

# 1 THE ECONOMIC PROBLEM

## LEARNING OBJECTIVES

- Understand the problem of scarcity
- Understand opportunity cost
- Understand production possibility curves
- Understand causes of positive and negative economic growth

## GETTING STARTED

### SUBJECT VOCABULARY

**goods** things that are produced in order to be sold

The planet we live on contains many resources that are used to produce **goods** we like to consume. However, there is a problem. Look at the images below.

## CASE STUDY: RESOURCES AND NEEDS



▲ Figure 1.1 Valuable resources



▲ Figure 1.2 Needs

- 1 Describe the resources shown in Figure 1.1.
- 2 Are there enough of these resources in the world? Explain your answer with reference to the images in Figure 1.2.
- 3 In groups, discuss whether your country has enough resources. Draw up a list of measures that your government might take to increase the quantity of resources available. Present your ideas to the rest of the class.

**THE PROBLEM OF SCARCITY****SUBJECT VOCABULARY**

**finite** having an end or a limit

**GENERAL VOCABULARY**

**fertile soil** ground that is capable of producing crops

**GENERAL VOCABULARY**

**health care** activity of looking after people's health, considered to be an industry

**needs** basic requirements for human survival

**wants** people's desires for goods and services

**SUBJECT VOCABULARY**

**infinite** without limits

**FINITE RESOURCES**

All countries have resources, such as water, minerals, soil, plants, animals and people. However, in any country there is a **finite** quantity of these resources, which means that the quantity available is limited. As there is only a limited quantity, economists say that resources are scarce. These resources are often referred to as the four factors of production: land, labour, capital and enterprise (see Chapter 14).

Resources are scarcer in some countries than others. For example, in some African countries there are serious shortages of **fertile soil** and water. This means that food production is inadequate. Even where resources exist, a country may not be capable of exploiting them. For example, Ethiopia struggles to produce enough food for its population because only about 4 per cent of its fertile land is irrigated. The problem is not a shortage of water but the failure to exploit some of its huge rivers, such as the Awash and the Blue Nile. The country does not have the financial resources to invest in projects that would make use of the water for agriculture.

**UNLIMITED WANTS**

Economists distinguish between **needs** and **wants**. Needs are the basic requirements for human survival. Some of these needs are physical and include water, food, warmth, shelter and clothing. If these needs cannot be satisfied, eventually humans would cease to exist. In some countries in the world people do die because such needs cannot be met.

In addition to basic needs, humans also have other desires. These are called wants and may include more holidays abroad, a better house, more meals out, a bigger car, new golf clubs, a better education, improved **health care** and a cleaner environment. These wants are unlimited or **infinite**. People always want more whatever their current circumstances; it is human nature. The problem is made worse because many of the things that people want have to be replaced. Consumers regularly replace cars, computers, shoes, clothes and furniture, for example, either because they are no longer functional, or because better or more fashionable versions have become available.

**ACTIVITY 1****CASE STUDY: NEED AND WANTS**

▲ Figure 1.3 Different eating arrangements

- 1 How might the two images in Figure 1.3 illustrate the differences between needs and wants?
- 2 Why are resources finite?

## THE ECONOMIC PROBLEM

### SUBJECT VOCABULARY

**basic economic problem** allocation of a nation's scarce resources between competing uses that represent infinite wants

**scarce resources** amount of resources available when supply is limited

### GENERAL VOCABULARY

**allocate** to decide officially that a particular amount of money, time, etc. should be used for a particular purpose

### KEY FACTS

In China, many clothes manufacturers use large quantities of labour in production. However, in many Western countries the same goods may be produced using high-tech machinery.

### GENERAL VOCABULARY

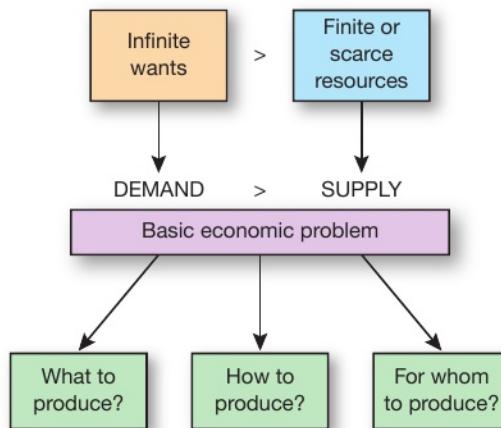
**distribution** act of sharing things among a large group of people in a planned way

### OPPORTUNITY COST

### GENERAL VOCABULARY

**choices** deciding between alternative uses of scarce resources

All countries have to deal with what economists call the **basic economic problem**. The problem, summarised in Figure 1.4, occurs because the world's resources are scarce or finite and people's wants are infinite. Demand for resources is greater than their supply. As a result, decisions have to be made about how to **allocate** a nation's **scarce resources** between different uses. This is what the study of economics is all about.



▲ Figure 1.4 The basic economic problem

To overcome the basic economic problem, important decisions have to be made.

- **What to produce?** Because it is impossible to produce all the goods that people want, a country must decide which goods will be produced. For example, should resources be used to provide more libraries, build more schools, expand the armed forces, make more cars, build more houses, construct more roads, make more toys, print more books, increase state pensions or train more doctors?
- **How to produce?** Goods can be produced using a variety of different production methods. The four factors of production can be organised in different ways to produce the same goods.
- **For whom to produce?** Once goods have been produced, there has to be a method of **distribution**. This means that the goods have to be shared in some way between members of the population. For example, should everyone get exactly the same quantities or should some receive more than others?

There are different solutions to the basic economic problem. This is because different courses of action can be taken when making the decisions outlined above. The way in which they are made depends on what sort of economic system a country has. This is explained in Chapter 11.

Whichever approach is used to solve the basic economic problem, all decision makers are faced with **choices**. Resources often have a number of alternative uses; as a result people have to make a choice about which way to use them. Individuals, producers and governments face this choice.

- Individuals have to choose how to spend their limited budgets. For example, a university student, after all living costs have been met, may have £50 left at the end of the week. This student would like to buy some new books (£20), get the train home for the weekend (£30), go out for a meal with

friends (£30), buy some new computer software (£20) or buy a new pair of designer jeans (£50). Clearly, a choice has to be made because all of these goods together would cost £150.

- Producers may have to choose between spending £100 000 on advertising, training its workforce or buying a new machine.
- A government may have to decide whether to spend £5000 million on increasing welfare benefits, building new hospitals, providing better care for the mentally ill or building a new motorway.

#### GENERAL VOCABULARY

**sacrifice** something valuable that you decide not to have, in order to get something that is more important

#### SUBJECT VOCABULARY

**opportunity cost** cost of the next best alternative given up (when making a choice)

When making such choices, individuals, firms and governments will face a cost once their choice has been made. This is called the **opportunity cost**. This cost arises because a **sacrifice** has to be made when making a choice. If the government in the example above can place its spending desires in order of preference, the opportunity cost can be identified. Once the government has chosen the best alternative, the opportunity cost will be the benefit lost from the next best alternative. Assume that the government's spending desires are placed in order of preference as below:

- 1 new motorway
- 2 new hospital
- 3 increase welfare benefit
- 4 improve care for the mentally ill.

In this example, the new motorway is the government's preferred choice. Therefore, the £5000 million will be allocated to this project. The opportunity cost in this case is the benefit lost from not building the new hospital, that is, the benefit lost from the next best alternative.

## ACTIVITY 2

### CASE STUDY : OPPORTUNITY COST

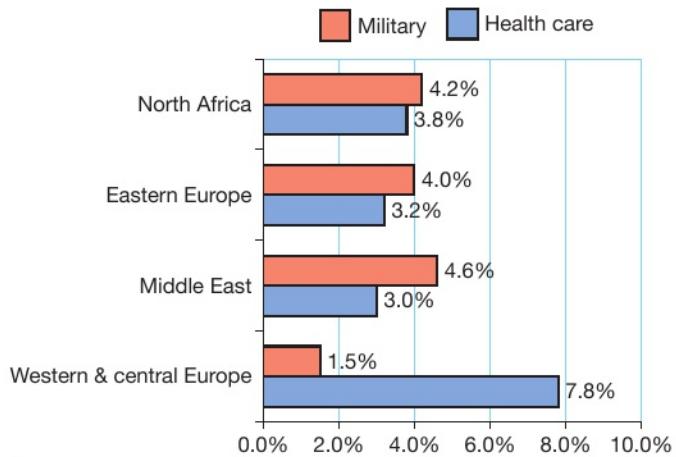
#### SUBJECT VOCABULARY

**expenditure** spending by a government, usually a national government

#### GENERAL VOCABULARY

**eliminate** to get rid of something unnecessary or unwanted

In 2015, according to the Stockholm International Peace Research Institute (SIPRI), the value of global military spending was US\$1 676 000 million. This was about 2.3 per cent of the world's gross domestic product (a measure of world income). This level of spending on military goods often attracts criticism about the possible opportunity costs it incurs. In some regions, more is spent on the military than on health care – Figure 1.5 identifies four of these regions. Figure 1.5 also shows that in western and central Europe spending on health care is far higher than that on military goods. Campaigners often say that government **expenditure** on the military is a waste of resources. They recommend spending at least some of this money on meeting human needs. For example, the Global Campaign on Military Spending called for a 10 per cent cut in worldwide military spending. It said the money saved should be used for development purposes. In support of this campaign, Kazakhstan's President Nursultan Nazarbayev said that all nations should give 1 per cent of their military spending to the United Nations Special Fund for Global Development. In 2015, the UN Food and Agriculture Organisation said that a redirection of just 13 per cent of the global military budget could **eliminate** extreme poverty and hunger.



▲ Figure 1.5 Spending on health care and military goods in a selection of regions (as a percentage of GDP)

- 1 Suggest one reason why spending on health care in western and central Europe is far higher than that on military goods, compared with the other regions shown.
- 2 What is meant by opportunity cost? Use this case as an example in your answer.

## PRODUCTION POSSIBILITY CURVES (PPCs)

### SUBJECT VOCABULARY

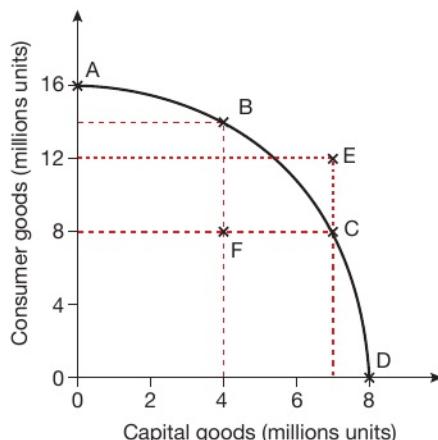
**capital goods** those purchased by firms and used to produce other goods such as factories machinery, tools and equipment

**consumer goods** those purchased by households such as food, confectionery, cars, tablets and furniture

**production possibility curve (PPC)** line that shows the different combinations of two goods an economy can produce if all resources are used up

Deciding which goods to produce and the concept of opportunity cost can be illustrated using **production possibility curves (PPCs)**. A PPC shows the different combinations of two goods that can be produced if all resources in a country are fully used. It shows the maximum quantities of goods that can be produced. A PPC for a country is shown in Figure 1.6. It is assumed that the country can produce **consumer goods** or **capital goods**. What does the PPC show?

- At point A, 16 million units of consumer goods are produced and zero capital goods.
- At point D, 8 million units of capital goods can be produced and zero consumer goods.
- At point B, a combination of 14 million units of consumer goods and 4 million units of capital goods can be produced.
- At point C, a combination of 8 million units of consumer goods and 7 million units of capital goods can be produced.
- At point F, a combination of 8 million units of consumer goods and 4 million units of capital goods can be produced. At this point, not all resources in the country are being used – there are unemployed resources. This is because point F is inside the PPC. A country should aim to push production so that it is on the PPC. At points A, B, C and D resources are fully employed.
- The combination of goods represented by point E is not possible. This is because it is outside the PPC. The country does not have the resources to produce 12 million units of consumer goods and 7 million units of capital goods.



▲ Figure 1.6 A production possibility curve for a country

### WHAT HAPPENS WHEN AN ECONOMY MOVES FROM ONE POINT ON THE PPC TO ANOTHER?

For example, what happens if the economy in Figure 1.6 moves from B to C? By moving along the PPC, an opportunity cost is incurred. At point B, 14 million units of consumer goods are being produced and 4 million units of capital goods. By moving to C, the production of capital goods rises to 7 million units but production of consumer goods falls to 8 million units. To gain another 3 million units of capital goods, 6 million units of consumer goods are being sacrificed. The lost production of consumer goods (6 million units) is the opportunity cost.

The choice between different combinations of consumer goods and capital goods is an important one for a country. If a country produces more capital goods, it will probably be able to produce more consumer goods in the future. This is because capital goods are used to produce consumer goods. However, by doing so there will be fewer consumer goods today and some people will have less in the short term.

### CAUSES OF POSITIVE AND NEGATIVE ECONOMIC GROWTH

#### SUBJECT VOCABULARY

**economic growth** increase in the level output by a nation

At a particular point in time, a country cannot produce combinations of goods that lie to the right of the PPC. However, over a long period of time, an economy would expect to raise the production of all goods. This is called **economic growth**. There are several reasons for this.

- **New technology:** As time passes, new technology is developed and this benefits businesses. For example, new machines such as robots, computers, telecommunications and the internet have been used by businesses to help increase productive potential. New technology is usually faster and more reliable in production and therefore more output can be produced.
- **Improved efficiency:** Over time, resources are used more efficiently. New production methods, such as kaizen (continuous improvement) and lean production (using fewer resources in production), for example, have been developed and adopted. These more efficient methods replace the old ones and more output can be produced with fewer resources.
- **Education and training:** An economy can boost the productive potential of a nation by educating and training the population. A country's economy becomes more productive as the **proportion** of educated workers increases. This is because educated workers can more efficiently carry out tasks that require reading and writing analysis, evaluation, communication and critical thinking. However, a country has to find the 'right' balance between academic and **vocational** education.

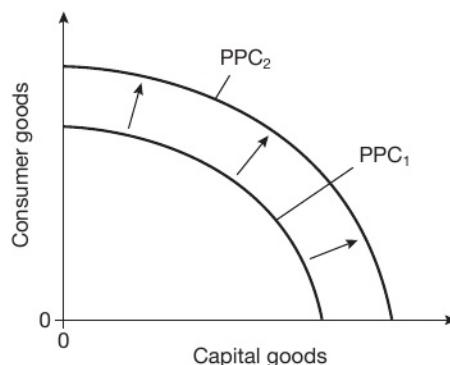
#### GENERAL VOCABULARY

**proportion** part of a number or an amount, considered in relation to the whole

**vocational** training that teaches you the skills you need to do a particular job

■ **New resources:** Some countries find new resources that enable them to produce more. For example, in recent years, the USA has raised its productive potential by producing more oil through fracking. Fracking involves shooting a mixture of mostly water and sand under high pressure against rock until it fractures or breaks. The sand fills the fracture, forcing oil out of the rock formation. Fracking now provides the USA with around 50 per cent of its oil needs. This is up from just 2 per cent in 2000.

If countries can produce more, the PPC will shift outwards. This is shown in Figure 1.7,  $PPC_1$  represents an original PPC, while  $PPC_2$  shows a new PPC resulting from improved efficiency, for example. Combinations of goods not previously possible can now be enjoyed. To generate economic growth in this way, a government needs to ensure that investment levels are adequate. Economic growth is discussed in more detail in Chapter 25.



▲ Figure 1.7 Effect of improved efficiency on the PPC

#### GENERAL VOCABULARY

**agricultural** practice or science of farming

Finally, it is possible for the PPC to shift inwards. This would represent negative economic growth, that is, where a country's productive potential actually falls. It may be caused by resource depletion: where a country runs out of a natural resource, such as oil or coal. The productive potential of a country can also be reduced by weather patterns. For example, dry weather might prevent some nations from meeting their **agricultural** production targets. Economic growth in a particular country might also be negative if large numbers of highly qualified, skilled and experienced workers moved overseas. This might happen if these workers could earn more money employed in another country. Wars, conflict and natural disasters might also result in negative economic growth.

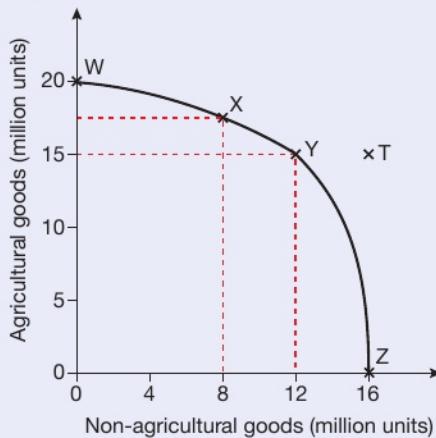
#### MULTIPLE-CHOICE QUESTIONS

- 1 Which of the following questions is associated with the basic economic problem?
  - A When to produce?
  - B Who should produce?
  - C What to produce?
  - D Where should production be located?
  
- 2 Which of the following might be considered a need rather than a want?
  - A Shelter
  - B Holiday
  - C Smartphone
  - D Pet dog

## ECONOMICS IN PRACTICE

## CASE STUDY: PRODUCTION POSSIBILITY CURVES

A country is able to produce agricultural and non-agricultural goods. It is currently at point X on the production possibility curve, as shown in Figure 1.8.



▲ Figure 1.8 PPC of a country producing agricultural and non-agricultural goods

## CHAPTER QUESTIONS

- 1 Describe what a production possibility curve is. Use this case as an example in your answer.
- 2 According to the PPC, the decision makers in this country must make what key choice?
- 3 Why is point T on the diagram currently unobtainable?
- 4 The country is considering a movement from X to Y. What will be the opportunity cost of such a movement?
- 5 Using a diagram, consider the effect that the discovery of fresh oil reserves might have on the PPC of this country.

# 2 ECONOMIC ASSUMPTIONS

## LEARNING OBJECTIVES

- Understand the underlying assumptions in economics
- Understand why consumers might not maximise their benefit
- Understand why producers may not maximise their profit

## SUBJECT VOCABULARY

**variables** something that affects a situation in a way that means you cannot be sure what will happen

## GENERAL VOCABULARY

**assumptions** things that you think are true although you have no definite proof

**irrational** not based on clear thought or reason

## GETTING STARTED

Economics is a social science that studies how individuals make decisions about the allocation of scarce resources. It often uses economic models to help predict the behaviour of **variables** (such as inflation, unemployment, consumer spending and wages) and to explain the cause of certain events. In using these models, economists are required to make some **assumptions** about the behaviour of individuals. Look at the example below.

## CASE STUDY: MAKING CHOICES

In general, economists assume that an individual behaves rationally when making a choice. This means that an individual will make a thoughtful and logical decision when choosing between different courses of action. For example, a young student, Anita, is given Rs5000 to spend on anything she chooses up to that value. She draws up a list of the things she would like to buy and places them in order of preference. The items, each of which cost Rs5000, are shown in Figure 2.1. Option A is her most preferred option and option D is her least preferred.



◀ A Meal out to treat her friends



◀ C A new outfit for a future wedding



◀ B Ticket for India v England at Rajkot



◀ D Flight to Mumbai to visit her brother

▲ Figure 2.1 Items that Anita would like to buy

- 1 Why it would be **irrational** for Anita to choose option C given the information above?
- 2 What is the opportunity cost of choosing option A?

## UNDERLYING ASSUMPTIONS IN ECONOMICS

### GENERAL VOCABULARY

**rational** based on clear thought or reason

When making economic decisions, individuals are usually faced with limitations. In 'Getting started' above, Anita could not buy all the things she wanted. She was limited by the amount of money she had available (Rs5000) and therefore had to choose one from four different options. However, to help her make the decision, she placed the four items of expenditure in order of preference. By doing this, she was able to select option A. This is **rational** because according to her list option A is the most preferred option, that is, the one that will give her the most satisfaction. Economists assume that individuals behave in a rational way. They make the following two assumptions in relation to rationality.

### 1 CONSUMERS AIM TO MAXIMISE BENEFIT

When making economic decisions, economists assume that consumers will always choose a course of action that gives them the greatest satisfaction. This will help them **maximise** benefit. In 'Getting started' above, Anita chose to spend her Rs5000 on the most preferred item in her list, that is, the meal out with her friends. This is a rational decision; economists assume that consumers will always do this. Two other examples of consumer rationality are outlined below.

- If a consumer is faced with buying exactly the same product from three different suppliers, the consumer will always buy from the supplier that offers the cheapest price. To pay more for a product than is necessary is irrational. For example, why would a consumer pay €1.14 for a litre of petrol at a filling station, when less than 500 metres away another is selling the same petrol for €1.09 per litre?
- If a consumer is faced with buying a product from three different suppliers at the same price, the consumer will buy the best quality product. To buy a product of lower quality would be irrational.

### 2 BUSINESSES AIM TO MAXIMISE THEIR PROFIT

When business owners make decisions, they will always choose a course of action that has the best financial results. This is because economists assume that business owners will want to make as much profit as possible. Owners are assumed to be rational when making financial decisions about their businesses. Two examples are outlined below.

- If a business owner can buy some raw materials from three different suppliers, the owner will always buy the cheapest available as long as the quality is the same. To pay more for raw materials than is necessary would be irrational.
- When setting a price for a product, a business owner will always choose the highest price that the market can stand. For example, if a business owner can sell a product for €5 in a market, that owner would not charge €4.50. This would be irrational. By charging the highest possible price, business owners will be maximising **revenue** and therefore maximising their profit. Economists assume that business owners will always do this.

### SUBJECT VOCABULARY

**revenue** money that a business receives over a period of time, especially from selling goods or services

### REASONS WHY CONSUMERS MAY NOT ALWAYS MAXIMISE THEIR BENEFIT

In some circumstances, a consumer may fail to maximise their benefit when making a choice. There are three possible reasons that help to explain this.

- It is possible that some consumers have difficulty in calculating the benefits from consuming a product. This is because measuring the satisfaction gained from consuming a product is often very difficult. It is hard to quantify (express in numbers) the satisfaction gained from consumption. For example, in 'Getting

started' above, how can Anita measure precisely the satisfaction gained from going out for a meal, going to the cricket match, buying a new outfit and visiting her brother? They are four very different acts of consumption. Anita has overcome the problem by placing the choices in order of preference. However, she may have overestimated or underestimated the possible satisfaction that any one of the four acts of consumption gives her. As a result, she may not have maximised her benefit when choosing the meal out.

- Some consumers develop buying habits that may affect their ability to make rational choices. For example, over a period of time some consumers stay loyal to a particular brand. Once they become used to a brand, they continue to buy it habitually. Even when other brands on the market offer better value, they maintain their loyalty. This seems irrational but such behaviour can be observed. For example, many people buy the same newspaper all of their lives. They may start by choosing a particular title and then carry on purchasing this paper out of habit. They may ignore new publications and other options continually. This behaviour is not uncommon. Businesses are aware of this behaviour and many try to develop brand loyalty through their marketing activities. If businesses can establish a strong brand and build up a loyal customer base, they can often charge higher prices.
- Another reason why some consumers do not maximise their benefit is because they are influenced by the behaviour of others. Young consumers may adopt some of the buying habits of their parents. For example, when young people leave home for the first time and make purchases that their parents once made, they may choose the same brands as their parents. This may be because they trust their parents or because they are familiar with the brands. It may not be because they prefer these brands to others. For example, it is reckoned that 59 per cent of people aged between 18 and 24 open their first bank accounts at the same bank as their parents. Also, some consumers are influenced by their friends or peers; they may copy their purchases in an effort to fit in or because they submit to pressure from their peers.

## ACTIVITY 1

### CASE STUDY: MAXIMISING CONSUMER BENEFIT

PandaCheck is a Chinese price comparison website. Like price comparison websites all over the world, they help consumers to find the cheapest deals when shopping online. The website is designed to help online shoppers find the best prices, search for current promotions, and learn some tips and tricks when ordering goods from China. For example, if you wanted to buy a battery for an ASUS laptop computer, you would type 'ASUS laptop battery' into the search engine and click on the search button. You would then see a list of the prices charged by all the Chinese online shops that stock the product. The user can change the order of the list but most people would probably want the list to show the cheapest suppliers at the top. Each listing gives a description of the product written by the supplier. This extra information may help consumers in their selection.

- 1 What is meant by a rational consumer?
- 2 How will PandaCheck help consumers to maximise their benefits?
- 3 Discuss one reason why a consumer may fail to maximise their benefits when making a purchase.

## REASONS WHY PRODUCERS MAY NOT ALWAYS MAXIMISE THEIR PROFIT

It is possible that some business owners may not maximise their profits. Three key reasons may explain this.

- The performance of some businesses may be influenced by the behaviour of other people in the organisation. In some businesses, not all decisions are made directly by the owners. Business owners sometimes **delegate** decision making to others who may have different objectives to those of the owners. For example, managers in the sales department of a business may try to maximise sales revenue. They may do this because their salaries are linked to sales levels (the more they sell, the more **commission** they get). However, maximising sales may not result in the maximisation of profit. This is because to sell larger and larger quantities the price will eventually have to be lowered. When the price is lowered, the profit made on each extra unit sold will fall (and may become negative).
- Some producers have alternative business objectives. Although profit may be important to them, other issues may also be important. Consequently, by focusing on other objectives, it may not be possible for the producer to maximise profits. For example, some businesses focus on customer care; they may try to exceed customer expectations by providing high-quality customer service. This may mean that they spend more money on training their staff in giving good customer service. As a result, the extra costs incurred in training will reduce profitability.
- Some commercial **enterprises** operate as charities. They are sometimes called not-for-profit organisations. They aim to raise awareness and money for a particular cause. For example, UNICEF is an international charity that provides **humanitarian** and developmental help to children and their mothers. It collects money from donations and operates a number of commercial activities to generate revenue. This money is used to fund its humanitarian and developmental activities. Economists cannot assume that such organisations seek to maximise their profits, since they have other aims.
- Also, an increasing minority of businesses are being set up as social enterprises. These are organisations that operate commercially but aim to maximise improvements in human or environmental well-being. For example, MitiMeth is a Nigerian social enterprise that aims to find solutions to ecological problems. For example, many of Nigeria's waterways are 'clogged-up' with destructive water hyacinth plants. MitiMeth uses these nuisance plants (after they have been dried out in the sun) to make handcrafted products such as baskets, tableware and even jewellery. The sale of these products generates revenue but one of the key aims of the business is to solve an ecological problem.

Finally, consumers will be prevented from maximising their benefits, and producers from maximising their profits if they do not have access to all the information available. For example, if a consumer does not know that a particular product can be purchased at a lower price in another location, that consumer will not be able to maximise benefit due to a lack of information. However, in recent years, access to the internet and developments in social media, mean that the flow of information around the world has increased. This helps both consumers and producers to maximise their benefits and profits.

### SUBJECT VOCABULARY

**enterprises** companies, organisations or businesses

### GENERAL VOCABULARY

**commission** amount of money paid to someone according to the value of goods, shares or bonds they have sold

**delegate** to give part of your power or work to someone else, usually someone in a lower position than you

**humanitarian** concerned with improving bad living conditions and preventing unfair treatment of people

## MULTIPLE-CHOICE QUESTIONS

- 1 Which of the following would help consumers and producers to maximise their benefits and profits, respectively?
- Lower prices
  - Access to more information
  - Improved transport networks
  - Better quality products
- 2 Which of the following is a reason why consumers may not maximise their benefits?
- Some consumers are very poor
  - Opportunity costs may be too high
  - Some consumers may develop buying habits that are hard to give up
  - Some consumers save a high proportion of their income

## ECONOMICS IN PRACTICE

## CASE STUDY: MAXIMISING PROFIT?

## ANNA'S SWIMWEAR

Anna Freeman runs a small company that manufactures swimwear. Most of her sales are made online to individual consumers. However, in 2015, she received an order for 3000 swimsuits from a **retailer** 100 kilometres away. She accepted the order and agreed to deliver the swimsuits herself. However, Anna needed to hire a van for 24 hours in order to make the delivery. She contacted three budget van hire companies and gathered the information shown in Table 2.1.

HIRE COMPANY	HIRE FEE (24 HOURS)	DISTANCE CHARGE	INSURANCE CHARGE	TOTAL
A	US\$40	5 cents per km	US\$12	
B	US\$59	Zero	zero	
C	US\$30	10 cents per km	US\$15	

▲ Table 2.1 Costs of hiring a van from three different van hire companies



▲ A self-drive hire van

## GENERAL VOCABULARY

**retailer** business that sells goods to members of the public, rather than to shops

### MÉDECINS SANS FRONTIÈRES (MSF)

Médecins Sans Frontières (Doctors Without Borders) is an international not-for-profit medical humanitarian organisation. It employs 36 000 staff across 65 different countries. Its aim is to save lives and reduce the human suffering of people who are in danger by delivering medical care. MSF provides assistance to:

- victims of natural or man-made disasters
- victims of armed conflict
- other groups of people in distress.

MSF helps all people regardless of their gender, race, religion or political beliefs. In 2016, MSF helped refugees in Europe escaping from war, persecution and poverty. In Yemen, MSF provided lifesaving care to people affected by conflict. MSF also had units in Syria, South Sudan, Central African Republic and Iraq.

In 2015, MSF raised £42.7 million from donations. Eighty-six per cent of this money was spent on its medical operations, 12 per cent on fundraising and just 2 per cent on **administration**.

#### SUBJECT VOCABULARY

**administration** activities involved with managing and organising the work of a company or organisation



▲ MSF medical staff at work

### CHAPTER QUESTIONS

- 1 Calculate the total cost to Anna of hiring a van for 24 hours from each van hire company shown in Table 2.1.
- 2 According to economists, which company would Anna select? Explain your answer.
- 3 Why might some of Anna's customers find it difficult to measure the benefit they get from buying a swimsuit?
- 4 Discuss why MSF does not aim to maximise profit. Give at least two reasons in your answer.

# 3 THE DEMAND CURVE

## LEARNING OBJECTIVES

- Understand how demand is defined
- Understand how changes in price cause movements along the demand curve
- Understand what causes the demand curve to shift

## GETTING STARTED

There is a strong link between the price charged for a good and the amount that people are willing to buy. Look at the example below.

## CASE STUDY: CARPET STALL

Aziz Feddal makes carpets and sells them from his market stall inside the Henna Souk in Fez, Morocco. Table 3.1 shows the number of carpets that customers would buy per week at different prices.

PRICE (MAD)	60	80	100	120	140	160	180
WEEKLY PURCHASES	70	60	50	40	30	20	10

▲ Table 3.1 The number of carpets customers would buy at different prices

- How many carpets would be bought at a price of MAD 100?
- What happens to the number of carpets bought as the price increases?
- What happens to the number of carpets bought when the price is lowered?



▲ Carpets on sale inside the Henna Souk, Fez, Morocco

**EFFECTIVE DEMAND**

Demand is the amount of a good that will be bought at given prices over a period of time. However, in economics it is **effective demand** that is really important. Effective demand shows how much *would* be bought (that is, how much people can afford to buy and would actually buy) at any given price. It does not mean how much people would like to buy if they had an endless amount of money.

**THE DEMAND CURVE**

Demand can be expressed graphically. This means that the relationship between price and demand can be shown on a graph. Consider the information in Table 3.2. This is a **demand schedule** and shows the demand for an electronic circuit board manufactured by a South Korean electronics company. The circuit boards are used in television production and sold worldwide.

**SUBJECT VOCABULARY**

**demand curve** line drawn on a graph that shows how much of a good will be bought at different prices

**demand schedule** table of the quantity demanded of a good at different price levels – can be used to calculate the expected quantity demanded

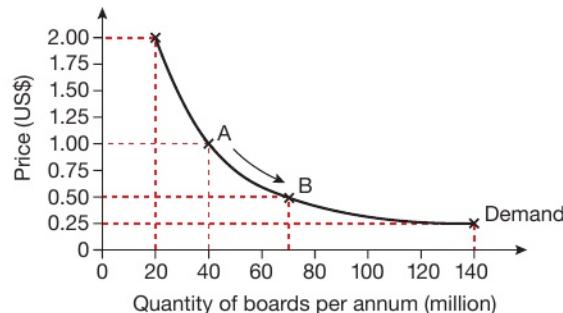
**effective demand** amount of a good people are willing to buy at given prices over a given period of time supported by the ability to pay

**inverse relationship** (between price and quantity demanded) when price goes up, the quantity demanded falls and when the price goes down the quantity demanded rises

PRICE (US\$)	0.25	0.50	1.00	2.00
QUANTITY OF BOARDS PER ANNUM (MILLION)	140	70	40	20

▲ Table 3.2 The demand for an electronic circuit board

The information in this schedule can be presented on a graph. This is shown in Figure 3.1. Price is shown on the vertical axis and the quantity demanded is shown on the horizontal axis. The amount sold at each price in the schedule is also shown. If these points are joined up with a smooth line, a **demand curve** is formed. A demand curve shows the quantity demanded at any given price. For example, in this case, when the price is US\$1 the quantity demanded is 40 million units.



▲ Figure 3.1 Demand curve for circuit boards sold by a South Korean company

The demand curve slopes down from left to right; for most goods this is always the shape of the demand curve. This is important because it shows that price and the quantity demanded have an **inverse relationship**. This means:

- when prices go up demand will fall
- when prices go down demand will rise.

For example, when the price of circuit boards falls from US\$1 to US\$0.50, the demand for circuit boards rises from 40 million to 70 million units.

**MOVEMENT ALONG THE DEMAND CURVE**

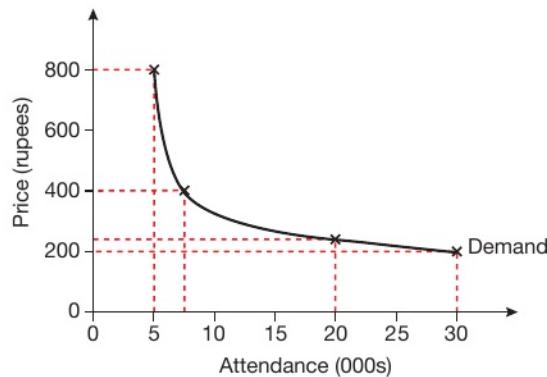
When there is a price change, there is a movement along the demand curve. In Figure 3.1, when the price falls from US\$1 to US\$0.50, we move along the demand curve from A to B to identify the new level of demand. The movement

along the demand curve in this case shows that the quantity demanded rises by 30 million units, from 40 million to 70 million units, when the price falls. This is important because other factors that influence demand, such as income, have a different effect on the demand curve. This is discussed below.

### ACTIVITY 1

#### CASE STUDY: DEMAND FOR CRICKET TICKETS

An Indian cricket stadium has a capacity of 30 000. Figure 3.2 shows the demand curve for tickets to attend international cricket matches at the stadium.



▲ Figure 3.2 Demand for tickets at an Indian cricket stadium

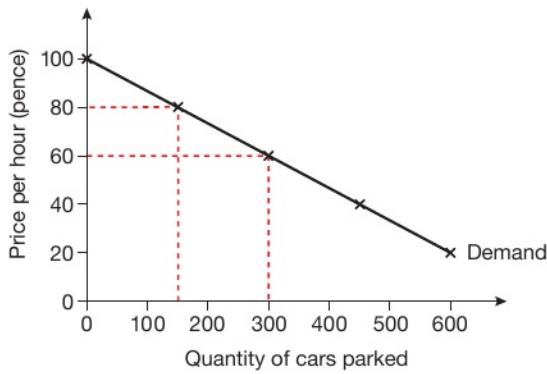


▲ An Indian cricket stadium

- 1 What will the attendance be if Rs400 is charged to attend a match?
- 2 What price must be charged to fill the stadium?

### STRAIGHT-LINE DEMAND CURVES

The demand curves shown in Figures 3.1 and 3.2 are both downward sloping curves. In economics, it is common to show demand using a straight-line demand curve. The reason for this is to simplify the drawing of demand curves and to make it easier to understand diagrams. Most demand curves are shown as straight lines, like the one in Figure 3.3. This demand curve shows the demand for car park spaces at a city-centre car park. It still shows the important inverse relationship that exists between price and the quantity demanded. For example, if the price to park for an hour rises from 60 pence to 80 pence, the number of cars parked falls from 300 to 150.



▲ Figure 3.3 Straight-line demand curve showing the demand for spaces at a city-centre car park

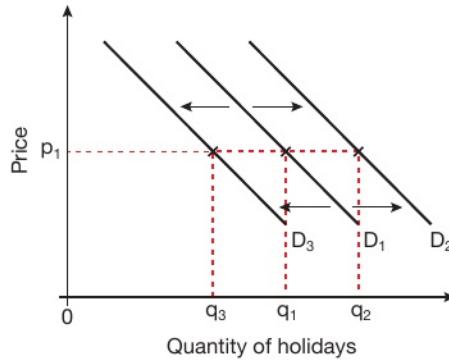
## A SHIFT IN THE DEMAND CURVE

### SUBJECT VOCABULARY

**shift in the demand curve** movement to the left or right of the entire demand curve when there is a change in any factor affecting demand except the price

If the price of a good changes, there is a movement along the demand curve. A change in any other factor, such as income for example, will be shown by a **shift in the demand curve**. The demand curve,  $D_1$ , shown in Figure 3.4, is for package holidays to the Maldives. At the price of  $p_1$  consumers are currently buying  $q_1$  holidays.

- If there is an increase in incomes, the quantity demanded will rise at every given price. As a result, the demand curve will shift to the right, to  $D_2$  shown in the diagram. At the price  $p_1$ , the number of holidays bought would rise from  $q_1$  to  $q_2$ .
- If there is a decrease in incomes, the quantity demanded will fall at every given price. This will cause the demand curve to shift to the left, to  $D_3$  shown in the diagram. At the price  $p_1$ , the number of holidays bought would fall from  $q_1$  to  $q_3$ .



▲ Figure 3.4 Shift in the demand curve for holidays to the Maldives

The factors that are likely to cause the demand curve to shift (as shown above) are discussed in detail in Chapter 4 (see pages 23–29).

## MULTIPLE-CHOICE QUESTIONS

- 1 Which of the following statements is true about a demand curve?
- When the price falls, the quantity demanded falls
  - There is a proportionate relationship between price and the quantity demanded
  - It slopes up from left to right
  - When there is a price change, there is a movement along the demand curve

- 2 Which of the following will cause a demand curve to shift to the left?
- A fall in the price of a product
  - A rise in income (for example)
  - A rise in the price of a product
  - A fall in income (for example)

## ECONOMICS IN PRACTICE

## CASE STUDY: AL'S BIG BURGER

Alan Buschwacker makes a living by selling burgers from a van. He parks his van at busy locations in Seattle, Washington, USA, and sells 'gigantic' burgers, which have become his trade mark in the area. Most of the time his wife assists him. Details of weekly demand for Al's burgers are shown in Table 3.3.

PRICE (US\$)	0.5	1	1.5	2	2.5	3	3.5	4
WEEKLY DEMAND	1600	1400	1200	1000	800	600	400	200

▲ Table 3.3 The demand schedule for Al's Big Burgers



▲ Al's burger van

## CHAPTER QUESTIONS

- 1 Describe what effective demand is.
- 2 Draw a demand curve using the information in Table 3.3.
- 3 Al currently charges US\$3 for his giant burgers. How many burgers would he expect to sell at this price?
- 4 If Al wanted to sell 1400 burgers, what price would he have to charge?
- 5 Describe what the inverse relationship between the price and the quantity demanded for a product is. Use this case as an example in your answer.

# 4 FACTORS THAT MAY SHIFT THE DEMAND CURVE

## LEARNING OBJECTIVE

- Understand the factors that cause a shift in the demand curve: advertising, income, fashion and tastes, price of substitutes, price of complements and demographic changes

## GETTING STARTED

Chapter 3 showed that demand for a product is influenced by the price charged. Generally, if the price of a product is increased, the quantity demanded will fall. However, a number of other factors could affect the demand for goods. These can shift the demand curve. Look at the example below.

## CASE STUDY: HOLIDAY TREAT

Jacob Atudo works for a big oil company in Kenya. In 2016, he was promoted and received a 20 per cent pay increase. He decided to spend some of his extra pay on a treat for him and his wife. He had seen a television advert recently placed by a travel company; the advert offered discounts on holidays to the Seychelles. He knew that his wife would enjoy a trip abroad so went ahead and booked the holiday.

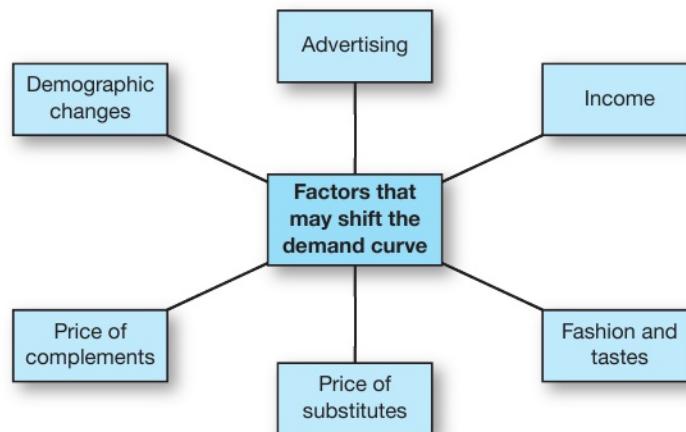


▲ A luxury villa in the Seychelles

- In addition to the price, what two factors might affect the quantity demanded for holidays in the Seychelles?
- What would you expect to happen to the quantity demanded for holidays in the Seychelles during a recession? Explain your answer.
- In pairs, choose any two products that you or your family regularly buy. Make a list of the things that might influence demand for these two products. Present your ideas to the rest of the class.

## FACTORS THAT MAY SHIFT THE DEMAND CURVE

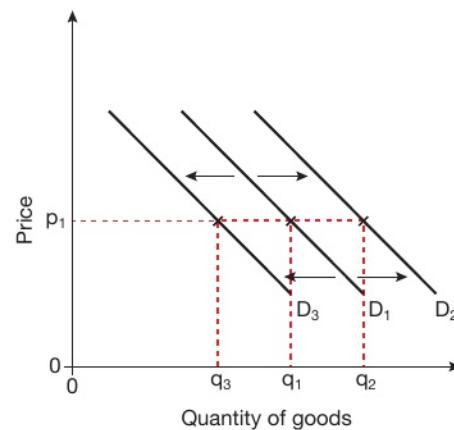
Price is the main factor that affects the quantity demanded. However, there are many other factors and each of them may actually shift the demand curve. Some of the most important factors are summarised in Figure 4.1.



▲ Figure 4.1 The main factors that may shift the demand curve

### ADVERTISING

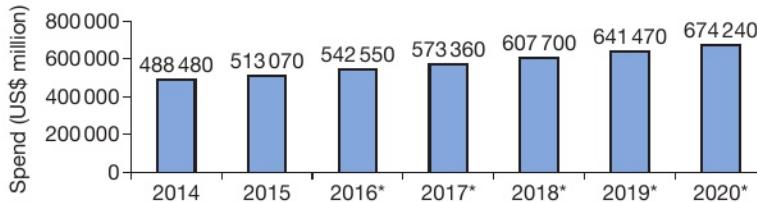
Businesses try to influence demand for their products through advertising and other forms of promotion. For example, in the highly competitive soft drinks industry, Coca-Cola spent US\$3499 million on advertising in 2014. If goods are advertised more heavily, the quantity demanded is likely to increase. This helps to explain the huge amounts that some businesses, such as Coca-Cola, are prepared to spend on advertising. Although it might be difficult to measure the precise impact advertising expenditure has on the quantity demanded, most would agree that such spending will help to increase demand. An increase in advertising expenditure is likely to shift the demand curve to the right – from  $D_1$  to  $D_2$  in Figure 4.2.



▲ Figure 4.2 Shifts in the demand curve

## ACTIVITY 1

## CASE STUDY: DEMAND AND ADVERTISING



▲ Figure 4.3 Global adspend, 2014–20 \*Estimated

- 1 Calculate the percentage increase in predicted advertising expenditure between 2014 and 2020.
- 2 Why are some businesses prepared to spend so heavily on advertising?

## SUBJECT VOCABULARY

**disposable income** income that is available to someone over a period of time to spend; it includes state benefits but excludes direct taxes

**inferior goods** goods for which demand will fall if income rises or rise if income falls

**normal goods** goods for which demand will increase if income increases or fall if income falls

## INCOME

Generally, when **disposable income** rises, demand for goods will also rise. For example, if wages and salaries rise in the economy, people may decide to spend more money going out to restaurants. They may take an extra holiday or they may buy a new car. These are all **normal goods**. These are goods for which demand will rise when income rises. Most goods in the economy are normal goods. However, a minority of goods are **inferior goods**. This means that the quantity demanded will actually fall when incomes rise. Supermarket ‘own label’ brands or public transport may be examples of inferior goods. For example, consumers who generally buy a relatively cheap supermarket ‘own label’ brand of baked beans may switch to a more expensive brand when their incomes rise. Therefore, the quantity demanded for the supermarket ‘own label’ brand will fall. This would be shown by a shift in the demand curve to the left from  $D_1$  to  $D_3$  in Figure 4.2.

## FASHION AND TASTES

Over a period of time, demand patterns change because there are changes in consumer tastes and fashion. For example, there has been a rise in demand for T20 cricket (cricket games that last for three hours) around the world in the last 10 years. This is reflected by the attendances at T20 fixtures in many different countries, such as India, Australia, Bangladesh and Sri Lanka. Stadiums are often full for international T20 fixtures. This compares with relatively smaller crowds at test match fixtures (cricket games that last for up to 5 days). T20 cricket has grown in popularity and increasing numbers of cricket fans find the style appealing.

The clothes industry is influenced strongly by changes in fashion. In many countries, there are various buying seasons for clothes. Many of the clothes bought in one season would not be in demand in later seasons because they would no longer be in fashion.

Fashions and tastes may be influenced by social changes. For example, in recent years, millions of people have developed a keen interest in social media. Social media websites, such as Facebook, Twitter and Snapchat, have seen a huge increase in demand since their launch.

**SUBJECT VOCABULARY**

**substitute goods** goods bought as an alternative to another but perform the same function

**SUBJECT VOCABULARY**

**complementary goods** goods purchased together because they are consumed together

**GENERAL VOCABULARY**

**demography** study of human populations and the way in which they change

**KEY FACTS**

- Changes in the size and structure of the population may have other impacts in the economy than those mentioned in this chapter, for example, on firms and the government. (These will be discussed in other chapters.)
- There are likely to be changes in the size and structure of populations over time. For example, if the birth rate rises, there will be an increase in the size of the population.
- An increase in immigration (people coming to a country from overseas to live permanently), will tend to change both the size and the structure of the population.

**PRICE OF SUBSTITUTES**

Many goods sold by businesses have **substitute goods**. For example, a consumer buying a can of Coca-Cola might have considered other brands, such as Pepsi, Virgin or supermarket 'own label'. Most consumers would consider these as good substitutes. The price of substitutes will affect demand. If the price of a substitute were lowered, demand for a product would fall. This would be shown by a shift to the left in the demand curve for that product from D<sub>1</sub> to D<sub>3</sub> in Figure 4.2. If a good has a lot of close substitutes, then the prices of these will affect demand significantly.

**PRICE OF COMPLEMENTS**

Some goods are purchased together by consumers. This is because the two goods are used together, for example, consumers of cornflakes will also buy milk, and people who buy cars will also buy car insurance. In these examples, milk and cornflakes and cars and car insurance are **complementary goods**. Demand for such products is likely to be affected by the price of a complementary good. For example, if the price of milk were to rise the demand for cornflakes may fall.

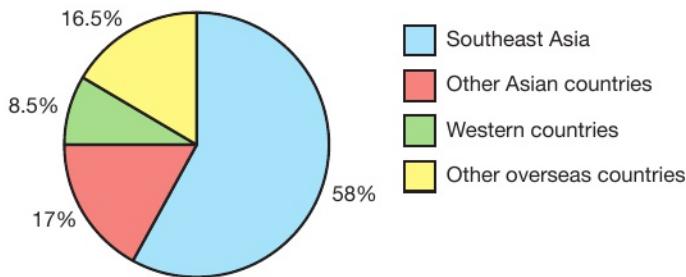
**DEMOGRAPHIC CHANGES**

Clearly, as the world's population grows, there will be an increase in demand for goods and services. However, demand will also be affected by the structure of the population as well as its size: **demography** affects demand.

- The age distribution of a population is the number of people who fall into different age groups. For example, in many countries, there has been growth in the number of people aged over 60. This will have an effect on demand patterns. For example, as the population ages there will be more demand for goods such as retirement homes, specialist holidays for the elderly and health care.
- In some countries, in the population overall there are more women than men. And there are many more women than men in older age groups. Consequently, the gender distribution of the population is likely to affect demand patterns. For example, there will be a greater demand for women's clothes than men's clothes, particularly in older age groups.
- The geographical distribution may affect demand. Increasingly, in most developed and developing countries more and more people live in urban areas. As a result, demand for schools and hospitals in urban areas will be higher than in rural areas.
- Many countries have ethnic groups in the population structure. If these ethnic groups grow in size, there is likely to be an increase in demand for products associated with their culture. In Australia, there is a large Southeast Asian population. This has resulted in the spread of restaurants offering Vietnamese, Malayan, Thai and Indonesian meals, for example.

**ACTIVITY 2****CASE STUDY: DEMAND AND POPULATION**

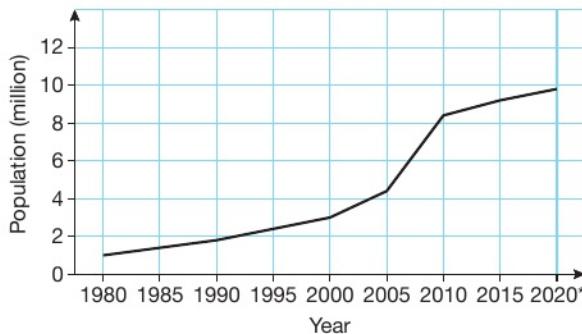
The population of the UAE has grown significantly since 2000. Between 2000 and 2010, it grew from 2.9 million to 8.3 million. The UAE has a very large immigrant population. It is estimated that around 90 per cent of the population were born overseas. As Figure 4.4 shows more than half of non-UAE nationals come from Southeast Asia.



▲ Figure 4.4 Origins of UAE's immigrant population

Most of the immigrants are attracted to the country by employment opportunities. There has been a huge boom in the construction industry, for example. The UAE government has invested revenues from the sale of oil and gas into **infrastructure** development, residential real estate and commercial properties.

The UAE has the largest difference in the male:female ratio in the world, with 2.2 men for every woman, or 2.75 men for every woman in the 15–65 age group. The graph in Figure 4.5 shows the growth in the population of UAE from 1980 to 2020.



▲ Figure 4.5 UAE population growth, 1980–2020 \*Estimated

- 1 Why has the population of the UAE increased so sharply in recent years? Give one reason in your explanation.
- 2 How will the change in the size of the UAE's population affect demand?
- 3 A significant number of the people migrating to the UAE are Southeast Asian. How might this affect demand patterns in the UAE?

### MULTIPLE-CHOICE QUESTIONS

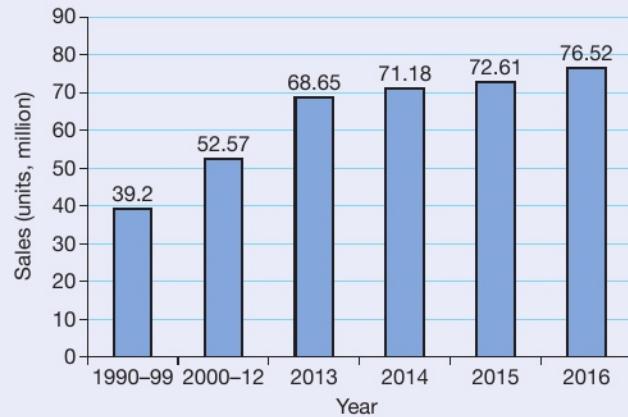
- ▶ 1 Cars and petrol are examples of which goods?
  - A Inferior goods
  - B Complementary goods
  - C Substitute goods
  - D Capital goods
- ▶ 2 A rise in the price of car insurance may have which effect?
  - A Increase the quantity demanded for cars
  - B Increase the quantity demanded for car insurance
  - C Shift the demand curve for cars to the left
  - D Shift the demand curve for cars to the right

## ECONOMICS IN PRACTICE

## CASE STUDY: GLOBAL DEMAND FOR CARS

Ever since cars became commercially available, demand for them has continued to increase. In 2016, it was predicted that 76.5 million new cars will be purchased worldwide. Rising demand is currently driven by rapid economic growth in countries such as India and China. Owning cars in such countries is a new experience for huge numbers of people. As people in developing countries become wealthier as a result of economic growth, more cars are purchased.

In recent years, the demand for electric vehicles (EVs) has increased. In 2015, total sales of EVs reached 1 million. It is estimated that by 2040 around 35 per cent of all cars purchased will be EVs. This growth in the demand for EVs is being driven by government investment in the public battery-charging infrastructure (with the rate of introduction of fast DC chargers growing by 350 per cent in China alone in 2015) and improvements in the driving range of EVs. Also, if oil prices recover to the pre-2014 levels (when oil was US\$140 a barrel) the incentive to buy an EV will be even stronger.



▲ Figure 4.6 Global demand for cars, 1990–2016

## CHAPTER QUESTIONS

- 1 Suggest one reason why the global demand for cars is rising.
- 2 Discuss the possible factors that might affect the demand for electric cars in the future. Give two factors in your analysis.
- 3 What effect will the following have on the global demand for cars: (a) an increase in global incomes; (b) a rise in the price of petrol. Use diagrams in your answer.
- 4 What is the difference between a movement along the demand curve and a shift in the demand curve? Use a diagram in your explanation.

# 5 THE SUPPLY CURVE

## LEARNING OBJECTIVES

- Understand how supply is defined
- Understand how changes in price cause movements along the supply curve
- Understand what causes the supply curve to shift

## GETTING STARTED

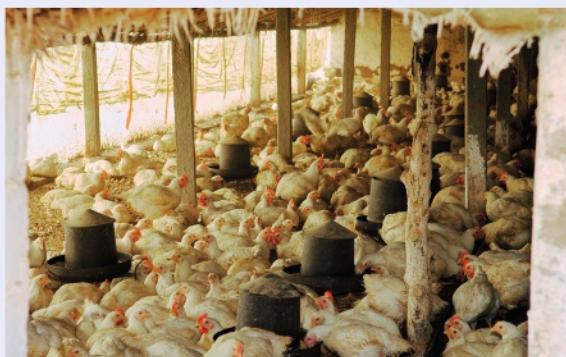
Sellers or producers are responsible for meeting the needs of consumers. They provide goods and services that they hope people or other businesses will buy. There is a strong link between the price of a good and the quantity provided, for example, if prices are too low, sellers may not be interested in supplying the market because they may not be able to make enough profit.

## CASE STUDY: CHICKEN FARMING

Tom Chang is a chicken farmer in rural China. He has reared chickens for 35 years and sells them to people in his local community. However, twice weekly, he takes chickens to a market about 15 kilometres away in order to boost sales. Table 5.1 shows the number of chickens he is prepared to offer for sale per week at different prices. For example, when the market price is CNY5, he is not prepared to sell any at all because he cannot make any profit at this price.

PRICE (CNY)	5	10	15	20	25	30	35	40
NUMBER OF CHICKENS	0	10	20	30	40	50	60	70

▲ Table 5.1 Number of chickens (per week) Tom Chang is prepared to offer for sale at different prices



▲ A chicken farm

- How many chickens would Tom offer for sale if the price was CNY30?
- In Table 5.1, what happens to the number of chickens offered for sale when prices rise?
- Why do you think sellers, such as Tom, offer more for sale when prices are higher?

## SUPPLY AND THE SUPPLY CURVE

### SUBJECT VOCABULARY

**supply** amount that producers are willing to offer for sale at different prices in a given period of time  
**supply curve** line drawn on a graph which shows how much of a good sellers are willing to supply at different prices

### GENERAL VOCABULARY

**per annum** (p.a.) for or in each year

### SUBJECT VOCABULARY

**proportionate relationship** (between price and the quantity supplied) when the price goes up, the quantity supplied also goes up and when the price goes down the quantity supplied goes down

**Supply** is the amount of a good that sellers are prepared to offer for sale at any given price over a period of time. For example, in 'Getting started' above, if the market price for chickens was CNY30, Tom Chang would sell 50 chickens during a week. This means that the supply of chickens by Tom Chang at CNY30 during a particular week was 50.

The supply of any product can be expressed graphically. This means that the relationship between price and the quantity supplied can be shown on a graph. Consider the information in Table 5.2. This is a schedule showing the supply of handmade golf shoes by M. Crammer and Son, a family business in Florida, USA.

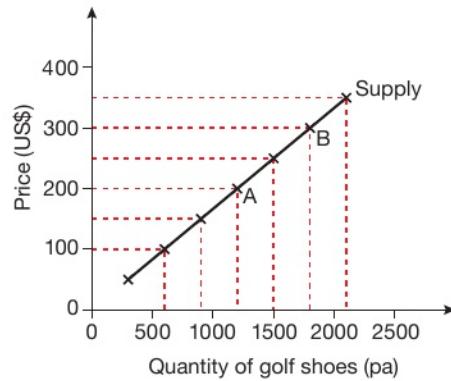
PRICE (US\$)	0	50	100	150	200	250	300	350
QUANTITY OF GOLF SHOES (PER ANNUM)	0	300	600	900	1200	1500	1800	2100

▲ Table 5.2 Supply schedule for handmade golf shoes by M. Crammer and Son

The information in the schedule can be presented on a graph, as shown in Figure 5.1. Like the demand curve, price is shown on the vertical axis and quantity on the horizontal axis. The amount supplied by M. Crammer and Son at each price in the schedule is also shown. If these points are joined together, a **supply curve** is formed. This is a straight-line supply curve and shows the quantity supplied at any given price. For example, when the price of golf shoes is US\$200, M. Crammer and Son will supply 1200 pairs **per annum**.

The supply curve slopes up from left to right, which means there is a **proportionate relationship** between price and the quantity supplied. This shows that:

- when prices go up, supply will also go up
- when prices go down, supply will also go down.



▲ Figure 5.1 Supply curve for golf shoes made by M. Crammer and Son

For example, when the price of golf shoes rises from US\$200 a pair to US\$300 a pair, the quantity supplied will increase from 1200 pairs to 1800 pairs. This applies to the vast majority of goods. However, there are exceptions and one such exception is discussed later in this chapter (see page 32).

The reason for this relationship is mainly because businesses are motivated by profit. If prices are rising, existing businesses will be willing to supply increasing amounts of a good because they may make more profit. Or, more businesses will join the market in the belief that they can also make a profit. As a result supply in the market increases.

## MOVEMENT ALONG THE SUPPLY CURVE

As with demand, when there is a price change, there is a movement along the supply curve. In Figure 5.1, when the price rises from US\$200 to US\$300, for example, we move along the supply curve from A to B to identify the new level of supply. The movement along the supply curve in this case shows that the quantity supplied is increased from 1200 pairs of golf shoes to 1800 pairs when the price rises. This only happens when there is a price change. If there are changes in any other factor influencing supply, the effect on the supply curve is different. This is discussed below.

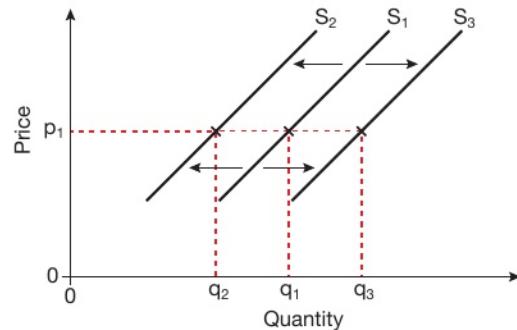
## A SHIFT IN THE SUPPLY CURVE

### SUBJECT VOCABULARY

**shift in the supply curve** movement to the left or right of the entire supply curve when there is any change in the conditions of supply except the price

If the price of a good changes, there is a movement along the supply curve. A change in any other factor, such as production costs, will be shown by a **shift in the supply curve**. The supply curve,  $S_1$ , shown in Figure 5.2, is for any product. At the price of  $p_1$ , sellers are offering quantity  $q_1$  for sale.

- If there is a rise in production costs, the quantity supplied will fall at every given price. This will cause the supply curve to shift to the left, to  $S_2$  as shown in the Figure 5.2. At the price  $p_1$ , the quantity of goods offered for sale would fall from  $q_1$  to  $q_2$ .
- If there is a fall in production cost, the quantity supplied will rise at every given price. As a result, the supply curve will shift to the right, to  $S_3$  as shown in the diagram. At the price  $p_1$ , the quantity of goods offered for sale would rise from  $q_1$  to  $q_3$ .



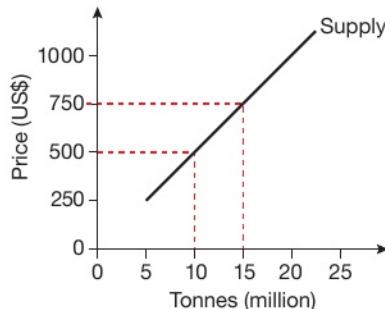
▲ Figure 5.2 Shift in the supply curve for a product

The range of factors that are likely to cause the supply curve to shift (as shown above) is discussed in detail in Chapter 6 (pages 34–39).

## ACTIVITY 1

### CASE STUDY: STEEL SUPPLY IN A COUNTRY

The annual supply curve for steel in a country is shown in Figure 5.3.



◀ Figure 5.3 Annual supply of steel for a particular country

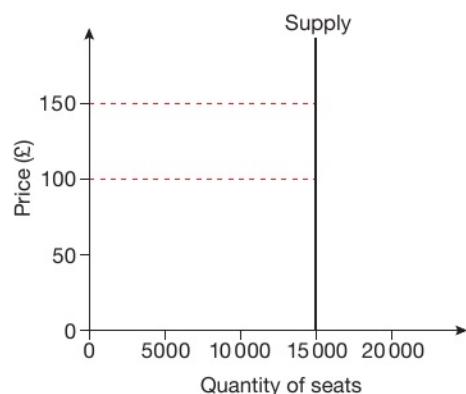


▲ Steel production

- 1 What will happen to the supply of steel if the price rises from US\$500 to US\$750 per tonne?
- 2 Why are steel suppliers likely to offer more for sale at higher prices?

## FIXED SUPPLY

In some circumstances, the supply of a product or service may be fixed. If this is the case, then the supply curve will be vertical. Supply will be fixed if it is impossible for sellers to increase supply even when prices rise. Supply at venues where sports matches and other events are held may be fixed. An example is shown in Figure 5.4. Centre Court at Wimbledon (the main stadium at the venue) has a capacity of 15 000. It is impossible to offer more than 15 000 seats for tennis matches at this venue. Even if the price of tickets were to rise, say, from £100 to £150 for a match, no more seats could be supplied.



▲ Figure 5.4 Fixed supply – the capacity of Wimbledon's Centre Court



▲ Wimbledon's Centre Court

## MULTIPLE-CHOICE QUESTIONS

- 1 Which of the following is true of supply?
- A If price increases the supply curve will shift to the right
  - B If the price falls, the quantity supplied will also fall
  - C The amount supplied and the price are inversely related
  - D The supply curve is always horizontal
- 2 If supply is fixed which of the following is true?
- A Demand will also be fixed
  - B The supply curve will be vertical
  - C Suppliers will not offer any quantity for sale
  - D Supply will fall when price rises

## ECONOMICS IN PRACTICE

## CASE STUDY: FOTHERGILL &amp; SONS

Fothergill & Sons manufacture a range of wooden products – mainly heavy furniture, such as large tables, benches and beds. One of its profitable lines is park benches, which are often sold to local governments. Many of Fothergill's benches are to be found in local council parks. The number of park benches that Fothergill & Sons is prepared to offer for sale at different prices in a year is shown in Table 5.3.

PRICE (£)	20	40	60	80	100	120	140	160
NUMBER OF BENCHES P.A.	0	200	400	600	800	1000	1200	1400

▲ Table 5.3 Supply schedule for park benches made by Fothergill & Sons



▲ Park bench

## CHAPTER QUESTIONS

- 1 Draw the supply curve for park benches using the data in Table 5.3.
- 2 How many park benches would be supplied if the price was £110?
- 3 If Fothergill & Sons wanted to supply 1300 park benches per annum, how much would it expect to sell them for?
- 4 Why is supply 0 at a price of £20?
- 5 Discuss whether Fothergill & Sons could supply three times as many park benches.

# 6 FACTORS THAT MAY SHIFT THE SUPPLY CURVE

## LEARNING OBJECTIVE

- Understand the factors that may cause a shift in the supply curve: costs of production, changes in technology, indirect taxes, subsidies and natural factors, such as natural disasters and the weather

### GENERAL VOCABULARY

**volatile** changing quickly and suddenly, for example, a volatile market rises and falls without much warning

### SUBJECT VOCABULARY

**ventures** new business activities or projects that involve taking risks

## GETTING STARTED

Chapter 5 established that the supply of a product is influenced by the price in the market and showed that as the price rises, sellers are willing to supply more. However, there are other factors that could affect the supply of goods. Look at the example below.

## CASE STUDY: NIGERIAN FARMING

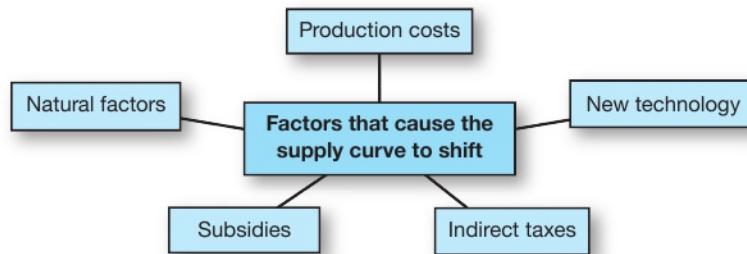
In 2016, growing numbers of Nigerian chicken and fish farmers were reducing production rates. Some were even abandoning their farms to pursue other business **ventures**. This was a response to **volatile** and rapidly rising feed costs. As a result, Nigerian politicians begged young people, and others who have left the countryside to seek a better life in the cities, to return to their family farms.

It is the rising costs of feed that has caused problems with supply. In Lagos state, fish farmers complained that feed prices had risen by as much as 80 to 100 per cent. Locally produced catfish feed has risen from NGN 6000 to NGN 9000, while imported feed has gone up from NGN 6000 to NGN 11 000 for a 15 kilogram bag.

- Describe the main factor affecting supply in this case?
- Calculate the percentage increase in the price of imported fish feed per 15 kilogram bag.
- Why do you think the quantity supplied falls when production costs rise?
- In pairs, choose any two products that you or your family regularly buy. Make a list of the things that might influence the supply of these two products. Present your ideas to the rest of the class.

## FACTORS THAT MAY SHIFT THE SUPPLY CURVE

Price is the main factor that affects supply. However, a range of other factors may also have an impact. Unlike a change in price, which results in a movement along the supply curve, changes in these other factors can cause the supply curve to shift. These factors are summarised in Figure 6.1.



▲ Figure 6.1 Factors that can shift the supply curve

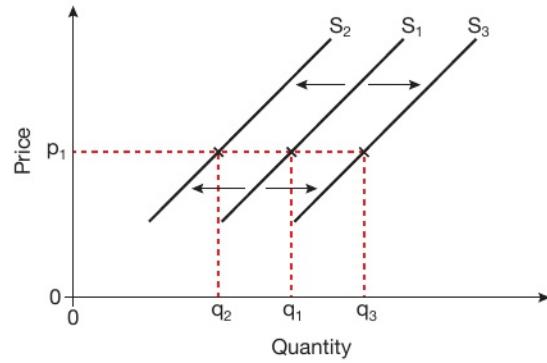
### COSTS OF PRODUCTION

The quantity supplied of any product is influenced by the costs of production, such as wages, raw materials, energy, rent and machinery. Assuming the price is fixed, if production costs rise, sellers are likely to reduce supply. This is because their profits will be reduced. This is what happened in the example in 'Getting started' above. The rising cost of fish feed resulted in some fish farmers leaving the industry, causing the quantity supplied to fall. A rise in costs will cause the supply curve to shift to the left. This is shown in Figure 6.2. When costs rise, the whole supply curve will shift to the left, from  $S_1$  to  $S_2$ . At a price of  $p_1$ , the amount supplied in the market falls from  $q_1$  to  $q_2$ .

If costs fall, the quantity supplied would increase because production becomes more profitable. As a result, the supply curve will shift to the right. This shows that more is supplied at every price. The new supply curve is  $S_3$  and the amount supplied at  $p_1$  will rise from  $q_1$  to  $q_3$ .

### KEY FACTS: PRODUCTIVITY

In recent years, the UK has tried to increase **productivity** in manufacturing. However, in a recent survey, 73 per cent of industry leaders said they had found it difficult to recruit skilled workers. Both the quantity and quality of candidates were lacking. Sixty-seven per cent of bosses said they were regularly forced to deal with a lack of technical skills, 64 per cent said there were too few people applying and 61 per cent said candidates lacked relevant experience.



▲ Figure 6.2 Shift in the supply curve

The availability of resources will also affect supply. If there is a shortage in some of the factors of production – for example, land, labour or capital – this will cause it to be difficult for producers to supply the market because their costs are likely to rise.

### SUBJECT VOCABULARY

**indirect taxes** taxes levied on spending, such as VAT

**productivity** rate at which goods are produced, and the amount produced in relation to the work, time, and money needed to produce them

### INDIRECT TAXES

**Indirect taxes** are taxes on spending. VAT (valued-added tax) and duties, such as those on petrol and cigarettes, are examples of indirect taxes. Such taxes have an effect on supply. When they are imposed or increased, the supply curve will shift to the left. This is because indirect taxes represent a cost to

**SUBJECT VOCABULARY**

**consumption** amount of goods, services, energy, or natural materials used in a particular period of time  
**subsidy** money that is paid by a government or organisation to make prices lower, reduce the cost of producing goods or providing a service, usually to encourage production of a certain good

firms. In Figure 6.2, the imposition of a tax would shift the supply curve to the left from  $S_1$  to  $S_2$ . As a result, the quantity supplied would fall from  $q_1$  to  $q_2$ .

If indirect taxes are reduced, the supply curve will shift to the right because costs are lower. In Figure 6.2, lower indirect taxes would shift the supply curve from  $S_1$  to  $S_3$ . As a result, the quantity supplied would rise from  $q_1$  to  $q_3$ .

Governments use indirect taxes to raise revenue for government expenditure and discourage the **consumption** of harmful products, such as cigarettes and alcohol. Indirect taxes might also be used to protect the environment. For example, taxes might be imposed on producers if their production methods result in damage to the environment. This is discussed in Chapter 29 (pages 228–239).

**SUBSIDIES**

Sometimes the government may give money to businesses in the form of a grant. This is called a **subsidy**. Subsidies may be given to firms to try to encourage them to produce a particular product. For example, in the EU, subsidies have been given to farmers to encourage them to produce certain agricultural products. If the government grants a subsidy on a good, the effect is to increase its supply. This is because subsidies help to reduce production costs. As a result, the supply curve will shift to the right, from  $S_1$  to  $S_3$  in Figure 6.2. This causes the amount supplied at  $p_1$  to rise from  $q_1$  to  $q_3$ .

**DID YOU KNOW?**

Government subsidies to producers may have negative effects. For example, producers may lack the incentive to improve efficiency. Another problem is that the government will incur an opportunity cost when spending on subsidies. The money spent might be used on other items of government expenditure, such as education.

**ACTIVITY 1****CASE STUDY: SUPPLY AND SUBSIDIES**

In 2016, the Sri Lankan government announced that it would provide a Rs37 000 million fertiliser subsidy to the nation's paddy farmers (that is, farmers growing rice). The Ministry of Agriculture said that paddy farmers would receive an annual payment of Rs25 000 for every two hectares of farmland used to grow rice. In addition, vegetable farmers growing vegetables such as green gram, cow pea, soya bean, Bombay onion and other crops, would also receive a fertiliser subsidy. The government said they would receive Rs10 000 per hectare.

Fertiliser subsidies have been an important feature of Sri Lankan agricultural policy since 2005. The subsidies have accounted for between 2 and 2.5 per cent of total government expenditure over the years. The subsidies have helped to increase paddy production, stabilise the price of rice and helped Sri Lanka to become self-sufficient in rice production.



▲ Paddy farmers in Sri Lanka

- 1 Why is the Sri Lankan government offering subsidies to paddy farmers?
- 2 Using a diagram, show the effect of these subsidies on the supply of rice in Sri Lanka.

**GENERAL VOCABULARY**

**yield** amount of something that is produced, such as crops or oil extracted

**CHANGES IN TECHNOLOGY**

Over a period of time, new technology becomes available that many businesses use in their production processes. New technology is more efficient and can therefore reduce the costs of production. For example, when the price of oil fell sharply in 2014, many oil companies began to use new technology to lower their costs. Some companies began to use lasers and other hi-tech data analysis equipment to help measure the potential **yield** from new oil wells. Others used new techniques to help them produce more oil from both old and new wells. Since the introduction of new technology will help to lower production costs, firms are likely to offer more for sale. As a result, there will be a shift in the supply curve to the right, from  $S_1$  to  $S_3$  in Figure 6.2.

**NATURAL FACTORS**

The production of some goods is influenced by natural factors, such as the weather, natural disasters, or the presence of pests (for example, rats or mice) or diseases. This is true of many agricultural products. For example, good growing conditions can help to improve crop yields, which will increase supply. This will shift the supply curve to the right – from  $S_1$  to  $S_3$  in Figure 6.2. In contrast, poor growing conditions can cause severe shortages and the quantity supplied may be cut. This will shift the supply curve to the left, from  $S_1$  to  $S_2$  in Figure 6.2.

In 2016, there was a shortage of squid due to the effect of El Niño. El Niño is a natural but irregular climatic event responsible for raising the temperature of the sea along the coast of Ecuador and Peru. It can have far reaching effects. For example, it reduces the amount of nutrients in the sea that are essential to support marine life. It can also cause a change in wind patterns across the Pacific Ocean, drought (long periods of unusually dry weather) in Australasia and heavy rain in South America. El Niño caused a shortfall in the supply of squid, which forced prices up from around US\$1.80 to US\$2.20 per prepared squid in the USA. Catch totals of squid for the 2015/16 season were 37 000 tonnes, only 35 per cent of the seasonal catch limit of 107 000 tonnes.

**ACTIVITY 2****CASE STUDY: SUPPLY AND THE WEATHER**

A number of countries in recent years have faced severe water shortages. For example, in 2015 people in São Paulo, Brazil, once known as the ‘city of drizzle’, started to dig through basement floors and car parks to gain access to underground water. In California, it was reported that the state was suffering its fourth year of drought in a row with January 2015 becoming the driest month ever recorded. In the Middle East, overconsumption and reduced rainfall have reduced large areas of the countryside to desert and devastated agricultural production.

Changing weather patterns and melting snow and ice caused by global warming is having a severe impact on the world’s water systems. This means that around 1000 million people in the world do not have access to safe drinking water. The situation is also expected to get worse.

In the UAE, the government is taking measures to reduce the effects of drought. It is investing in desalination plants to convert seawater into drinking water and wastewater treatment units. It was reported that Crown Prince General Sheikh Mohammed bin Zayed al-Nahyan said, ‘For us, water is [now] more important than oil.’



▲ Effects of drought

- 1 What are the causes of the water shortages outlined above? Give at least two reasons in your answer.
- 2 What measures are being taken by the UAE to increase the supply of water?

#### MULTIPLE-CHOICE QUESTIONS

- ▶ 1 Which of the following will shift a supply curve to the left?
  - A A decrease in indirect taxes
  - B Higher production costs
  - C The introduction of new technology in production
  - D A government subsidy
- ▶ 2 A bumper wheat harvest across the world resulting from favourable weather conditions will do what?
  - A Shift the supply curve for wheat to the right
  - B Reduce the quantity demanded for bread
  - C Increase the price of wheat
  - D Reduce the price of butter

#### ECONOMICS IN PRACTICE

#### CASE STUDY: HOUSING SUPPLY IN KENYA

Like many countries, Kenya suffers from a housing shortage. People moving into towns and cities from rural areas looking for a better life have created housing shortages in the cities of Nairobi, Mombasa, Kisumu and Eldoret. The high cost of traditional house-building methods has reduced the ability of the government and private constructors to build new houses. However, new technologies are now being used to help resolve the problem.

House builders are now using newly developed expanded polystyrene Styrofoam (EPS) panels and aluminium moulds in their construction plans. These building materials are superior to the use of traditional materials, such as concrete, stone and mortar. They are strong, lightweight, fireproof

**GENERAL VOCABULARY**

**formwork** temporary or permanent moulds into which concrete or similar materials are poured or injected

and long lasting. EPS also keeps properties warm effectively while aluminium **formwork** makes for better quality walls and can be painted easily. House builders also save money on other parts of the construction. This is because the lightweight technologies do not require builders to lay deep foundations. The amount of concrete used on walls and flooring is reduced. For example, EPS only requires a 5 cm layer of concrete on the walls and floors instead of the 20 cm needed when using conventional building methods.

Houses can also be constructed more quickly. This is because housing units are assembled from sections that are manufactured off-site. This reduces labour costs and improves business cash flow. Housing has also become more affordable. New housing units are now accessible to the lower middle-class and low-income earners.

**CHAPTER QUESTIONS**

- 1 How will the use of EPS panels and aluminium formwork improve the supply of housing in Kenya? Use a diagram in your explanation.
- 2 What are the benefits of the new technologies in house building to: (a) construction companies; and (b) Kenyan residents?
- 3 Describe one measure the Kenyan government could take to help increase the supply of houses in the country.
- 4 What is the possible effect on the supply of houses in Kenya if construction companies had to pay much higher wages to workers. Use a diagram in your explanation.