the Hong Kong Monetary Authority (HKMA) can raise its value by increasing the demand for its currency. To prevent the HKD falling from 7.8 to 7.7, perhaps due to speculators selling the HKD, the HKMA intervenes in the foreign exchange market by buying enough HKD (thus raising its price) to maintain the exchange rate at the fixed rate of 7.8. Similarly, the HKMA would sell HKD if the exchange rate were to approach 7.9 (increasing the supply of HKD in order to reduce its price). This function of central banks (see Chapter 16) requires careful management and plenty of currency reserves.

There are two main criticisms of a fixed exchange rate system:

- It reduces the country's ability to use monetary policy changes in order to affect the economy (which is particularly useful during an economic recession).
- There is a huge opportunity cost in using large amounts of foreign exchange reserves to maintain the fixed rate.

It is possible to change the pegged rate over time. For example, the HKD was originally fixed at HK$5.65 = USD1 back in 1972. As the USA's economy developed, its currency was revalued to HK$7.8. In a fixed exchange rate system, there is a **revaluation** of the exchange rate if it is raised against other currencies. By contrast, the exchange rate is **devalued** under a fixed exchange rate system if the value of the currency is reduced against other currencies.

Definitions

Devaluation occurs when the price of a currency operating in a fixed exchange rate system is officially and deliberately lowered.

Revaluation occurs when the price of a currency operating in a fixed exchange rate system is officially and deliberately increased.

Activity

Prepare a presentation on why a government might want to have a lower exchange rate. Consider whether this is a sustainable economic policy.

Causes of exchange rate fluctuations

Any factor that influences the demand for a currency or its supply will have an impact on the exchange rate. These factors include the following:

- **Changes in demand for exports** — an increase in the demand for exports, perhaps due to improved quality or successful advertising, will increase the demand for the country's currency. Therefore, this increases the exchange rate.
- **Changes in demand for imports** — an increase in the demand for imports, perhaps due to an increase in the competitiveness of foreign firms, will raise the value of the foreign currency in order to facilitate the purchase of foreign goods and services.

- **Prices and inflation** — an increase in the price of goods and services caused by domestic inflation will tend to decrease the demand for exports. This will therefore cause the exchange rate to fall in value.
- **Foreign direct investment** (FDI) — globalisation and the expansion of multinational companies mean that investment in overseas production plants requires the use of foreign currencies. For example, Nissan's car manufacturing plant in India requires the Japanese car maker to buy Indian rupees to pay for the materials, recruitment of labour and other production costs. Thus, inward FDI (such as the entry of an MNC) will boost the demand for a currency. By contrast, outward FDI (such as the departure of an MNC) will increase the supply of a currency.

A Nissan car plant in Chennai, India

- **Speculation** — foreign exchange traders and investment companies move money around the world to take advantage of higher **interest rates** (see Chapter 27) and variations in exchange rates to earn a profit. As huge sums of money (known as 'hot money') are involved, speculation can cause exchange rate fluctuations, at least in the short run. Speculators might also lack confidence in certain economies and therefore withdraw their investments, thereby depreciating the currency (see the case study).

Case study: The collapse of Landsbanki and Kaupthing

The global financial crisis of 2008 saw the collapse of Iceland's major banks, including Landsbanki (founded in 1886) and Kaupthing (founded in 1930). Investors across Europe feared the Icelandic banks would default on their debts, and this caused a selling frenzy which led to a rapid fall in the value of the krona (Iceland's currency).

- **Government intervention** — all the above factors can affect the exchange rate under a freely floating exchange rate system. In addition, government intervention in the foreign exchange market can affect the exchange rate. For example, if greater demand for American goods causes an appreciation of the dollar, the US Federal Reserve can sell its dollar reserves (thereby increasing supply of the dollar), leading to a fall in the value of its currency.

Activity

The value of a currency will change if the demand for and/or supply of the currency changes. Explain with the use a demand and supply diagram the effects of the following events from the perspective of the USA.

a The USA buys more imports from Brazil.

b Millions of American tourists visit France.

c There is an increase in American exports to Russia.

d The Federal Reserve (the USA's central bank) raises the rate of interest.

e Speculators feel that the US dollar will rise in value against other major currencies.

Consequences of exchange rate fluctuations

Exchange rate fluctuations affect different stakeholders in different ways, depending on whether the consequences are seen from the perspective of customers or producers (both importers and exporters).

The following is an analysis of a strong US dollar, due to either a currency appreciation or a currency revaluation. The opposite results would apply in the case of a currency depreciation or devaluation.

- **Customers** have greater purchasing power when the exchange rate increases. For example, if the exchange rate changes from \$1.6 = £1 to \$1.4 = £1, then Americans will require fewer dollars to buy British goods and services. Thus, American firms and individuals are likely to buy more British goods and services.
- **Exporters** face more difficult trading conditions when the exchange rate increases. This is because their goods and services will become more expensive for foreign customers. For example, if the exchange rate changes from \$1.5 = €1 to \$1.3 = €1 then customers from the European Union will need to spend more money to buy American goods and services. Therefore, demand for US exports is likely to drop.
- **Importers** potentially gain from a strong dollar because this makes it cheaper for US firms to import raw materials, components and finished goods from abroad. For example, if the US dollar appreciates from \$1.5 = €1 to \$1.3 = €1, American importers only need to spend \$1300 on each €1000 order of goods and services from Europe, rather than \$1500. While this is bad for US firms trying to compete with American imports, it can help to reduce cost-push inflation (see Chapter 31).

Study tip

The effects of foreign exchange rate fluctuations on a country's export and import prices and spending on imports and exports depend on the value of the price elasticity of demand for its imports and exports. A currency depreciation or devaluation will have the desired effects of reducing demand for imports and increasing demand for exports *only if* the demand for import and exports is price elastic.

Exchange rate fluctuations also have consequences for macroeconomic objectives. An increase in the exchange rate will have the following consequences for the balance of payments, employment, inflation and economic growth:

- **Balance of payments** — if a currency appreciation has a larger impact on exports than imports (that is, there is a fall in the value of net exports), then the balance of payments will worsen. This is because a strong currency will make it more difficult for exporters to sell their goods and services in overseas markets.
- **Employment** — a fall in net exports and deteriorating profits will, in the long

run, cause job losses in export-oriented businesses. This will therefore cause unemployment in the economy.

- **Inflation** — lower levels of spending in the economy, caused by higher unemployment, will tend to reduce the rate of inflation. In addition, if the country relies heavily on certain imports, such as oil or food supplies, then the higher exchange rate will help to reduce the general price level even further.
- **Economic growth** — in the long run, as a result of the higher exchange rate, economic growth is likely to fall due to the combination of lower export sales and higher unemployment.

Exam-style questions

Since China's admission to the World Trade Organization in November 2001, the USA has complained frequently that the Chinese government has deliberately kept its exchange rate artificially low. The relatively low value of the yuan compared to the dollar has contributed to the problems in the US economy.

a Define *exchange rate*. [2]

b Explain two advantages of a weak yuan for the Chinese economy. [4]

Coping with a strong exchange rate

Firms can deal with a higher or strong exchange rate in a number of ways:

- Cutting export prices to maintain their price competitiveness against foreign rivals, although this means the domestic firms will have to accept lower profit margins.
- Seeking alternative overseas suppliers of cheaper raw materials and components.
- Improving productivity (efficiency) to keep average labour costs under control.
- Focusing on supplying more price inelastic and income inelastic products because customers will then become less sensitive to exchange rate fluctuations.
- Focusing on non-price factors that are important to overseas customers, such

as brand awareness and social responsibility.

- Relocating production processes overseas, where costs of production are relatively low and where operations are less exposed to exchange rate fluctuations.

Exam-style questions

a Explain, with the aid of a numerical example, what is meant by an 'appreciation' in the value of a currency.

[2]

b Analyse the likely effects of a country's currency appreciation on its exports and imports.

[6]

Study tip

It is possible for some firms to gain from a stronger currency while others lose out. Review the main points in this chapter to make your own judgement on this.

Chapter review questions

1. What is an exchange rate?
2. What is the likely impact on a country's exchange rate following an increase in the demand for its exports?
3. What is the likely impact on a country's exchange rate following a decision of its government to cut interest rates?
4. How does a fixed exchange rate system differ from a floating exchange rate system?
5. What are the causes of exchange rate fluctuations?
6. What are the consequences of exchange rate fluctuations for importers, exporters and customers?
7. How does a strong currency impact upon a country's macroeconomic aims?

Revision checklist

- ✔ An exchange rate refers to the price of one currency measured in terms of other currencies.
- ✔ A foreign exchange market is the marketplace where different currencies can be bought and sold.
- ✔ In a floating exchange rate system, the currency is allowed to fluctuate against other currencies according to market forces, without any government intervention.
- ✔ In a fixed exchange rate system, the central bank or monetary authority buys and sells foreign currencies to ensure the value of its currency stays at the pegged value.
- ✔ The main advantage of a fixed exchange rate system is that it reduces uncertainties for international trade.
- ✔ An appreciation of the currency occurs when there is an increase in its value in a floating exchange rate system. A depreciation of the currency occurs when there is a fall in its value in a floating exchange rate system.
- ✔ A revaluation of the currency occurs in a fixed exchange rate system when the value of the currency is deliberately increased. A devaluation of the currency occurs in a fixed exchange rate system when the value of the currency is deliberately reduced.
- ✔ Causes of exchange rate fluctuations include: changes in the demand for imports and exports, price levels (inflation), the degree of foreign direct investment, speculation in the foreign exchange market, and the degree of government intervention.
- ✔ Different stakeholders are affected by changes in the exchange rate in different ways. Exporters tend to lose out from a higher currency value. Customers and importers tend to gain, in the short term, as their purchasing power of foreign goods and services increases.
- ✔ Changes in the exchange rate have a direct impact on a country's balance of payments, employment levels, inflation rate and economic growth.

39 Current account of balance of payments

By the end of this chapter, students should be able to:

- understand the structure of the current account of the balance of payments
- understand the causes of current account deficit and surplus
- explain the consequences of current account deficit and surplus
- discuss the policies to achieve balance of payments stability.

The current account of the balance of payments

The **balance of payments** is a financial record of a country's transactions with the rest of the world over a given time period, usually one year. This primarily includes the country's trade in goods and services with other countries.

In theory, the balance of payments must always balance over time. This is because a country, like an individual, can only spend (on imports, for example) what it earns (from export earnings, for example).

The largest component of the balance of payments is the **current account**. This is a record of all exports and imports of goods and services between a country and the rest of the world, plus net income transfers from abroad. The current account is structured in four parts: trade in goods, trade in services, primary income and secondary income.

Definitions

The **balance of payments** is a financial record of a country's transactions with the rest of the world for a given time period, usually one year.

The **current account** is the largest component of the balance of payments. It records all exports and imports of goods and services between a country and its trading partners, plus net income transfers from abroad.

Trade in goods

This part of the current account is a record of the exports and imports of physical goods, hence it is also known as the **visible balance**. It is the trade in raw materials, semi-manufactured products and manufactured goods. **Visible exports** are goods which are sold to foreign customers, with money flowing into the domestic economy. For example, the export of Toyota cars results in an inward flow of money to Japan's visible balance. **Visible imports** are goods bought by domestic customers from foreign sellers, such as Japanese residents buying German cars. This results in money flowing out of the Japanese economy.

Study tip

The full balance of payments is made up of three accounts: the current account, the capital account and the financial account. However, the Cambridge International syllabus only requires students to know about the current account.

Toyota cars are an example of visible exports

Trade in services

This is a record of the export and import of services (intangible products). Examples include the trade in services such as banking, insurance, consultancy, shipping and tourism. It is sometimes called the **invisible balance**. For example, tourism expenditure of Americans in France would represent export earnings (or an **invisible export**) for the French economy. By contrast, French customers who fly on American Airlines represent an **invisible import** for France.

Study tip

The **balance of trade** is the sum of the trade in goods plus the trade in services: that is, visible balance + invisible balance. The balance of trade is the largest section of the current account.

Primary income

Also known as **investment income**, this is a record of a country's net income earned from investments abroad. Examples are:

- profits earned by subsidiary companies based in overseas countries
- interest received from loans and deposits in overseas banks
- dividends earned from financial investments in overseas companies
- foreign direct investments of individuals or businesses in overseas business ventures
- money sent home by people working abroad.

Secondary income

The final section of the current account records **net income transfers**, per time period. It shows income transfers between residents and non-residents. Transfers arise from financial gifts between residents of different countries, such as:

- donations to charities abroad
- foreign aid
- subsidies or grants paid to companies based in overseas locations
- payments of pensions to retired people now based in overseas countries
- scholarships paid to students based in overseas universities.

Therefore, the current account is calculated as follows:

Current account = balance of trade + primary income + secondary income

Table 39.1 shows the current account balance of the countries with the highest and lowest balances in 2016.

Table 39.1 The current account balance: selected countries, 2016

Top five countries			Bottom five countries		
Rank	**Country**	**$bn**	**Rank**	**Country**	**$bn**
1	China	196.4	1	USA	−481.2
2	Japan	191.0	2	UK	−114.5
3	South Korea	98.68	3	Canada	−51.1
4	Switzerland	78.93	4	Australia	−33.2
5	Taiwan	75.29	5	Turkey	−32.6

Source: CIA, *World Factbook*

Study tip

The easiest way to distinguish between invisible exports and invisible imports is to consider flows of money (where the money comes from or goes to) rather than flows of services.

Activity

Investigate the main exports and imports for your country, or a country of your choice. Does your chosen country currently have a positive or negative trade balance?

Activity

Copy the following table and classify each transaction by using a tick in the correct column, from the perspective of the UK economy.

Transaction		Visible		Invisible	
		Export	Import	Export	Import
a	A German company purchases UK-produced chemical products				
b	American tourists fly to the UK on British Airways				
c	UK supermarkets purchase French wine and cheese				
d	The UK government maintains foreign embassies overseas				
e	German tourists buy theatre tickets to see *Les Misérables* in London				
f	The UK government pays interest on its borrowing (debts)				
g	A British firm buys a fleet of lorries (trucks) from Japan				
h	Global sales of *Harry Potter* books by British author J.K. Rowling				

Exam-style question

Study the data below and answer the questions that follow.

Trade balance for Country B ($bn), 2017	
Exports	85
Goods	57
Services	28
Imports	______
Goods	88
Services	15
Visible balance	______
Invisible balance	______
Trade balance	______

a Define the term ‘invisible balance’. [2]

b Calculate the missing figures in the data above.

[4]

Current account deficits and surpluses

A country is said to have a **current account deficit** if its import expenditure is greater than its export earnings. Hence, the current account has a negative balance. By contrast a **current account surplus** exists if the country exports more than it imports. This means the country will have a positive balance on its current account.

Definitions

A **current account deficit** occurs when a country spends more money than it earns, i.e. imports exceed exports.

A **current account surplus** exists if a country exports more than it imports.

Causes of current account deficits

A deficit on the current account can occur due to a combination of two factors:

- **Lower demand for exports** — this could be caused by a decline in manufacturing competitiveness, perhaps due to higher labour costs in the domestic economy. Another factor is declining incomes in foreign markets, perhaps due to an economic recession. This means households and firms have less money available to spend on another country's exports. A third cause of lower demand for exports is a higher exchange rate (see Chapter 38). This makes exports more expensive for foreign buyers, so reduces the volume and value of exports.
- **Higher demand for imports** — domestic buyers will tend to buy more imports if they are cheaper or of better quality. For example, a higher exchange rate means the domestic currency can buy more foreign currency, so this makes it cheaper to buy imports. Alternatively, domestic inflation means that imports are relatively cheaper, so more domestic residents and firms will tend to buy foreign goods and services.

Exam-style questions

Examine Figure 39.1, which shows the balance of trade for Sri Lanka, and answer the questions that follow.

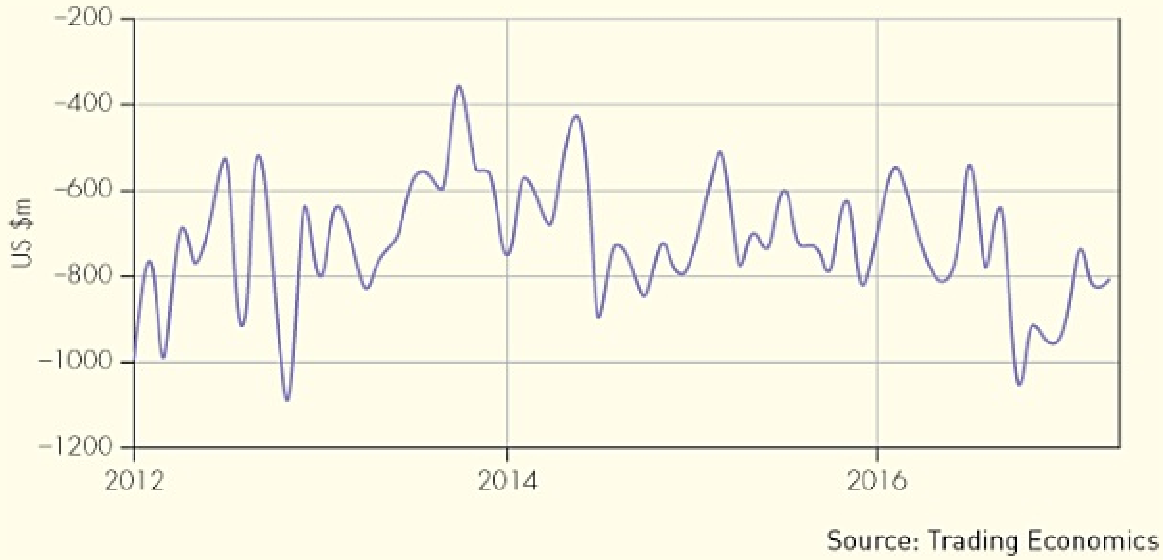


Figure 39.1 The balance of trade for Sri Lanka, 2012–16

a Define *balance of trade*.

[2]

b Explain two possible causes of the trend in Sri Lanka's balance of trade.

[4]

Consequences of current account deficits

Like an individual, a country cannot spend more (on imported goods, services and capital) than it earns (from the export of goods, services and capital). The severity of the consequences of a deficit depends on its size and duration. Nevertheless, a current account deficit is generally considered to be unfavourable for the economy for several reasons:

- **Reduced demand** — a trade deficit means the economy is spending more money on imports than it is receiving from the export of goods and services. This can cause demand in the economy to fall, thus triggering a recession (see Chapter 29). The USA's trade deficit with China has been blamed for much of the country's recent economic problems.
- **Unemployment** — as labour has a derived demand (see Chapter 18), a fall in overall demand is likely to cause cyclical unemployment in the economy (see

Chapter 30). Workers may also have to take a pay cut in order to correct the deficit. For example, the UK has experienced a decline in manufacturing jobs as there has been a fall in the demand for British exports of coal, steel, textiles and motor vehicles.

- **Lower standards of living** — if the current account deficit is caused by a negative balance on net incomes (primary and secondary income flows), this means capital outflows exceed capital inflows for the country. An economy with less income is likely to suffer from lower standards of living. In addition, to cut the current account deficit, households and firms may need to reduce their spending.
- **Increased borrowing** — just as an individual cannot spend more than he or she earns in the long run, countries need to borrow money or attract foreign investment in order to rectify their current account deficits. In addition, there is an opportunity cost of debt repayment as the government cannot use this money to stimulate economic growth.
- **Lower exchange rate** — a fall in demand for exports and/or a rise in the demand for imports (causing the current account deficit) reduces the exchange rate. While a lower exchange rate can mean exports become more price competitive, it also means that essential imports (such as oil and foodstuffs) will become more expensive. This can lead to imported inflation (see Chapter 31). The consequences of fluctuating exchange rates are covered in more detail in Chapter 38.

Study tip

A deficit on the current account that is manageable is not necessarily a bad thing. For example, the deficit might be the result of strong economic growth, with residents purchasing more foreign goods and services. This allows the country's residents to enjoy a higher standard of living as they are able to benefit from access to a range of good-quality imports.

In general, large and persistent current account deficits are a sign that the country is internationally uncompetitive. These deficits tend to have a negative impact on economic growth and standards of living.

Exam-style questions

Despite China being the USA's largest customer, America's trade deficit with China is at its highest ever level (see Table 39.2). The imports include consumer electronics, clothing, toys, sports equipment, furniture, footwear and machinery (such as power generators).

Table 39.2 Trade between the USA and China, 2010 and 2016

	2016 ($m)	**2010 ($m)**
US exports to China	115,602.1	91,911.1
US imports from China	426,618.1	364,952.6

Source: adapted from US Census

a Calculate the trade balance for the USA with China in 2010 and 2016.

[2]

b Explain how it is possible that 'America's trade deficit with China is at its highest ever level' even though the USA has reported record export sales to China.

[4]

Causes of current account surpluses

A surplus on the current account can occur due to a combination of two factors:

- **Higher demand for exports** — this can be caused by an improvement in manufacturing competitiveness, perhaps due to higher labour productivity in the domestic economy. Another factor is higher incomes in overseas markets, meaning foreign households and firms have more money to spend on the country's exports. A third cause of higher demand for exports is a lower exchange rate (see Chapter 38). This makes exports less expensive for foreign buyers, so increases the demand for exports.
- **Reduced demand for imports** — domestic buyers will tend to buy fewer imports if they are more expensive or of lower quality than those provided by domestic firms. For example, a lower exchange rate means the domestic currency can buy less foreign currency, so this makes it more expensive to buy imports. Another reason is that inflation in overseas countries causes imports to be more expensive, so individuals and firms buy more home-produced

goods and services.

Consequences of current account surpluses

The consequences of a country having a persistent current account surplus include the following:

- **Employment** — a sustained current account surplus can be desirable as higher export sales help to create jobs. However, a negative consequence of this is that job losses are created in other countries. For example, the USA has blamed China for sustaining a huge current account surplus, causing large-scale unemployment in America.
- **Standards of living** — a favourable current account balance means the country receives a higher income because domestic firms have a competitive advantage in the products they export. This can lead to a higher standard of living (see Chapter 32).

Oil-exporting countries such as Saudi Arabia, Kuwait, Qatar and the United Arab Emirates have consistently enjoyed current account surpluses, thus boosting their GDP and standards of living

- **Inflationary pressures** — higher demand for exports can lead to demand-pull inflation (see Chapter 31). Therefore, the current account surplus can diminish the international competitiveness of the country over time as the price of exports rises due to inflation.

- **Higher exchange rate** — the higher demand for exports can cause the currency to appreciate in value (see Chapter 38). Subsequently, foreign buyers will find it more expensive to import goods into their countries.

Study tip

A surplus on the current account is not necessarily a good thing. For example, former communist nation Romania achieved a trade surplus by using protectionist policies (see Chapter 37). This limited access to foreign goods and services, thus causing living standards to be lower.

Exam-style questions

Examine Figure 39.2, which shows the current account balance for Kuwait, and answer the questions that follow.

Figure 39.2 Current account balance for Kuwait, 2000–16

a Define *current account surplus*.

[2]

b Explain two consequences of Kuwait's continual current account surplus during the twenty-first century.

[4]

Policies to achieve balance of payments stability

There are four main policies that can be used to improve a country's current account balance — fiscal and monetary policies (which tackle demand-side issues), supply-side policies and trade protection measures. These macroeconomic policies are covered in more detail in Chapters 26–28 and 37 respectively.

- **Fiscal policy** — these measures use a combination of higher taxes and reduced government spending to decrease the amount of money available to spend on imports. In theory, this helps to reduce the current account deficit.
- **Monetary policy** — higher interest rates make new and existing loans more expensive for households and firms. This reduces their demand for imports. Alternatively, the central monetary authority of a country (see Chapter 16) might decide to devalue the exchange rate to improve the nation's competitiveness. This also has the effect of reducing the price of exports and making imports more expensive.
- **Supply-side policies** — these policies strive to raise the productive capacity of the economy. Examples are:
  - investment in education and healthcare services to improve the economy's human capital, productivity and international competitiveness
  - investment in infrastructure to support businesses and industries, especially those engaged in export markets
  - measures to encourage export-driven business start-ups and industries, such as government subsidies and tax incentives.
- **Protectionist measures** — these measures reduce the competeveness of imports, thereby making domestic consumption more attractive. For example, tariffs (import taxes) raise the price of imports, while quotas (see Chapter 37) limit the amount of imports available.

Exam-style questions

'A current account deficit on the balance of payments is undesirable during a recession but is not really a problem during periods of economic growth.'

a Define the term *current account deficit*.

[2]

b Explain the validity of the above statement.

[4]

Exam-style questions

1 What is not part of the current account?

[1]

A Debt (borrowing)
B Primary income
C Trade in goods
D Trade in services

2 Which option is secondary income?

[1]

A Earnings from foreign direct investments
B Overseas donations for domestic charities
C Profits earned by multinational companies based in foreign countries
D Interest earned from deposits held in overseas banks

Chapter review questions

1. What is the balance of payments?
2. What is the difference between the visible trade balance and the invisible trade balance?
3. What is the balance of trade?
4. How does primary income differ from secondary income?
5. How does a current account deficit differ from a current account surplus?
6. What are the two main causes of a current account deficit?
7. How might a government deal with a current account deficit?

8 Why might a current account surplus be detrimental to the country?

Revision checklist

- ✔ The balance of payments is a financial record of a country's transactions with the rest of the world, per time period. Over time, the balance of payments must balance.
- ✔ The current account is the largest component of the balance of payments.
- ✔ The current account is structured in four parts: trade in goods, trade in services, primary income and secondary income.
- ✔ The trade in goods records the balance of exports and imports of physical goods.
- ✔ The trade in services is a record of the exports and imports of services (intangible products).
- ✔ The balance of trade is the sum of the trade in goods plus the trade in services — that is, visible balance + invisible balance.
- ✔ Primary income (also known as investment income) is a record of a country's net income earned from investments abroad.
- ✔ Secondary income is the final section of the current account, which records net income transfers between residents and non-residents of a country.
- ✔ The two key causes of current account deficits are lower demand for exports and higher demand for imports.
- ✔ Consequences of current account deficits include: reduced demand in the economy, unemployment, lower standards of living, increased borrowing and a lower exchange rate.
- ✔ The two key causes of current account surpluses are higher demand for exports and lower demand for imports.
- ✔ Consequences of current account surpluses include: more employment, improved standards of living, inflationary pressures and a higher exchange rate.
- ✔ There are four main macroeconomic policies that can be used to improve the current account: fiscal policy, monetary policy, supply-side policies and trade protection measures.

Additional exam-style questions

1 Read the source material carefully before answering Question 1.

Brazil experienced economic growth between 2003 and 2014, which lifted 29 million people out of poverty, and it is now the eighth largest economy in the world. Brazil entered a recession in 2015 which continued into 2016 when it experienced negative economic growth of –3.8% and –3.6% respectively. Causes of the recession included a fall in the global price of commodities and a political crisis that reduced confidence in the Brazilian economy for consumers, firms and foreign investors.

Despite poverty reduction in recent years, Brazil remains one of the most unequal societies in the world and has very high rates of relative poverty. The richest 1% of the population earn 47% of the income and the poorest 10% earn only 12% of the total income.

In August 2016, Brazil hosted the Olympic Games, which attracted many visitors to the country. The Games cost the Brazilian government a significant amount of money, estimated to be US$13.1 billion, yet the government was finding it difficult to pay public sector workers including teachers, doctors and nurses.

Brazil is the world's largest producer of coffee. It produces over 40% of the world's coffee and over 5 million people are employed in the coffee industry. In July 2017, Brazil reported it lowest quantity of coffee exports for ten years. Possible reasons for low exports were damaged beans due to the coffee bean borer beetle infestation and low coffee prices, making farmers reluctant to sell their goods. Brazil is also the largest producer of oranges, sugarcane and tobacco. It also has natural resources of iron ore, zinc, gold and tin.

Table 1

Age structure of Brazil's population 2016 (CIA Fact Book)	
0–14 years	22.33%
15–24 years	16.36%

25–54 years	43.86%
55–64 years	9.12%
65 years and over	8.33%

The fertility rate is 1.75 children per woman (July 2017 estimate). It has decreasing birth rates and Brazil's age structure suggests that from 2025 it will have an ageing population and a higher dependency ratio. A public pension scheme for all has reduced poverty amongst the elderly in Brazil.

Answer all parts of Question 1. Refer to source material in your answers.

a Using Table 1, calculate the percentage of the population that is dependent on the working population (the dependency ratio).

[1]

b Identify two possible reasons why 29 million people were lifted out of poverty in Brazil between 2003 and 2014.

[2]

C Explain what is meant by relative poverty.

[2]

d Analyse the impact of the Olympic Games on the Brazilian economy.

[4]

e Explain two reasons why Brazil has an unequal distribution of income.

[4]

f Analyse possible reasons why coffee exports were low in July 2017.

[5]

g Discuss whether or not an ageing population will be bad for Brazil's economy.

[6]

h Discuss whether Brazil should become less specialised as an economy to promote economic growth.

[6]

2 Read the source material carefully before answering Question 2.

Hong Kong is a Special Administrative Region of China. It functions as a free market economy and is able to make its own decisions on trade and economic policies under the 'one country, two systems' formula of China. In 2017, economic growth was 3.6%, unemployment 3% and inflation 1.5%. It had a budget surplus of US$11.82 billion (HK$92.4 billion) and has fiscal reserves of US$119.7 billion (HK$935.7 billion). The standard rate of income and corporation tax is 15%.

In November 2017, the Hong Kong SAR government issued a report which revealed that in 2016 20% of the population (1.35 million people out of 7.35 million people) lived below the official poverty line. Poverty in Hong Kong is defined as earning less than half the median income per household size.

Table 1

Number of people in household	**Half median income per month (US$)**
1	512 (HK$4000)
2	1151 (HK$9000)
3	1918 (HK$15000)

The Hong Kong dollar is pegged to the US dollar and the Hong Kong Monetary Authority (which acts as the central bank) maintains the Hong Kong dollar peg on a daily basis. The stability of Hong Kong's currency has contributed to its economic success.

The hourly minimum wage is HK$34.50 (US$4.43). The rate is reviewed every 2 years. Some argue that Hong Kong's minimum wage is too low for workers to maintain a decent standard of living.

Table 2

Country	**Average minimum hourly wage (US$)**

Hong Kong SAR	4.43 (HKD 34.50)
Australia	14.01 (AUD 18.29)
France	11.55 (Euros 9.76)
USA	7.25
UK	9.45 (GBP 7.05)

Hong Kong employs over 350,000 foreign domestic workers, who work in people's homes looking after children and the elderly, cooking and cleaning. These workers live with their employers and get paid a wage agreed by the government. The majority of these workers come from the Philippines and Indonesia, with a smaller number from Thailand and Sri Lanka. Every month they send a proportion of their income back to their home countries.

Table 3 (source UNDP data and CIA Fact Book)

Country	HDI	Life expectancy (years)	Mean years of schooling	(US$) Real GDP per capita (PPP)
Philippines	0.682	68.3	9.3	7,700
Indonesia	0.689	69.1	7.9	11,700
Thailand	0.740	74.6	7.9	16,900
Sri Lanka	0.766	75.0	10.9	12,300
Hong Kong	0.917	84.2	11.6	58,300

Answer all parts of Question 2. Refer to the source material in your answers.

a With reference to Table 1, calculate the exchange rate of the Hong Kong dollar to the US dollar.

[1]

b Identify two functions of a central bank.

[2]

c With reference to Table 2, identify two possible reasons why minimum wages are lower in Hong Kong than in France, Australia, USA and the UK.

[2]

d Analyse the advantages of using HDI as a measure of living standards as compared to real GDP.

[4]

e Explain two reasons why people move to Hong Kong from the Philippines or Indonesia to work as foreign domestic workers.

[4]

f Analyse the advantages and disadvantages of a fixed exchange rate system for the Hong Kong economy.

[5]

g Discuss whether or not a minimum wage always causes unemployment in an economy.

[6]

h Discuss the policies that can be used to alleviate poverty and redistribute income in Hong Kong.

[6]

3 The price of butter in the UK soared by as much as 53% during 2017 due to dairy shortages and increased demand from customers. Higher demand was fuelled by popular cooking shows on television and reports that butter is not a 'bad' food. Shortages in supply mean there is not enough milk, cream and butter to meet the demand of customers. As a result, manufacturers of butter-heavy food products are forced to raise their prices.

a Define the term *demand*.

[2]

b Explain two factors that affect the supply of butter.

[4]

c Analyse, using an appropriate diagram, the effect of a subsidy on the output and price of butter.

[6]

d Discuss whether it is possible to apply the concepts of opportunity cost and social benefits to the trade in butter.

[8]

4 In 2018, China introduced an import ban on plastic waste, in an attempt to reduce the millions of tons of plastic waste it receives each year. China is the world's largest importer of global plastic scrap, and purchases these from the USA, Hong Kong, Europe, Japan, and Southeast Asia. Plastic waste and the plastic pollution problem are external costs of economic activity, particularly harming the oceans and marine life.

a Define the term *external costs*.

[2]

b Explain why plastic waste is a consequence of market failure.

[4]

c Analyse the relationship between a country's level of economic activity and its standard of living.

[6]

d Discuss whether or not governments should use taxes to deal with the problem of market failure.

[8]

5 In 2017, economic growth in the USA grew faster than initially expected. The 3.3% increase in the country's gross domestic product (GDP) led to an increase in interest rates. Consumer confidence soared to a 17-year high, with the government announcing that the corporate tax rate would be cut from 35% to 20%. Most economists expect the tax changes would help the economy to grow by between 2% to 2.5% per year in the long run.

a Define the term *economic growth*.

[2]

b Explain two reasons why the USA may have experienced higher than expected economic growth.

[4]

c Analyse how higher than expected rate of economic growth may increase a country's inflation rates.

[6]

d Discuss whether or not a government should use fiscal policy to achieve economic growth.

[8]

6 The unemployment rate in Spain averaged 16.56% between 1976 and 2017. The highest rate was 26.94% in 2013, following the consequences of the global financial crisis in 2008. However, critics were concerned with the quality of the jobs created, with around one in three new jobs being on a temporary contract basis. Indeed, the International Monetary Fund (IMF) recommended that Spain address these perilous practices, especially as they are a major source of poverty. Nevertheless, Spain was able to increase it real GDP by 3.2%. Spain's lowest unemployment rate on record was 4.41%, back in 1976.

a Define the term *unemployment*.

[2]

b Explain why governments aim to reduce the level of unemployment in the economy.

[4]

c Analyse how fiscal policy measures can be used to increase the level of real GDP.

[6]

d Discuss whether or not a country should use supply-side policies to achieve economic growth.

[8]

Glossary

Absolute poverty exists when there is extreme outright poverty, i.e. income equal to or less than $1.25 per day.

Appreciation of a currency occurs when there is an increase in its value relative to another currency operating in a floating exchange rate system.

Average fixed cost refers to a firm's fixed cost per unit of output.

Average total cost is the cost per unit of output, i.e. the total cost of making one product.

Average variable cost refers to the variable cost per unit of output.

Balance of payments is a financial record of a country's transactions with the rest of the world for a given time period, usually one year.

Barriers to entry are the obstacles that prevent firms from entering a market. Examples are the existence of intellectual property rights, large advertising budgets of existing firms and legal constraints to prevent wasteful competition.

Bartering is the act of swapping items in exchange for other items through a process of bargaining and negotiation, due to the absence of money in the economy.

Base year refers to the starting year when calculating a price index.

Basic economic problem is concerned with how best to allocate scarce resources in order to satisfy people's unlimited needs and wants.

Birth rate measures the number of live births per thousand of the population in a year.

Borrowing occurs when an individual, firm or the government takes out a loan, paying it back to the financial lender over a period of time, with interest payments.

Business cycle (or **trade cycle**) describes the fluctuations in the economic activity of a country over time, creating a long-term trend of economic growth in the economy.

Capital expenditure is money spent by on fixed assets (items owned by an individual or firm which last more than 12 months), such as computers, cars, furniture, buildings and equipment.

Capital-intensive industries are those in which the use and cost of capital is more prominent than that of any other factor of production, e.g. car manufacturing.

Central bank of a country is the monetary authority that oversees and manages the economy’s money supply and banking system.

Claimant count measures the number of people who are out of work and claiming unemployment benefits.

Collective bargaining is the process of trade union representatives negotiating on behalf of their worker members with employer representatives for better pay and conditions.

Commercial bank is a retail bank that provides financial services to its customers, e.g. savings, bank loans and mortgages.

Complements are products that are jointly demanded, e.g. tennis balls and tennis racquets.

Conglomerate merger occurs when two or more firms from unrelated areas of business integrate to create a new firm.

Consumer Price Index (CPI) is a weighted index of consumer prices in the economy over time. It is used to measure the cost of living for an average household.

Consumption is the value of all private household consumption within a country.

Contraction in demand means a fall in the quantity demanded for a product following an increase in its price.

Contraction in supply means a fall in the quantity supplied of a product following a fall in its price.

Corporate social responsibility (CSR) refers to the ethical approach taken by firms towards their stakeholders (such as employees and customers) and the environment (such as adopting green technologies).

Cost-push inflation is a cause of inflation, triggered by higher costs of production, thus forcing up prices.

Costs of production refer to a firm’s expenditure in the process of producing goods and/or providing services.

Current account is the largest component of the balance of payments. It records all exports and imports of goods and services between a country and its trading partners, plus net income transfers from abroad.

Current account deficit occurs when a country spends more money than it earns, i.e. imports exceed exports.

Current account surplus exists if a country exports more than it imports.

Current expenditure is money spent on goods and services consumed within the current year. Unlike capital expenditure, it is often recurrent, such as the spending on food, clothing, entertainment and haircuts.

Cyclical unemployment is unemployment caused by a lack of demand in the economy, which causes a fall in national income. It is a severe type of unemployment as it can affect every industry in the economy.

Death rate measures the number of deaths per thousand of the population in a year.

Deflation is the sustained fall in the general price level in an economy over time, i.e. the inflation rate is negative.

Demand refers to the willingness *and* the ability of customers to pay a given price to buy a good or service. The higher the price of a product, the lower its demand tends to be.

Demand for labour is the number of workers that firms are willing and able to hire at a given wage rate.

Demand-pull inflation is a cause of inflation, triggered by higher levels of demand in the economy, thus driving up the general price level.

Demerger occurs when two previously merged firms decide to break up and become two separate firms.

Demerit goods are goods or services which when consumed cause negative spillover effects in an economy.

Demographics is the study of population distribution and trends.

Dependency ratio is a comparison of the number of people who are not in the labour force with the number of people in active paid employment.

Depreciation of a currency occurs when there is a fall in its value relative to another currency operating in a floating exchange rate system.

Derived demand means that labour (or any other factor of production) is not demanded for itself but for the goods and services it is used to produce.

Devaluation occurs when the price of a currency operating in a fixed exchange rate system is officially and deliberately lowered.

Diseconomies of scale occur when average costs of production start to increase as the size of a firm increases.

Disposable income is the amount of income a person has available to spend on goods and services after compulsory deductions such as income tax.

Division of labour refers to workers being expert in a particular production process.

Economic agents are households (private individuals in society), firms that operate in the private sector of an economy and the government (the public sector of an economy).

Economic development is an intangible concept that considers both quantitative and qualitative variables in raising the standard of living within a country.

Economic goods are those which are limited in supply.

Economic growth is the annual increase in the level of national output, i.e. the annual percentage change in gross domestic product.

Economies of scale are the cost-saving benefits of large-scale operations, which reduce average costs of production.

Embargo is a ban on trade with a certain country.

Employment refers to the use of factors of production in the economy, such as labour.

Equilibrium price is the price at which the demand curve for a product intersects the supply curve for the product. The market is therefore cleared of any excess demand or supply.

Excess demand refers to a situation where the market price is below the equilibrium price, thus creating a shortage in the market.

Excess supply refers to a situation where the market price is above the equilibrium price, thus creating a surplus in the market.

Exchange rate refers to the price of one currency measured in terms of other currencies.

Extension in demand means an increase in the quantity demanded for a product following a fall in its price.

Extension in supply means an increase in the quantity supplied of a product following an increase in its price.

External benefits are the positive side-effects of production or consumption experienced by third parties for which no money is paid by the beneficiary.

External costs are the negative side-effects of production or consumption incurred by third parties for which no compensation is paid.

External economies of scale are economies of scale that arise from factors outside of the firm, e.g. the location of the firm, proximity to transport, and the availability of skilled workers.

Factors of production refer to the resources required to produce a good or service, namely land, labour, capital and enterprise.

Female participation rate measures the proportion of women who are active in the labour force. As an economy grows and develops, there tends to be a higher female participation rate.

Fertility rate measures the average number of births per woman. It is used as a component to measure population growth.

Fiscal policy is the use of taxes and government spending to affect macroeconomic objectives such as economic growth and employment.

Fixed costs are costs that a firm has to pay irrespective of how much it produces or sells.

Fixed exchange rate system exists when the central bank (or monetary authority) buys and sells foreign currencies to ensure the value of its currency stays at the pegged value.

Floating exchange rate system means that the currency is allowed to fluctuate against other currencies according to market forces, without any government intervention.

Foreign exchange market is the marketplace where different currencies can be bought and sold.

Formal sector employment refers to officially recorded employment, where workers pay income taxes and contribute to the country's official GDP.

Franchise involves a person or business buying a licence to trade using another firm's name, logos, brands and trademarks.

Free goods are goods which are unlimited in supply, such as air and seawater. Hence, there is no opportunity cost in terms of their output.

Free trade means that international trade takes place without protectionist measures (barriers to international trade).

Frictional unemployment is transitional unemployment which occurs when people change jobs or are in-between jobs.

Full employment means that everyone in a country who is willing and able to work has a job.

GDP per head measures the average value of annual GDP per capita (person).

Geographical mobility refers to the extent to which labour is willing and able to move to different locations for employment purposes.

Globalisation is the process by which the world's economies become increasingly interdependent and interconnected.

Goods are physical items such as tables, cars, toothpaste and pencils.

Government budget refers to its financial plans in terms of planned revenues (mainly tax revenues) and expenditure (such as healthcare, education and welfare payments).

Gross domestic product measures the monetary value of goods and services produced within a country for a given period of time, usually one year.

Horizontal merger occurs when two or more firms in the same economic sector of industry integrate.

Human Development Index is the United Nations' composite indicator of living standards in a country, comprising three dimensions of human development: education, healthcare and income.

Hyperinflation refers to very high rates of inflation that are out of control, causing average prices in the economy to rise very rapidly.

Imported inflation is a cause of inflation triggered by higher import prices, forcing up costs of production and thus causing domestic inflation.

Import quota is a quantitative limit on the sale of a foreign good.

Industrial action refers to measures taken by trade union members as a result of major disagreements or disputes with their employers, e.g. strike action.

Inflation is the sustained rise in the general level of prices of goods and services over time, as measured by a consumer price index.

Innovation is the commercialisation of new ideas and products. It is a vital source of productivity.

Interdependence means that the three sectors of industry depend on each other, and cannot operate independently to produce goods and services.

Internal economies of scale are economies of scale that arise from the internal organisation of the business, e.g. financial, bulk-buying and technical economies of scale.

International specialisation occurs when countries concentrate on the production of certain goods or services due to cost advantages, perhaps due to their abundance of resources.

International trade refers to the exchange of goods and services beyond national borders.

Investment expenditure is the sum of capital spending by all businesses within a country.

Labour force survey uses the ILO's standardised household-based survey to collect work-related statistics.

Labour-intensive industries are those in which the cost of labour is proportionately higher than the cost of other factors of production, e.g. accountancy, real estate services and tourism.

Macroeconomics is the study of economic behaviour and decision making in the whole economy, rather than individual markets.

Market demand is the sum of all individual demand for a particular product.

Market disequilibrium exists if the price for a product is too high (resulting in excess supply, or a surplus) or too low (resulting in excess demand, or a shortage).

Market equilibrium exists when the demand for a product matches the supply, so there is no excess demand (shortage) or excess supply (surplus).

Market failure occurs when the market forces of demand and supply are unsuccessful in allocating resources efficiently and cause external costs or external benefits.

Market structure refers to the key characteristics of a particular market (or industry), such as the number and size of firms in the market, the degree and intensity of price and non-price competition, and the nature of barriers to entry.

Market system refers to the method of allocating scarce resources through the market forces of demand and supply.

Maximum price occurs when the government sets a price *below* the market equilibrium price in order to encourage consumption.

Merger occurs when two or more firms join together to form just one firm.

Merit goods are goods or services which when consumed create positive spillover effects in an economy.

Microeconomics is the study of particular markets and sections of the economy, rather than the economy as a whole.

Minimum price occurs when the government sets a price above the market equilibrium price in order to encourage output of a certain good or service.

Monetary policy refers to the use of interest rates, exchange rates and the money supply to control macroeconomic objectives and to affect the level of economic activity.

Money is any commodity that can be used as a medium of exchange for the purchase of goods and services, e.g. banknotes and coins.

Money supply refers to the amount of money in the economy at a particular point in time, e.g. coins, banknotes, bank deposits and central bank reserves.

Monopoly is a market structure where there is only one supplier of a good or service, with the power to affect market supply and prices.

Multinational corporation is an organisation that operates in two or more countries.

Nationalisation is the purchase of private sector assets by the government.

National minimum wage is the lowest legal amount any firm can pay its workers and is set by the government.

Needs are goods and services that are essential for survival.

Net exports refers to the monetary value of the difference between a nation's export earnings and its import expenditure.

Net migration rate measures the difference between immigration and emigration rates for a country, thus indicating the physical movement of people into and out of a country.

Nominal gross domestic product (nominal GDP) measures the monetary value of goods and services produced within a country during a given period of time, usually one year.

Occupational mobility refers to the extent to which labour is able to move between jobs. Retraining and upskilling help workers to improve occupational mobility.

Opportunity cost is the cost of the next best opportunity forgone when making a decision.

Optimum population exists when the output of goods and services per head of the population is maximised.

Overspecialisation occurs when an individual, firm, region or country concentrates too much on producing a very limited number of goods and services. This exposes the economic agent to a far higher degree of risk.

Population refers to the total number of inhabitants of a particular country.

Population distribution refers to the composition and structure of a country's population.

Population growth refers to the rate of change in the size of a country's population.

Population pyramids are a graphical representation of the age and gender distribution of a country's population.

Poverty is a condition that exists when people lack adequate income and wealth to sustain a basic standard of living.

***PPC* diagram** is a graphical representation of the maximum combination of the amounts of goods and services that can be produced in an economy, per period of time.

Price discrimination occurs when firms charge different customers different prices for essentially the same product due to differences in PED.

Price elastic demand describes demand for a product that is responsive to changes in price, usually due to substitutes being available.

Price elasticity of demand (PED) measures the extent to which demand for a product changes due to a change in its price.

Price elasticity of supply (PES) measures the degree of responsiveness of the quantity supplied of a product following a change in its price.

Price inelastic demand describes demand for a product that is unresponsive to changes in price, mainly because of the lack of substitutes for the product.

Price makers are firms that set their own price as they have the market power to do so, rather than having to base their price on the equilibrium price determined by the forces of demand and supply.

Price mechanism refers to the system of relying on the market forces of demand and supply to allocate resources.

Price takers are firms that set their price according to the market price, rather than determining their own prices.

Private benefits are the benefits of production and consumption enjoyed by a firm, individual or government.

Private costs of production and consumption are the actual costs of a firm, individual or government.

Private sector refers to economic activity of private individuals and firms. The private sector's main aim is to earn profit for its owners.

Privatisation is the transfer of the ownership of assets from the public sector to the private sector.

Production refers to the total output of goods and services in the production process.

Production possibility curve (*PPC*) represents the maximum combination of goods and services which can be produced in an economy, i.e. the productive capacity of the economy.

Productivity is a measure of efficiency found by calculating the amount of output per unit of a factor input, e.g. output per worker or output per machine hour.

Profit is the difference between a firm's total revenues and its total costs. It is calculated using the formula: $TR - TC$.

Protection refers to the use of trade barriers to restrain foreign trade, thereby limiting overseas competition.

Public goods are goods and services that are non-excludable and non-rivalrous, and which are a cause of market failure as there is a lack of a profit motive to produce them.

Public sector refers to economic activity directly involving the government, such as the provision of state education and healthcare services. The public sector's main aim is to provide a service.

Real GDP refers to the value of national income (GDP) adjusted for inflation to reflect the true value of goods and services produced in a given year.

Recession occurs in the business cycle when there is a fall in GDP for two consecutive quarters.

Redistribution of income refers to the macroeconomic aim of achieving greater equality in the distribution of income in an economy.

Relative poverty is a comparative measure of poverty, referring to those who have a lower standard of living in comparison to the average member of society.

Replacement fertility rate is the number of children that the average woman must have to maintain a stable population size.

Revaluation occurs when the price of a currency operating in a fixed exchange rate system is officially and deliberately increased.

Sales revenue (or **total revenue**) is the sum of money received from the sale of a good or service. It is calculated by the formula: $P \times Q$.

Saving occurs when a person puts away part of their current income for future spending.

Services are non-physical items such as haircuts, bus journeys, telephone calls and internet access.

Shortage occurs when demand exceeds supply because the price is lower than the market equilibrium.

Social benefits are the true (or full) benefits of consumption or production, i.e. the sum of private benefits and external benefits.

Social costs are the true (or full) costs of consumption or production to society as a whole, i.e. the sum of private costs and external costs.

Specialisation of labour refers to workers being expert in a particular profession.

Standard of living refers to the social and economic wellbeing of individuals in a country at a particular point in time.

Stocks (or **inventories**) are the raw materials, components and finished goods (ready for sale) used in the production process.

Structural unemployment occurs when the demand for products produced in a particular industry continually falls, often due to foreign competition.

Subsidy is a form of government financial assistance to help cut production costs of domestic firms, enabling them to compete against foreign producers.

Substitutes are goods or services that can be used instead of each other, e.g. tea or coffee.

Supply is the ability and willingness of firms to provide goods and services at given price levels.

Supply of labour refers to everyone in an economy who is of working age and is both willing and able to work at different wage rates.

Supply-side policies are long-term measures to increase the productive capacity of the economy, leading to an outward shift of the production possibility curve.

Surplus is created when supply exceeds demand because the price is higher than the market equilibrium price.

Takeover occurs when a firm is taken over by another firm. A takeover may be hostile or the two firms might have agreed to the takeover.

Tariff is a tax on imports, which increases production costs for foreign firms.

Tax is a government levy on income or expenditure.

Tax avoidance is the legal act of minimising payment of taxes, such as by avoiding spending on items with a large sales tax.

Tax evasion is the illegal act of not paying the correct amount of tax, perhaps due to a firm under-declaring its corporate profits.

Total cost is the sum of all fixed and variable costs of production.

Total revenue is the amount payable to a firm from the sale of its goods and services.

Trade union is an organisation which aims to protect the interests of its worker members, i.e. their terms and conditions of employment, including pay.

Trading bloc is a free trade area which also promotes the free movement of factors of production between member countries.

Unemployment occurs when people of working age are both willing and able to work but cannot find employment.

Unemployment rate is a measure of the percentage of a country's workforce that is out of employment.

Unitary price elasticity occurs when the percentage change in the quantity demanded (or supplied) is proportional to the change in the price, so there is no change in the sales revenue.

Variable costs are those that change as the level of output changes. The higher the level of production, the greater the total variable costs will be.

Vertical merger occurs when integration takes place between two firms from different economic sectors of industry.

Wage–price spiral occurs when trade unions negotiate higher wages to keep income in line with inflation but this simply causes more inflation as firms raise prices to maintain their profit margins.

Wants are goods and services that are not necessary for survival but are demanded by economic agents to fulfil their desires.

Working population refers to the active labour force aged 15–65, i.e. those who are willing and able to work. This consists of those in paid employment, the self-employed and the unemployed.

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