AQA GCSE ECONOMICS

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TOPIC COMPANION

How Markets Work

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CHAPTER 1 ECONOMIC FOUNDATIONS

1 Economic Activity

What is economics?
Economics is the study of the allocation of **scarce** resources. A starting point for understanding the subject is to consider the **economic problem:**

The **Basic Economic Problem** = People have an unlimited set of **wants** and **needs** but we have a limited amount of **resources (factors of production)**.

The **purpose of economic activity** is the production of goods and services to satisfy the ever-changing needs of society.

The Difference between a Need and a Want
A **need** is any good or service that we **require** or that is necessary for our survival such as food and water.

A **want** is any good or service that is **desired** but is not necessary. For example, we need clothing to survive but we may want branded cloths to be fashionable.

ACTIVITY 1

Separate these goods and services into what you may consider as needs and wants: Smartphone, Bread, Shoes, Car, Vacuum Cleaner, Vaccinations

Needs	Wants

The key economic decisions

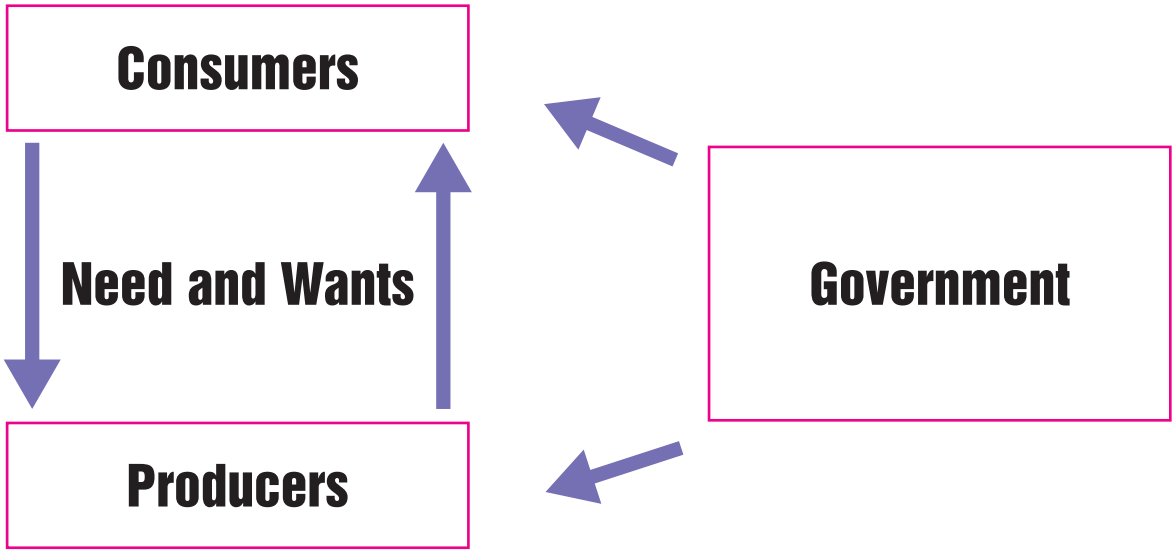
What are the key economic decisions?

- **what to produce?** – which of the many goods and services that are wanted and needed should be produced (e.g. should we produce more corn or farm more cows for beef)?
- **how to produce?** – what methods are we going to use to produce our goods and services (e.g. do we use more labour or do we use more machinery)?
- **who is to benefit from the goods and services produced?** – how do we distribute the things that we have produced so that people can access them and use them (e.g. how do we ensure that poorer people still receive food and shelter)?

The main economic groups

What are the main economic groups?

- **Consumers** – those who demand the goods and services. Most people are consumers! Being a consumer does not always mean that you have to pay. For example, you may the visit the doctor to discuss a medical condition. In the UK, there is a good chance that you will not actually pay for this consultation but you have 'consumed' the medical service.
- **Producers** – those who supply the goods and services. In the UK, most produces are private businesses but some organisations are provided by the Government (such as schools).
- **Government** – the organisation who decides who should benefit and how to distribute the goods and services produced. In the UK, the government is controlled by 'elected representatives' – people who are in a position of power because they have been voted in to place. However, most government activity is conducted by employed individuals.



ACTIVITY 2

Have a short discussion with someone in your class to answer the following question:
"There is a limited amount of space that has become available in the local town centre. Would you build a new factory or a new hospital in this space?"

Did you and your friend agree? If you disagreed with your friend did you understand why they had the alternative suggestion? This is a common dilemma that we face when making decisions – who has the greater need? Sometimes, we have to rely on th e government to make that decision on our behalf – hopefully they have the best information available that allows them to make that decision.

2 The Factors of Production

All the scarce resources we have mentioned can be put into the four categories; land, labour, capital and enterprise (or entrepreneurship). Each 'factor of production' brings a benefit or 'reward' to its owner.

Land

Land includes all **natural physical resources** – e.g. fertile farmland, the benefits from a temperate climate or the harnessing of wind power and solar power and other forms of **renewable energy**. The reward for land is called **rent**.

Labour

Labour is the **human input** into production e.g. the supply of workers available and their productivity. The reward to labour is the **wages** that they receive.

Capital

Capital goods are used to produce other consumer goods and services in the future. The reward for capital is called **interest**.

Enterprise

Regarded by some as a specialised form of labour input, **enterprise** (or an entrepreneur) is an individual who supplies products or services. Their main reward is the **profit** made from running the business.

ACTIVITY 3

Match the factor of production to the example:

Land	**Accountant**
Labour	**Digger**
Capital	**Gold Nugget**
Enterprise	**Market Stall Owner**

ACTIVITY 4

Research these 3 famous entrepreneurs and find out what was the first product or service that they sold?

Lord Alan Sugar	**Martha Lane Fox**	**Deborah Meadon**

3 Making Choices

As we saw in Activity 2, one of the issues with having limited resources (but unlimited wants and needs) is that eventually we must make a choice between which product or service gets produced.

The **government** will make some of those choices. Sometimes the choices are made by **consumers** themselves. For example, if a product does not generate sufficient demand to reward the entrepreneur with enough profit, it will not be produced.

How we make decisions on a daily basis is often down to the **price** of a product or service. The price acts as a **signal** to consumers who will compare the value of one product and service to another.

Opportunity Cost
When we are making choices we often consider what is called the '**opportunity cost**' of the decision.

Opportunity cost = the cost of any possible alternative when making a choice.

For example, if you bought a car this year you may not be able to afford to go away on holiday. So, the opportunity cost of *purchasing* the car is the *missed holiday*.

When we are making such a choice we will attempt to consider the costs and benefits with both options.

ACTIVITY 5

List 3 possible benefits of purchasing a car (e.g. a small family saloon) and 3 further benefits of taking a holiday (e.g. a family holiday to a Spanish resort)

Car	Holiday

Multi-choice questions

1 Which of the following is an example of a '**capital**' factor of production?

A A cow

B A printer for a computer

C A coffee-shop barista

D A train driver

2 Which of the following is an example of a '**need**' rather than a '**want**'?

A Apple juice

B Lemonade

C Energy drink

D Water

3 Which of these best describes **opportunity cost**?

A The next best product that is given up when we make a consumption choice

B The cost of purchasing a house

C The price of two different chocolate bars

D Considering the price of earphones when purchasing a phone

4 Which of these is **not** considered an economic group?

A Consumers

B Producers

C Government

D Labour

5 Which of these is considered as the '*reward*' for the **Capital** factor of production

A Rent

B Wages

C Interest

D Profit

Short answer questions

6 State **one** example for **each** of the following types of factor of production:

Labour

Land

2 Marks

7 Explain **one** possible opportunity cost for a consumer when considering the purchase of new tablet computer (such as an 'Ipad').

2 Marks

CHAPTER 2 THE ROLE OF THE MARKETS

1 Markets

What is a market?

In its simplest form, a market is an opportunity for buyers and sellers to meet and determine the price of a good or service.

What we might call a 'market stall' is a good example of this – a small outlet where there is a direct meeting between the market stall owner and their customers. Although prices may have been decided before this meeting, previous customers may have indicated what price they were prepared to pay and there may be some form of discussion during the meeting.

The modern term 'Market' has come to mean all the different ways that buyers and sellers meet. Now, we have internet interactions (e.g. purchasing from Amazon, booking a taxi via Uber), markets for complex goods (e.g. a currency like the GB pound) and genuine price discussions (e.g. bids through Ebay). Markets can be local, regional, national or even global.

The role of markets in determining allocation of resources
We know that economic resources are scarce but demand for them is unlimited. Markets are one method of determining how these scarce resources get allocated among all those unlimited demands.

Many people may want a fast sports car or a luxury yacht. However, there are not enough resources to ensure that everyone can have these goods so they can only be purchased by people with sufficient wealth. In this way, 'price' determines who is able to consume the car or yacht. The 'markets' for cars and yachts have determined the relative desire for these products and then matched this against the cost of producing them. If enough buyers say they are willing and able to purchase the products and the amount of money that they offer is acceptable to the supplier an interaction will take place.

ACTIVITY 1

Rank these products in terms of their relative price:
Standard loaf of bread, umbrella, Mars bar, Ipad mini, pint of semi-skimmed milk, Packet of four AA batteries

Most expensive	2	3	4	5	Least expensive

What do you think determines the price of the Ipad mini and why is it more expensive than a loaf of bread?

The function of price

So, price acts as a way of sending a message between the seller and buyer. Price has three 'functions':

- **Rationing** – it allows some people to afford the product/services but prevents others from being able to make the purchase. This will depend on the individual's relative wealth and the value of that product compared to others (i.e. the opportunity cost of what must be given up).

- **Signalling** – the price signals something about the good/service that is important to potential buyers. A price rise may signal an increase in the cost of production. A price fall (for example, during a sale) may indicate that the seller will no longer continue to provide the good or service. In the UK, the price of healthcare is often 'free' (e.g. prescriptions for medicines for anyone under the age of 16) as the government wants to encourage consumption of health care.

- **Incentive** – the price of a good or service can act as an incentive for a supplier to provide it. As prices rise, the supplier may make more profits and therefore receive a greater reward for investing in the supply of the product or service.

ACTIVITY 2

In October 2015, a 5p charge for plastic bags supplied by stores (such as supermarkets) was introduced UK wide for stores with more than 250 employees. Previously, many of the stores would have given the bags away for free as a method of attracting people to purchase goods within the stores. However, there was concern that an overuse of the bags was having a negative environmental impact. The introduction of the 5p charge (which is not collected by the government as a tax) was made to make people change their use of these bags.

It was estimated that by October 2016, 500m less plastic bags were being used in the UK – a reduction of almost 85% compared to before the charge was introduced. Do you think the 5p charge on plastic bags was using price as a rationing, signalling or incentive function (explain your answer)?

2 The difference between Factor and Product Markets

- **Factor market –** this is a market for factors of production (land, labour, capital and enterprise). For example, a livestock market may trade in sheep or cows. Markets exist for the trade in metals (e.g. aluminium). A fish market may trade in fish caught daily in local seas and may be attended by fish mongers (to sell the purchased fish at retail) or by restaurants using the fish to make meals.

- **Product market –** this is a market concentrating on the sale of the final product or service. For example, if you wished to purchase a burger you may go to McDonald's or Burger King. If you wished to purchase a fence panel you may go to a DIY store or a timber merchant. If you wished to purchase a smartphone you may go to a network provider (e.g. Vodafone), a retailer (e.g. Argos) or the phone manufacturer themselves (e.g. Samsung).

ACTIVITY 3

Separate the following into Factor and Product markets:
Bricks, coal, coffee beans, cappuccinos, laptop, leather, light bulb, trees,

Factor Market	Product Market

The difference between a product and a service

- Products are physical objects or products that have been farmed, mined or created by a production process.

- Products can be transferred and delivered from buyer to seller.

- A service cannot be weighed or measured. A service is an activity of performing work for customers. At the end of the interaction, the service should provide satisfaction of the wants of the customer.

- At the end of a transaction the ownership of the product passes from the seller to the buyer. At the end of the process, the ownership of the service remains with its provider.

- After transaction, a product can be returned or exchanged. Services, however, cannot be returned.

ACTIVITY 4

Separate the following into products and services:
Cash machine, insurance, car maintenance, packet of crisps, milkshake purchased from coffee shop, train journey, cinema visit to watch a movie, family picture taken at a photographer's studio

Products	Services

3 Economic Sectors

The economy can be separated into 3 sectors:

- **Primary –** this is any part of the economy that is involved with acquiring the land economic resources (agriculture or mining). For example, coal must be mined, oil has to be extracted, maize has to be farmed.
- **Secondary –** this is any part of the economy that is involved with the manufacturing or assembly of products. The UK manufactures cars, aeroplanes and pharmaceuticals.
- **Tertiary –** this is any part of the economy that is involved in the provision of services that support the primary and secondary sectors. In the UK, we are successful at financial services such as banking and insurance. Many people work in the retailing sector (the selling of produce).

A chain exists between the three sectors showing an interdependence – i.e. that each sector has a dependence on the other.

Primary	Secondary	Tertiary	Tertiary
Cattle raised on farm	Beef converted to burger	Burger transported to restaurant	Restaurant serves burger to customer

Primary, Secondary and Tertiary Sectors in the UK
For many decades now, the tertiary sector has been the largest as a proportion of the total economy of the UK. Compare this to…

Country (2016 stats)	Primary	Secondary	Tertiary
UK	1%	19%	80%
Nepal	32%	14%	54%
Poland	3%	38%	59%

ACTIVITY 5

Suggest a **disadvantage** for the UK with such a large reliance on the **tertiary** sector.
Suggest a **disadvantage** for Nepal with such a large reliance on the **primary** sector.
Suggest an **advantage** for Poland with a relatively large **secondary** sector.

4 Specialisation, division of labour and exchange

For an economy to become more effective at meeting the unlimited wants of its inhabitants it will need to ensure that it organises itself in such a way as to encourage greater efficiency.

Specialisation
Specialisation is the concept of how an economy will start to concentrate on the production of goods or provide services at which it is the most efficient. It will start to reduce the production of goods or provision of services where it is less efficient.

For example, because of its climate, it would be very inefficient for the UK to mass produce bananas (it would require a great deal of cost in the provision of greenhouses). However, the climate in the UK allows the country to produce certain types of apple very efficiently – at relatively low cost and of good quality.

During the industrial revolution, Great Britain increased its production of products as it had large reserves of coal to fuel furnaces. However, now that many of those coal reserves have gone (or have become too expensive to mine) the UK is less efficient at producing energy to run large factories.

Likewise, regions can specialise. For example, for many years the West Midlands region of England specialised in the production of cars allowing each car manufacturer to benefit from the skills of the local labour force and for the government to invest in infrastructure (e.g. motorways) to allow greater transport of finished goods.

What are the possible gains from specialisation?

- **Higher output:** Total production of goods and services is raised and quality can be improved
- **Variety:** Consumers have access to a greater variety of higher quality products
- **Lower prices:** Increased competition acts as an incentive to minimise costs and keep prices down.

Just as an economy can benefit from specialisation, a firm can benefit from allowing its workers to specialise in one or just a few parts of the business process. As such, a firm may separate its workforce so that many separate tasks are undertaken by specific individuals – this is called **division of labour**.

For example, in a restaurant, the owner may ask some employees to concentrate on cooking the food and others to serve the food to customers. In this way, it may be more effective to employ a trained chef who concentrates on a high-quality output of food and allow others to concentrate on customer service.

In factories, this division of labour may go even further where individuals concentrate on a small task that is part of the whole process.

Advantages and disadvantages of division of labour

Advantages:

- An individual worker becomes more **competent** at a task that they repeat many times. Their output should therefore **increase**.
- This increase in **productivity** per worker reduces the overall production cost per unit.
- The employer is more able to afford specific **training** for individuals as their output will increase and justify that investment.
- Workers can repeatedly use a single tool, making it more cost effective for a firm to purchase that tool. This may reduce the cost of production or increase productivity for that worker.

Disadvantages:

- When an individual repeats tasks many times, they may start to become bored with the job they are doing. This may lead to lower levels of morale which, in turn can lead to lower levels of output and quality of production.
- If a job becomes more boring, an individual is more likely to look for another job. This can lead to **high levels of staff turnover** (the rate at which employees leave a workplace).
- An increase in mass-produced standardised goods may reduce **choice** for consumers.

Exchange

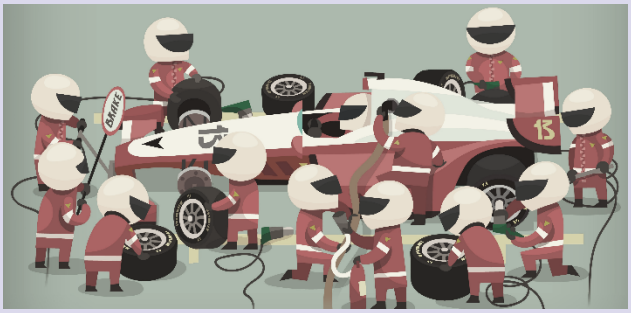
For specialisation and division of labour to be a valuable method for improving efficiency in an economy, there must be a method of 'exchange'. For example, if the UK does specialise in the production of apples, it would benefit from a system where it can exchange some of these apples for bananas or other foodstuffs it has not produced.

Likewise, if an individual specialises in one part of a production process that individual needs to be able to buy other goods and services that they are not able to provide for themselves.

Economies have developed methods of exchange so that they can benefit fully from the advantages of specialisation and division of labour.

The primary method of exchange, of course, is '**money**'. The UK can directly swap apples for bananas from another country but it is more likely to sell the apples first. Individuals are now more likely to be paid in **wages** which they use to purchase products and services from other firms.

ACTIVITY 6



Consider this image of a pit stop at a Formula One race. Individual drivers need to replace the tyres on their cars at least once (often twice or three times) per race. Each wheel has three people allocated to it. There is one person at the back of the car and one person at the front using 'jacks' to temporarily lift the car to enable the tyres to be replaced and another person holding a board to indicate to the driver when it is safe for them to continue with the race.

Why do you think the Formula One driving teams use so many people to change the tyres in the middle of a race?

Multi-choice questions

1 Which one of the following is determined in a **factor market**?

A The amount of fish sold

B The output of cars

C The quantity of teachers trained

D The quantity of houses sold

2 Which of the following is an example of a **service**?

A Building a shed

B The production of a lawn mower

C A packet of seeds

D Removal of garden waste

3 Which of these occupations exists in the **secondary sector** of the economy?

A A farmer

B A ship builder

C An actor

D A painter and decorator

4 Which of these is an advantage of **division of labour?**

A Lower levels of morale

B Higher levels of output

C A reduction in choice for consumers

D Lower levels of training

5 Which of these products has the UK economy **not** specialised in?

A Pharmaceutical production

B Electrical appliances

C Car manufacturing

D Sugar cane growing

Short answer questions

6 State **one** example for **each** of the following types of market:

Factor Market

Product Market

2 Marks

7 Explain **one** possible reason why a pint of milk may be more expensive than a pint of tap water.

2 Marks

CHAPTER 3 HOW PRICES ARE DETERMINED

1 Demand

Demand refers to the quantity of a good or service that consumers are willing and able to buy at given prices over a given period of time. A household may demand goods and services; however, in order for the demand to become effective, the household must be able to pay for the goods and services. This is referred to as effective demand, where the demand for a good or service is backed by an ability to pay.

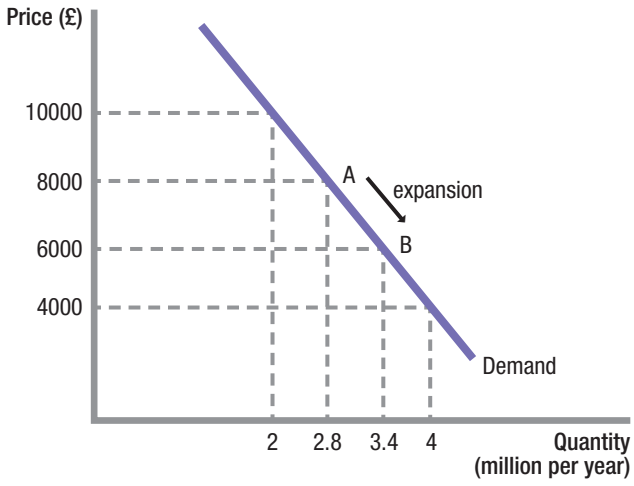
A demand curve for a good
An individual demand curve for a **normal good** slopes downwards from left to right; i.e. there is an inverse relationship between price and quantity demanded. As the price of a **normal good** falls, the quantity demanded rises, and vice-versa.

N.B. There are some goods for which demand falls as the price falls. Such goods are referred to as **inferior goods** and are commonplace, particularly with today's rapid pace of technological advancement; e.g. as updated models of the IPhone are brought to the market, consumers stop buying the older models, in spite of the fact that they are cheaper.

How to construct an individual demand curve
It is possible to collect data for a specific good relating to its quantity demanded and price. The data can be used to construct a demand curve, as shown below:

Price (£)	Demand (million per year)
4000	4.0
6000	3.2
8000	2.8
10000	2

The corresponding demand curve is illustrated below:

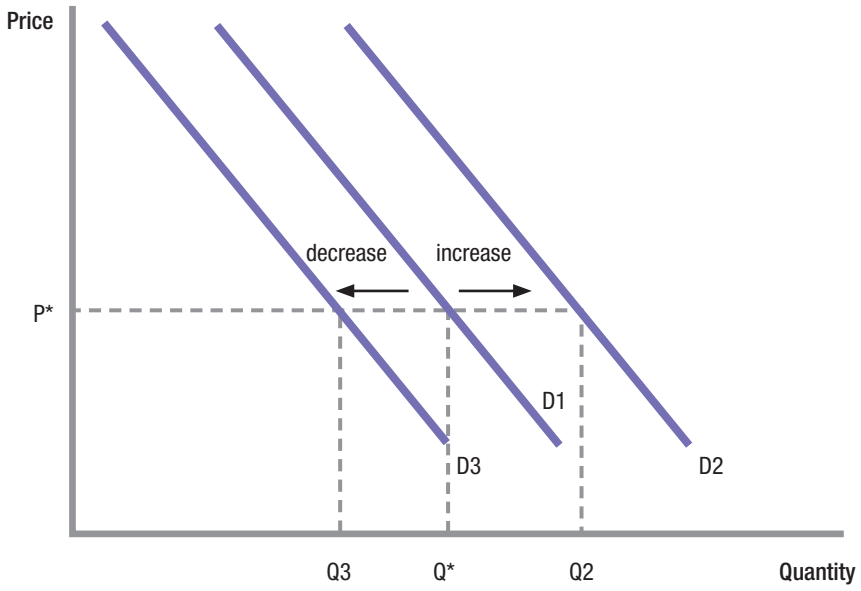


The factors which determine the demand for a good or service

A change in price
The demand curve is downward sloping and shows that the lower the price, the higher will be the quantity demanded. If the price falls from £8,000 to £6,000, quantity demanded increases from 2.8 million to 3.4 million. **This movement along** the demand curve (away from the origin), from point A to point B, is referred to as an **expansion/extension of demand**. If the price increased from £8,000 to £10,000, quantity demanded would fall from 3.2 million to 2.8 million. This **movement along** the demand curve (towards the origin), from point B to point A, is referred to as a **contraction of demand**. A change in **price** is the **only factor** which can cause a movement along the demand curve.

Changes in the conditions of demand
There are other factors which can alter the level of demand for a good or service. When we draw a demand curve in isolation, we assume that these 'other factors' are constant. This is referred to as the **ceteris paribus** assumption; i.e. all other factors remaining equal. A change in these other factors is referred to as a change in the conditions of demand, and, a change in one or more of these **conditions of demand** will cause the demand curve to shift to the right or left.

An increase in demand is illustrated by a rightward shift of the demand curve; i.e. the demand curve moves further away from the origin. A decrease in demand is illustrated by a leftward shift of the demand curve; i.e. the demand curve moves towards the origin. The shift of the demand curve is illustrated in the diagram below.



The main conditions of demand are:

- The price of substitute goods; e.g. an IPhone and a Samsung phone;
- The price of complementary goods; e.g. DVD players and DVDs;
- Personal disposable income; i.e. an individual's post-tax income;
- Interest rates; i.e. the reward for saving and the cost of borrowing;
- Tastes and preferences; and
- Population size.

A **rightward shift** of a demand curve may be caused by:

- **An increase in the price of a substitute good** (a substitute is a good which can be replaced by another good); e.g. if the price of an IPhone increases, the demand for Samsung phones will increase;
- **A fall in the price of a complementary good** (a complementary good is a good which is demanded because it is used with another good); e.g. if the price of DVD players rises, the demand for DVDs will fall;
- **An increase in personal disposable income;** e.g. if an individual's personal disposable income rises, there will be an increase in demand for normal goods (Note: the demand for an inferior good would decrease);
- **A reduction in interest rates;** e.g. the cost of borrowing money falls then individuals are more inclined to borrow in order to finance the purchase of a new car or other luxury items. Similarly, individuals are less inclined to save as the reward for saving, in terms of the interest rate, has been reduced hence, individuals are more inclined to spend;
- **A successful advertising campaign**
- **An increase in population size**

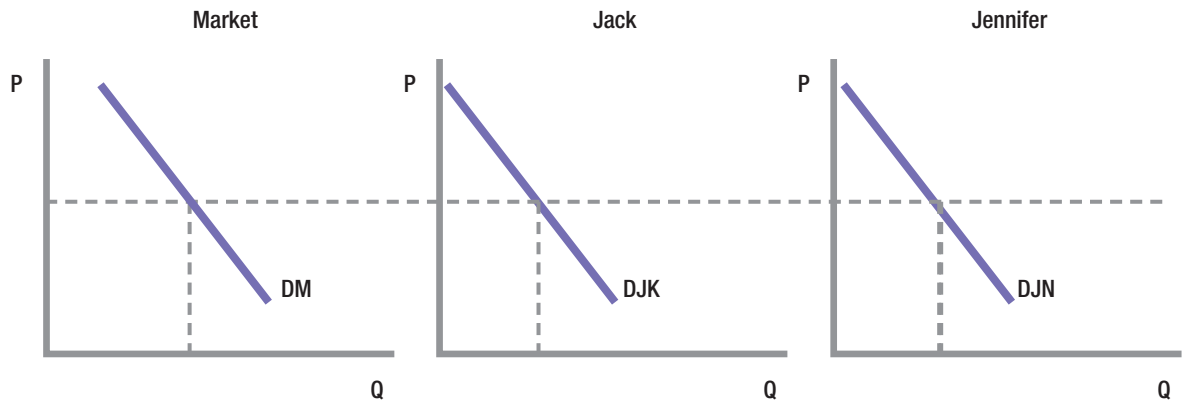
Working these changes in the conditions of demand in the opposite direction will cause the demand curve to shift to the left.

How to construct a market demand curve

The market demand is the total demand for a good or service. Market demand is the sum total of the individual demand for a particular good or service. Consider the following example where we assume that the total market consists of only two customers:

Price (£)	Jack's Demand	Jennifer's Demand	Market Demand
100	3	2	5
80	6	4	10
60	12	8	20
40	24	16	40
20	48	32	80

In the diagrams below, you can see the two individual demand curves for Jack and Jennifer.



ACTIVITY 1

Use the information in the table below to construct a market demand curve for chocolate bars (remember to fully label your diagram).

Price (£)	Demand (000s per year)
0.20	4
0.30	3
0.40	2
0.50	1

Explain what would happen to the demand for chocolate bars in the following instances:

- An increase in advertising spending by the chocolate manufacturer
- A television campaign outlining the dangers associated with eating too many sugary foods; and
- A reduction in consumers' disposable income.

2 Supply

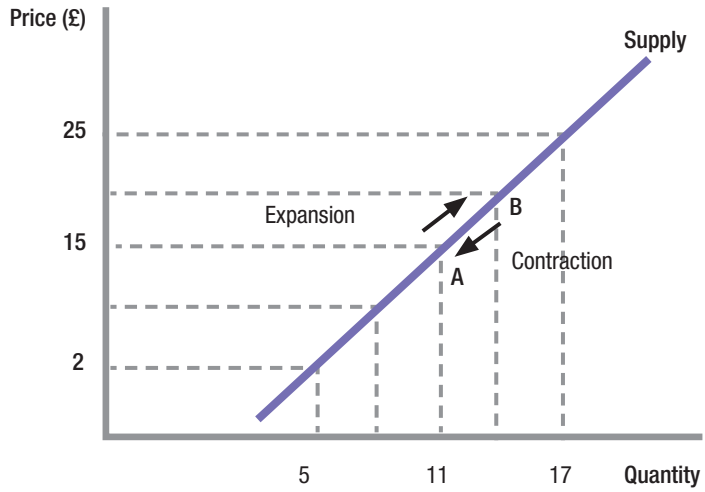
Supply refers to the quantity of a good or service that firms or producers are willing and able to supply at a given price over a given period of time.

A supply curve for a good
The supply curve for a good slopes upwards from left to right; i.e. firms will supply more of a good at a higher price. This stems from the firms' desire to maximise their profits. As a firm's profits are the difference between a good's selling price and its cost of production, firms will increase supply in order to take advantage of the higher prices, and potentially higher profits.

How to construct an individual supply curve
It is possible to collect data for a specific good relating to its quantity supplied and price. The data can be used to construct a supply curve, as shown below:

Price (£)	Supply (million units per year per year)
5	5
10	8
15	11
20	14
25	17

The corresponding supply curve is illustrated below:



The factors which determine the supply of a good or service

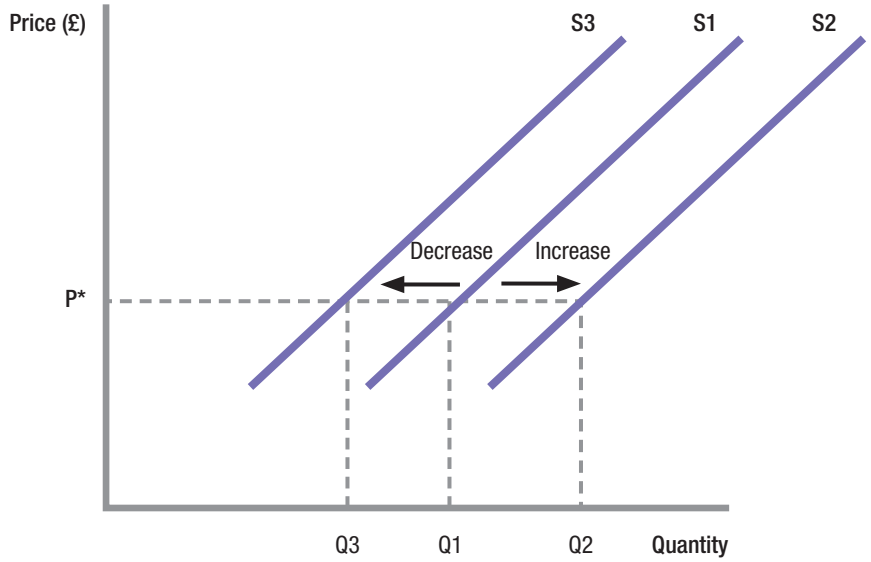
A change in price

The supply curve is upward sloping and shows that the higher the price, the higher will be the quantity supplied. If the price rises from £15 to £20, quantity supplied increases from 11 million units per year to 14 million units per year. This **movement along** the supply curve (away from the origin), from point A to point B, is referred to as an **expansion/extension of supply**. If the price decreased from £20 to £15, quantity supplied would fall from 14 million units per year to 11 million units per year. This **movement along** the supply curve (towards the origin), from point B to point A, is referred to as a **contraction of supply**. A change in **price** is the **only factor** which can cause a movement along the supply curve.

Changes in the conditions of supply

There are other factors which can alter the level of supply for a good or service. When we draw a supply curve in isolation, we assume that these 'other factors' are constant. This is referred to as the **ceteris paribus** assumption; i.e. all other factors remaining equal. A change in these other factors is referred to as a change in the **conditions of supply,** and, a change in one or more of these conditions of supply will cause the supply curve to shift to the right or left.

An increase in supply is illustrated by a rightward shift of the supply curve; i.e. the supply curve moves further away from the origin. A decrease in supply is illustrated by a leftward shift of the supply curve; i.e. the supply curve moves towards the origin. The shift of the supply curve is illustrated in the diagram below.



The main conditions of supply are:

- The costs of production;
- Technology;
- Taxes;
- Subsidies;
- Weather;
- The prices of other goods; and
- The number of firms in an industry.

A **rightward shift** of the supply curve may be caused by:

- **The costs of production;** e.g. a reduction in raw material costs, perhaps caused by a change in the exchange rate, will enable firms to supply more at each and every price. The same principle can be applied to wage costs and energy costs;
- **Technology**; e.g. technological progress enables firms to become more productive and hence they are able to increase the supply of goods and/or services;
- **Taxes;** e.g. if the government reduces fuel excise duty, this reduces a logistics firm's costs of production and enables it to supply more goods and/or services;
- **Subsidies;** i.e. a sum of money given by the government to producers. Subsidies lower firms' costs of production and enable them to supply more goods and/or services;
- **Weather;** e.g. farmers are particularly reliant on the weather for their harvests. Favourable weather conditions will boost harvests and consequently increase the supply of crops;
- **The prices of other goods;** e.g. changes in the price of substitute goods may encourage producers to switch production. If the price of a good rises, producers will see a potential profit making opportunity and may reallocate resources to the production of this good. Consequently, supply of the good will increase;
- **The number of firms in an industry;** e.g. an increase in the number of firms in an industry will increase the supply of goods and/or services.

Working these changes in the conditions of supply in the opposite direction will cause the supply curve to shift to the left.

How to construct a market supply curve

The market supply is the total supply of a good or service. Market supply is the sum total of the individual supply for a particular good or service. Consider the following example where we assume that there are only two firms in the industry:

Price (£)	Firm A	Firm B	Market Supply
100	48	32	80
80	24	16	40
60	12	8	20
40	6	4	10
20	3	2	5

ACTIVITY 2

Use the information in the table below to construct a market supply curve for chocolate bars (remember to fully label your diagram).

Price (£)	Demand (000s per year)
0.20	2
0.30	4
0.40	6
0.50	8

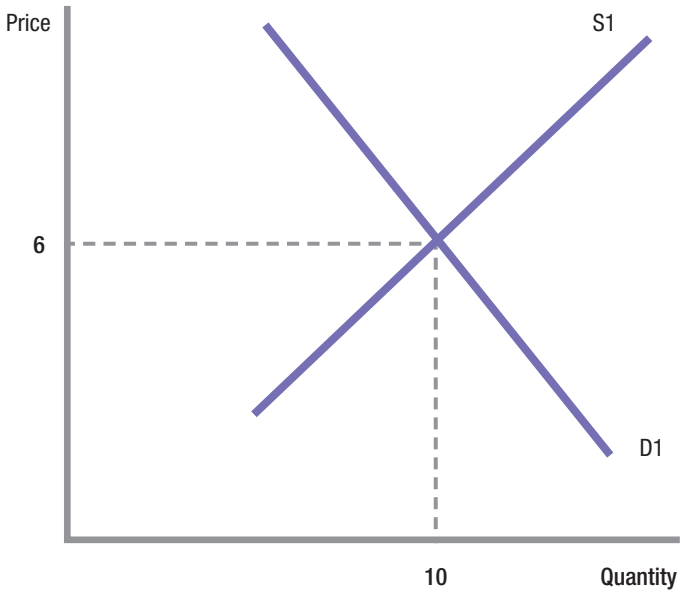
Explain what would happen to the supply of chocolate bars in the following instances:

- An increase in the number of firms in the industry;
- An increase in the national minimum wage; and
- An increase in the rate of VAT.

3 Equilibrium Price and Quantity

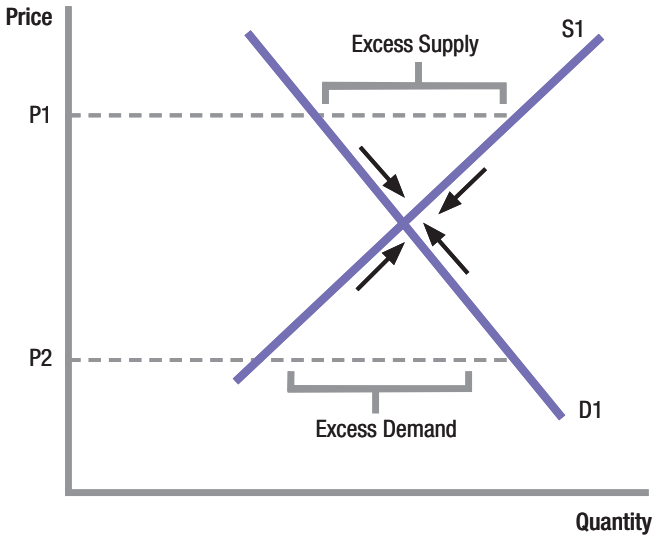
How equilibrium price is determined by supply and demand

A market brings buyers into contact with sellers. In other words, firms which supply goods and/or services are able to trade with the buyers who demand the goods and/or services. The point at which demand is equal to supply is referred to as the market-clearing price or the equilibrium price. In the diagram below, the equilibrium price is £6.



Why excess demand and excess supply can lead to changes in price

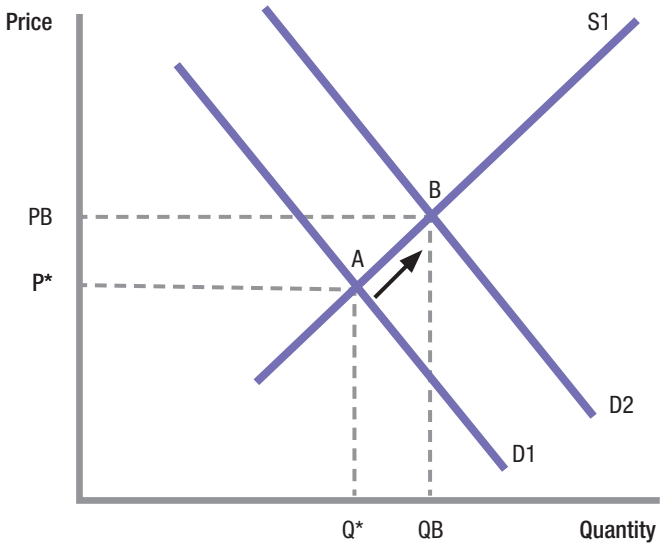
Any point where demand does not equal supply is referred to as disequilibrium. It is often the case that markets do not clear and remain in disequilibrium. At any price above the equilibrium price, there is excess supply, and, at any price below the equilibrium price, there is excess demand. This is illustrated in the diagram below.



In theory, an **excess supply** of goods and/or services should encourage producers to lower their prices in order to clear the market. Consequently, price should fall until the market clears at its equilibrium level.
Excess demand for a good and/or service should cause the price to rise in order to ration the good and/or service. Consequently, price should increase until the market clears at its equilibrium level.

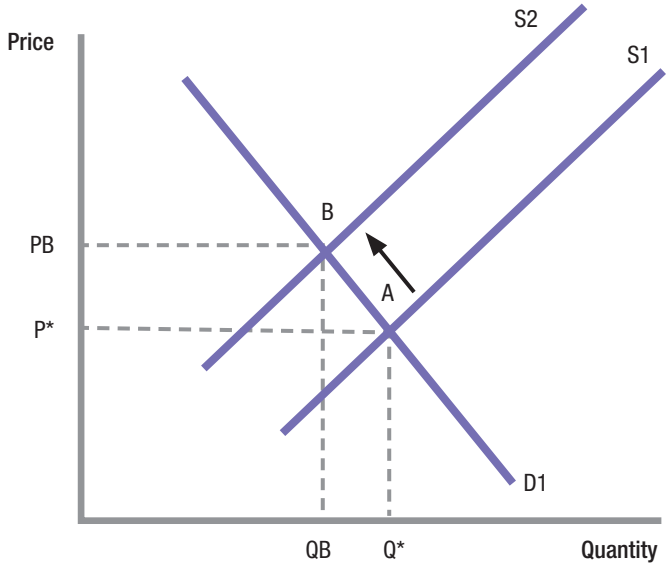
How to use supply and demand diagrams to understand the impact of changes in equilibrium market prices

We have considered how changes in the conditions of demand and supply can cause the demand and supply curves to shift. Shifts in demand and/or supply will affect the equilibrium price, quantity demanded and quantity supplied. Consider the diagram below where the demand curve has shifted to the right, caused by an increase in personal disposable incomes.



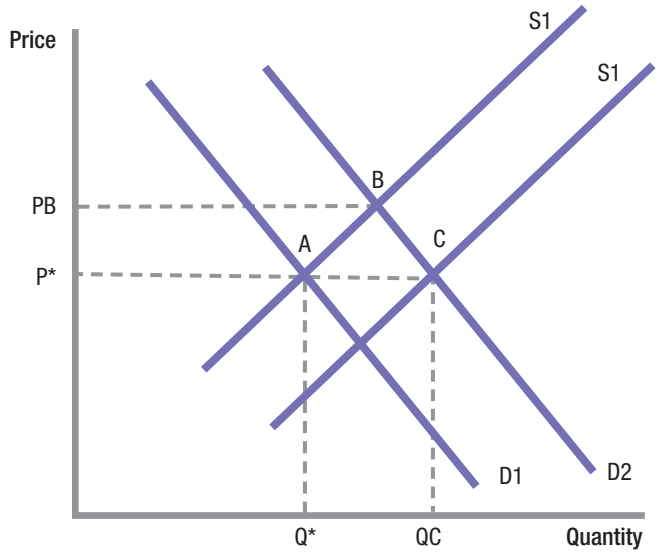
Initial equilibrium is at point A where price is P* and quantity demanded and supplied is at Q*. An increase in personal disposable incomes causes the demand curve to shift to the right and a new equilibrium is formed where the market clears at point B. As a result of the demand curve shifting to the right, price rises to PB and quantity demand and supplied increase to QB. The demand curve has shifted and there has been an expansion of supply.

Consider the diagram below where the supply curve has shifted to the left, caused by an increase in wage costs.



Initial equilibrium is at point A where price is P* and quantity demanded and supplied is at Q*. An increase in wage costs causes the supply curve to shift to the left and a new equilibrium is formed where the market clears at point B. As a result of the supply curve shifting to the left, price rises to PB and quantity demand and supplied decreases to QB. The supply curve has shifted and there has been a contraction of demand.

In some instances, the demand and supply curves may both shift. Consider our first example where the demand curve shifted to the right, caused by an increase in personal disposable incomes. We could further develop this model from equilibrium point B. At point B, price has increased from P* to PB, and this increase in price may attract more firms into the industry as they see a potential profit-making opportunity. Consequently, the supply curve shifts to the right and a new equilibrium is formed at C. As a result of new firms entering the industry, the supply curve shifts to the right and there is an expansion of demand.



ACTIVITY 3

Use the information in the table below to construct a demand and supply diagram:

Price (£)	Demand (000s per year)	Supply (000s per year)
0.20	4	2
0.30	3	4
0.40	2	6
0.50	1	8

Identify the equilibrium price and quantity.

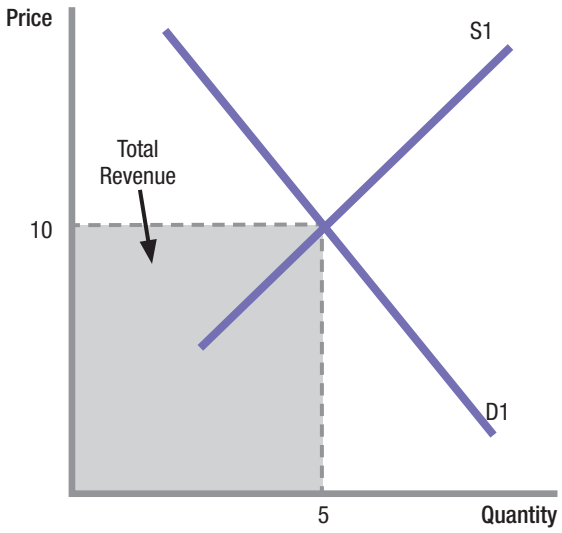
Explain what would happen to the equilibrium price, quantity demanded, and quantity supplied, if there was an increase in the population.

How to demonstrate revenue on a demand and supply diagram

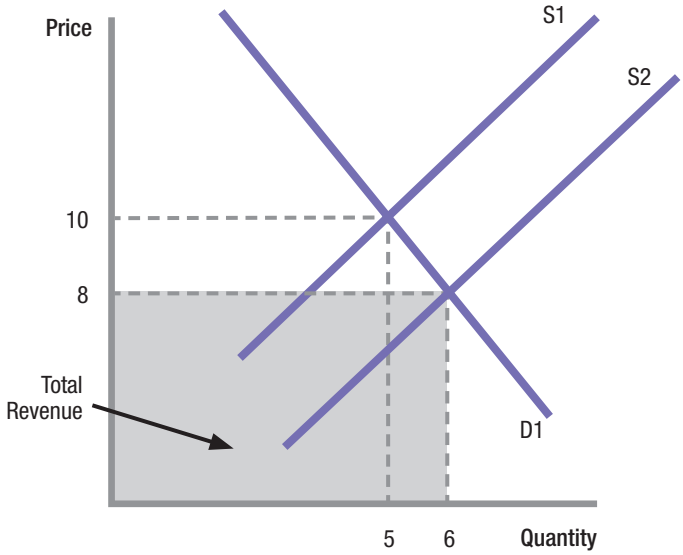
Revenue is the amount of money a producer earns from selling a good or service. It is calculated by multiplying the number of units sold by the price per unit.

- Total Revenue = Selling Price x Quantity Sold
- TR = P x Q

If you buy 5 DVDs priced at £10 each, the shopkeeper's revenue from the sale is £50. A firm's revenue can be identified as the shaded area on the diagram below where price is £10 and quantity demanded and supplied is equal to 5.



Shifts of the demand and/or supply curves will shift the market equilibrium price and quantity. Consequently, the revenue, as identified by the shaded area, will also change. A shift of the supply curve to the right will cause the price of CDs to fall to £8 each, and the quantity demanded and supplied to increase to 6 units. Total revenue decreases from £50 to £48 as shown in the diagram below.



ACTIVITY 4

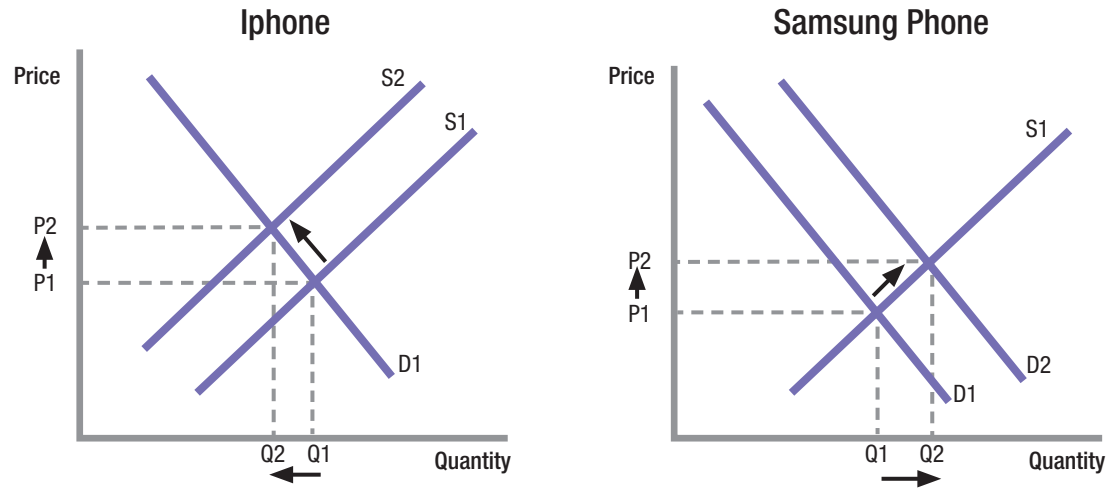
Using the data in the table below, construct a demand curve and use the diagram to illustrate how total revenue changes if the equilibrium price falls from £0.40 to £0.30.

Price (£)	Demand (000s per year)
0.20	4
0.30	3
0.40	2
0.50	1

Intermarket Relationships

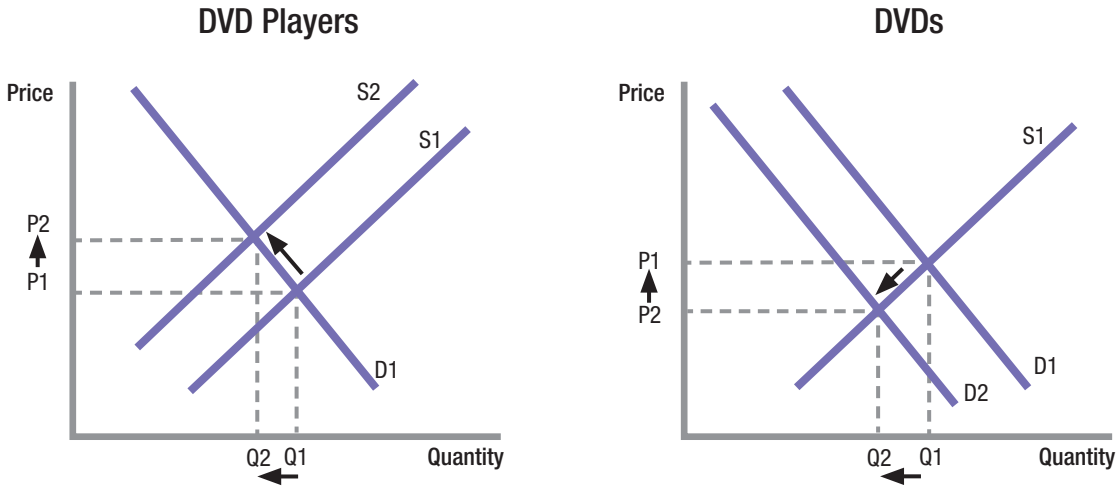
Complements and substitutes

You will recall that a complementary good is a good which is demanded because it is used with another good and a substitute is a good which can be replaced by another good. When we considered changes in the conditions of demand, we used the following example; if the price of an IPhone increases, the demand for Samsung phones will increase. Demand and supply diagrams can be used to model the impact on the market for IPhone and Samsung phones.



An increase in the costs of production in the IPhone market cause the supply curve to shift to the left. As a consequence, the equilibrium price rises and the quantity demanded and supplied falls. The supply curve shifts to the left and there is a contraction of demand. However, as Samsung phones are substitutes for IPhones, there will be an increase in demand for Samsung phones. As a consequence, the equilibrium price of Samsung phones rises and quantity demanded and supplied increases. The demand curve shifts to the right and there is an expansion of supply.

When we considered changes in the conditions of demand, we also used the following example; if the price of DVD players rises, the demand for DVDs will fall. Demand and supply diagrams can be used to model the impact on the market for DVD players and DVDs.



4 Elasticities

Price Elasticity of Demand
So far, we have assumed that quantity demanded changes as price changes; however, we have not considered the extent to which quantity demanded changes in response to a change in price. For example, consider the demand for petrol; drivers do not significantly reduce their petrol consumption as the price of petrol increases. In this instance, quantity demanded is very insensitive to changes in price. On the other hand, during the summer months, small reductions in the price of foreign holidays lead to very significant increases in demand. In this instance, quantity demanded is very sensitive to changes in price. In economics, we describe this sensitivity as a good's price elasticity of demand.

Price elasticity of demand (PED) is defined as the responsiveness of quantity demanded to a change in price.

The factors that affect price elasticity of demand

- **Substitutability;** i.e. if the price of a good rises and it is possible to switch consumption to a cheaper substitute good, then demand will be sensitive to price changes. Conversely, if there are no substitute goods available, demand will be insensitive to price changes;
- **Percentage of income**; i.e. if the purchase of a good accounts for a very small percentage of an individual's income and the price of the good increases, individuals are unlikely to change their purchasing decisions, consequently demand will be insensitive to price changes. The opposite is true if the purchase of a good already accounts for a significant proportion of income;
- **Necessities or luxur**ies; i.e. if a good is considered to be a necessity, individuals will continue to buy it in spite of price rises, in which case demand will be insensitive to price changes. On the other hand, individuals will be much more swayed by changes in the price of luxuries which will account for a greater proportion of an individual's income;
- **Habit-forming/addictive goods**; i.e. some individuals are dependent upon goods such as alcohol and tobacco, and, as such will be indifferent to price changes. Demand will be insensitive to price changes; and
- **Time;** i.e. demand is more sensitive in the long-run as it takes time for individuals to adjust their spending patterns.

Measuring price elasticity of demand
PED is measured by the equation:
Percentage change in quantity demanded / Percentage change in price

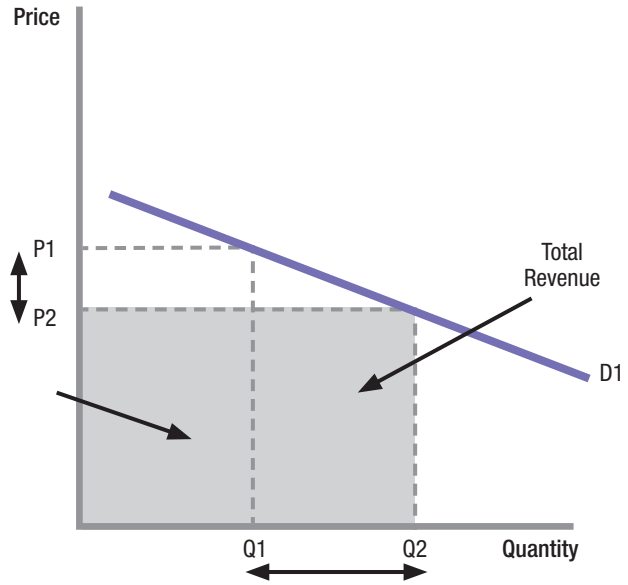
Using the equation to measure PED will always result in a negative answer, hence the need for the minus sign before the equation. The reason for this is that the demand curve slopes downwards from left to right creating an inverse relationship between price and quantity demanded. Consequently, using the equation always results in dividing a negative value by a positive value, or, a positive value by a negative value. Either way, the outcome is negative.

N.B. when interpreting elasticity values, you ignore the minus sign.

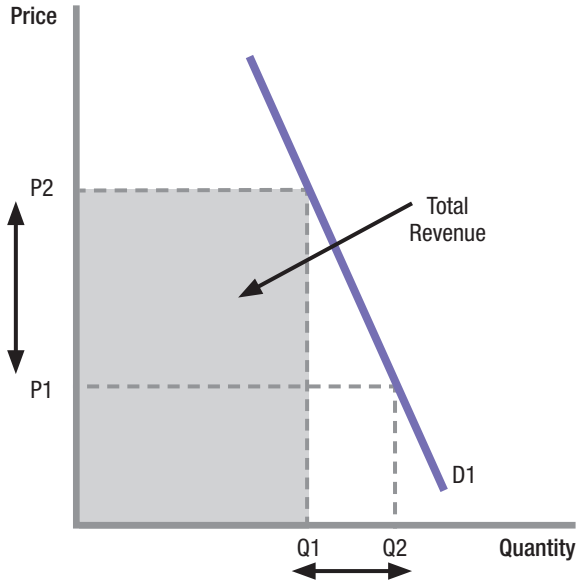
If the outcome of a PED calculation is **greater than** 1, demand is said to be **price elastic**; i.e. demand is sensitive to price changes;

If the outcome of a PED calculation is **less than** 1, demand is said to be **price inelastic**; i.e. demand is insensitive to price changes; and

If PED is elastic, a small change in price results in a large change in quantity demanded. As a result, the demand curve will be relatively flat. This is illustrated in the diagram below where the change in quantity demanded is greater than the change in price.



If PED is inelastic, a large change in price results in a small change in quantity demanded. As a result, the demand curve will be relatively steep. This is illustrated in the diagram below where the change in quantity demanded is less than the change in price.



The implications of price elasticity of demand for producers

If a firm knows that the PED for its good is elastic, it should reduce the price of its good in order to increase total revenue. As a consequence of a small reduction in price, quantity demanded will rise significantly, thus increasing total revenue.

As previously discussed, the revenue a firm earns from selling its good is shown by the area under the demand curve. Therefore, if a firm knows that the PED for its good is inelastic, it should increase the price of its good in order to increase total revenue. As a consequence of a large increase in price, quantity demanded will fall marginally, thus increasing total revenue.

ACTIVITY 5

Consider whether the price elasticity of demand for the following goods is elastic or inelastic. Give reasons for your answers.

	Price Elastic/Inelastic?	Reason?
Bread		
Coal		
Baked Beans		
Sky TV Subscription		

Perform calculations from given data
If a firm reduces the price of its good by 10% and quantity demanded rises by 20%, using the PED formula: - Percentage change in quantity demanded / Percentage change in price, we get:

+20%/-10% = -2 (ignoring the minus sign) this reads as 2. The PED for this good is therefore said to be elastic as the value is greater than 1.

If a firm reduces the price of its good by 10% and quantity demanded rises by 5%, using the PED formula: Percentage change in quantity demanded / Percentage change in price, we get:

+5%/-10% = -0.5 (ignoring the minus sign) this reads as 0.5. The PED for this good is therefore said to be inelastic as the value is greater less than 1.

ACTIVITY 6

Using the information below, calculate the price elasticity of demand if:

- **Price falls by 20% and quantity demanded rises by 10%;**
- **Price falls by 5% and quantity demanded rises by 10%.**

In both instances, explain whether price elasticity of demand is elastic or inelastic.

Price elasticity of supply

So far, we have assumed that quantity supplied changes as price changes; however, we have not considered the extent to which quantity supplied changes in response to a change in price. For example, consider the supply of goods on supermarket shelves; stocks on supermarket shelves can very quickly be replenished by bringing goods onto the shop floor from the stockroom. In this instance, as stocks can be refreshed almost instantaneously, quantity supplied responds very quickly to changes in price; i.e. quantity supplied is very sensitive to changes in price. On the other hand, at times of heightened demand, such as bank holidays and Christmas holidays, when even stockrooms and warehouses are emptied, large changes in price do not bring about significant changes in quantity supplied because the supplies are simply not there. In this instance, quantity supplied is very insensitive to changes in price. In economics, we describe this sensitivity as a good's price elasticity of supply.

Price elasticity of supply (PES) is defined as the responsiveness of quantity supplied to a change in price.

The factors that affect price elasticity of supply

- **The availability of stocks;** i.e. as considered in the introduction above, supply will be very sensitive to changes in price if significant stocks are available. If stocks are scarce, supply cannot respond quickly to changes in price and hence quantity supplied is very insensitive to changes in price;

- **Spare production capacity;** i.e. if a firm is operating well below full capacity, it can very quickly respond to an increase in demand by increasing its supply. In this instance, as supply responds immediately, quantity supplied will be very sensitive to a change in price. On the other hand, if a firm is operating close to full capacity, it cannot immediately respond to an increase in demand by increasing its supply. In this instance, as supply adjusts very slowly, quantity supplied will be very insensitive to a change in price;

- **The ease of switching between alternative methods of production;** i.e. if a firm can quickly and effectively switch between the use of capital and labour in production, it can very quickly respond to an increase in demand by increasing its supply. In this instance, as supply responds immediately, quantity supplied will be very sensitive to a change in price. On the other hand, if a firm has no choice but to use a specific factor of production, and all factors of production are employed, it cannot immediately respond to an increase in demand by employing a substitute factor of production. In this instance, as supply adjusts very slowly, quantity supplied will be very insensitive to a change in price;

- **Time**; i.e. it takes time for firms to respond to changes in demand. The speed with which a firm can meet changes in demand with changes in supply depends upon the industry in which the firm is operating. In agricultural crop markets, it is not possible to miraculously produce crops out of nowhere as a certain lead time is required for planting and harvesting. In this instance, as supply adjusts very slowly, quantity supplied will be very insensitive to a change in price. On the other hand, if farmers are made aware that next year's demand for crops will be much higher, farmers can plan ahead and meet the additional demand with additional supply. In this instance, as supply responds immediately, quantity supplied will be very sensitive to a change in price.

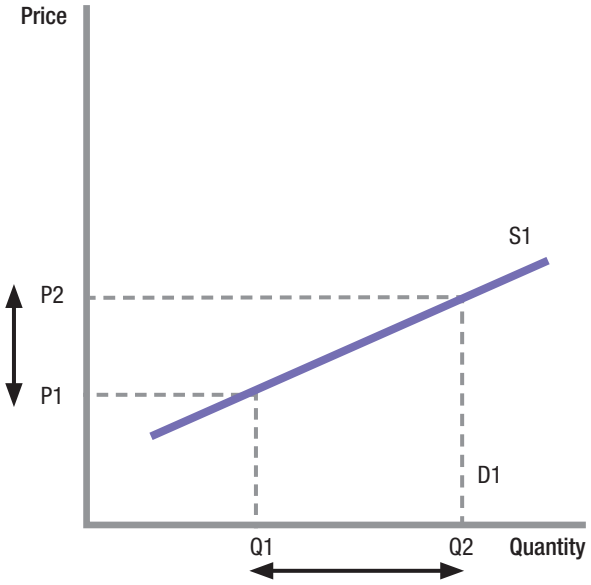
Measuring price elasticity of supply
PES is measured by the equation:

Percentage change in quantity supplied / Percentage change in price

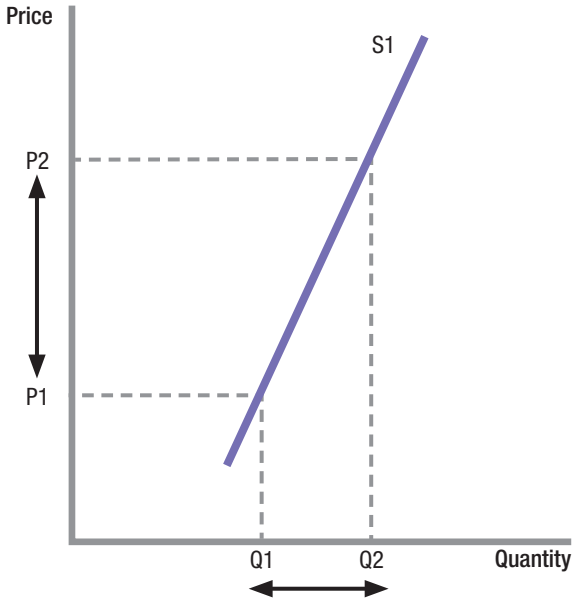
If the outcome of a PES calculation is **greater than 1**, supply is said to be **price elastic**; i.e. supply is sensitive to price changes;

If the outcome of a PES calculation is **less than 1**, supply is said to be **price inelastic**; i.e. supply is insensitive to price changes; and

If PES is elastic, a small change in price results in a large change in quantity supplied. As a result, the supply curve will be relatively flat. This is illustrated in the diagram below where the change in quantity supplied is greater than the change in price.



If PES is inelastic, a large change in price results in a small change in quantity supplied. As a result, the supply curve will be relatively steep. This is illustrated in the diagram below where the change in quantity supplied is less than the change in price.



Perform calculations from given data
If a firm increases the price of its good by 10% and quantity supplied rises by 20%, using the PES formula: - Percentage change in quantity supplied / Percentage change in price, we get:

+20%/+10% = 2. The PES for this good is therefore said to be **elastic** as the value is **greater than 1**.

If a firm reduces the price of its good by 10% and quantity supplied falls by 5%, using the PES formula:

Percentage change in quantity supplied / Percentage change in price, we get:

-5%/-10% = 0.5. The PES for this good is therefore said to be **inelastic** as the value is **greater less than 1**.

ACTIVITY 7

Using the information below, calculate the price elasticity of supply if:

- **Price rises by 10% and quantity supplied rises by 20%;**
- **Price rises by 10% and quantity supplied rises by 5%.**

In both instances, explain whether price elasticity of supply is elastic or inelastic.

Multi-choice questions

1 Which of the following could lead to a reduction in the **quantity demanded** of a product?

A A fall in price of a substitute product

B A fall in the price of the product

C A fall in the price of a complementary product

D An increase in the cost of production

2 Which of the following would lead to a leftward shift of the **supply curve** for TVs?

A A fall in the price of raw materials

B A fall in income tax

C The introduction of new technology to make the production process more efficient.

D An increase in the cost of labour manufacturing the TVs

3 A 6% increase in the price of apples leads to a 3% decrease in the quantity demanded. What is the **price elasticity** of demand of apples in this case?

A -2.0

B +2.0

C -0.5

D -5.0

4 The demand for a product is more **elastic**

A The higher its price is as a proportion of income

B The higher the degree of habit there is when consuming the product

C The more substitutes exist for the product

D In a short period of time

5 Which of the following would lead to a leftward shift of the **demand curve** for a packet of crisps?

A A rise in general income levels

B An increase in the price of potatoes

C More advertising for the crisps

D A fall in the price of a packet of peanuts

Short answer questions

6 Suggest two possible factors that could lead to a rightward shift in the supply curve for replica Premier League leather footballs:

1 _____

2 _____

2 Marks

7 Explain how and why a fall in the price of fish will change the demand for chips (from a takeaway).

_____

_____

_____

_____

2 Marks

CHAPTER 4 PRODUCTION, COSTS, REVENUE AND PROFIT

1 Business Objectives

How a business manages its operations will depend on a number of internal and **external** factors. One such factor is its own objectives as a business. Although the obvious reason for a business to exist is to 'make money' there are several potential objectives that can be identified:

- **Profit (maximisation)**. Many firms exist in order to maximise the return to the business owners. Starting and running a business is both risky (in terms of losing income) and hard work so many business owners seek to maximise the profit made as their reward. Profit can be defined as 'sales revenue minus the cost of production (or running of the business)'.

- **Sales growth**. Some firms may wish to maximise the number of units of their products or services that they sell. Some business owners and managers will gain personal satisfaction from having as large an operation as they can (without making a loss). This does not always mean that they are maximising profits – to achieve sales growth firms may have to reduce the price of their goods and services.

- **Increasing market share**. A firm may also take the view that a short-term goal may be to improve the proportion of the market share that they have. This means that they will need to take customers off their competition or start to sell a higher proportion of goods than their competitors. The firm may hope that they gain more customer loyalty and maintain profits over an extended period of time.

- **Social enterprise**s. Some firms may **not** wish to make large profits at all but want their business to provide a social purpose. For example, supermarkets may sell Fair Trade foodstuffs at high prices and with low profit margins but will be content that they are supporting farmers in poorer communities.

ACTIVITY 1

Consider the table below on market share for supermarkets in the UK.

Grocery Market Shares April 2016	Market Share (%)
Tesco	28
Asda	17
Sainsburys	16
Morrisons	11
Co-Op	6
Aldi	6
Waitrose	5
Lidl	4
Iceland	2

Although they have been established since 1913 in Germany, the first **Aldi** store in the UK was only opened in 1990. Now it has over 300 stores nationwide and its market share continues to increase – over-taking the long-established UK brand Waitrose.

Suggest **two** possible advantages for Aldi from growing its market share in the UK:

2 Costs and Revenue

Costs:
To determine if a firm is meeting its objectives it will need to calculate the revenue that it brings in from sales and the costs of production or providing services.

- **Fixed Cost** Any cost that does **not** change with output, e.g. rent
- **Variable Cost** Any cost that **does** change with output, e.g. raw materials
- **Total Cost** The total cost of all goods/services produced (fixed costs plus variable costs)
- **Average Cost** Total cost of goods and services divided by the number of units produced

ACTIVITY 2

The list below shows some costs for a T-shirt manufacturer. Separate the costs into those that you think are fixed and those that are variable.
Delivery charges, lighting, rolls of fabric, trade magazine advertising, fabric dye, sewing machines

Fixed Costs	Variable Costs

Calculating costs

Look at this table for a small business selling cakes at a market stall:

Fixed costs	£2,500
Variable cost per cake	£0.50
Current output of cakes	1,000

What is the average cost per cake?

We know that the business is selling 1000 cakes. The total variable cost must be:
Output x variable cost per cake
1,000 x £0.50 = £500

The total cost adds the total fixed and variable costs together. So:
Total Cost = £2,500 + £500 = £3,000

The **average cost** is the total cost divided by the number of cakes:
£3,000/1000 = £3.00

ACTIVITY 3

Look at this table for a small business selling printer cartridges:

Fixed costs	£8,000
Variable cost per cartridge	£2.50
Current output of cartridges	2,000

What is the average cost per cartridge?

Revenues:

Total Revenue	All revenues generated by sales of goods
Average Revenue	Total revenue divided by the number of units sold
Profit	Total revenue – total costs

Remember, from your demand and supply analysis, sometimes the only way that a business can increase sales is by reducing prices. This means that as output and sales increases the business is likely to see a decrease in average revenue – what they receive in sales receipts will fall per item sold.

Look at this table for a small business manufacturing and selling boxes of gloves to retailers (figures in £):

Output	Total fixed cost	Total variable cost	Total cost	Average cost	Total Revenue	Average Revenue
0	70	0	70	-	-	-
1	70	15	85	85	100	100
2	70	30	100	50	180	90

Total cost = Total Fixed Cost + Total Variable Cost

Average Cost = Total cost/Output

Average Revenue = Total Revenue/Output

ACTIVITY 4

Complete the table for a small business manufacturing and selling boxes of gloves to retailers (figures in £):

Output	Total fixed cost	Total variable cost	Total cost	Average cost	Total Revenue	Average Revenue
0	70	0	70	-	-	-
1	70	15	85	85	100	100
2	70	30	100	50	180	90
3					240	
4					280	
5					300	

3 Profit

Profit is the difference between our costs and sales revenues. So,

Profit = Total Sales Revenue – Total Costs

Continuing with our example of the small business above (figures in £)

Output	Total fixed cost	Total variable cost	Total cost	Average cost	Total Revenue	Average Revenue	Profit
1	70	15	85	85	100	100	15
2	70	30	100	50	180	90	80

ACTIVITY 5

Complete the table for a small business manufacturing and selling boxes of lettuces at local markets (figures in £):

Output	Total fixed cost	Total variable cost	Total cost	Average cost	Total Revenue	Average Revenue	Profit
0	100	0		-	-	-	-
1		20			180		
2		40			320		
3					420		
4					480		
5					500		

The importance of cost, revenue and profit for producers
If profit is the most likely objective for many businesses the ability to calculate and predict a figure is very important. In order to do this, the businesses must be aware of their costs and potential revenue – including being aware that average revenue is likely to decrease as sales increase.
Often the easiest costs to alter are the variables ones – although all costs can be altered over a period of time, including such things as rent on factory space.

Ethical and Moral Considerations

'Ethics' is the concept that someone or an organisation should do the 'right thing' by society's standards. **'Moral considerations'** are referring to actions that contravene an individual's or a group of people's principles. Although profit will often be the most significant objective, businesses may still be under considerable pressure to ensure that they operate in an ethical or moral way, even if this may mean increasing average costs. Such issues may include:

- **Ensuring sufficient business taxes are paid to central governments.** Some firms are able to reduce their tax payments by operating under favourable international conditions (e.g. Starbucks only paid £8.4m in corporation tax to the UK between 1998 and 2012). If a business pays low levels of tax compared to individuals paying income tax, some people will argue that the company is not fulfilling its moral obligations.

- **Equality of pay for staff.** Businesses are under pressure to ensure that the difference in income between the lowest paid and highest paid workers is fair.

- **Environmental impact.** The impact on the environment either from production processes or from use of manufactured products needs to be considered.

- E**xploitation of workers living in relative poverty.** Some businesses reduce costs by using relatively cheap labour from developing nations. The business needs to be seen to pay such workers a fair pay and ensure that they work in a safe environment.

Failure to consider these ethical and moral objections can lead to bad publicity and a reduction in sales for the business.

4 Production and Productivity

Production' refers to the process of manufacturing a product. **'Productivity'** refers to the level of efficiency throughout the production process. Productivity is often quoted as 'output per person' or 'output per hour'. For many businesses, a key method of reducing costs is to improve the level of productivity. For example, if a firm pays one worker a fixed wage of £200 a week and that worker produces 10 products the fixed cost per unit is (200/10) £20. However, if the same worker could produce 12 units per week for the same wage then the fixed cost per unit reduces to (200/12) £16.67. This would be classed as an '**increase in productivity**'.

Let's say a worker for a business produces 100 units per week. The business purchases a machine for the same worker and they now produce 200 units per week thanks to the machine. In this instance, the productivity of the worker has clearly improved (in fact, its doubled!) but the cost of the machine has to be taken into account. Machinery can be very expensive and whilst it may improve productivity it may take months or years before the cost of the machine starts to bring improved profits for the business.

Methods of improving productivity:

Division of labour (see previous chapter)

- **Use of technology and machinery** to improve speed and accuracy of output. For example, the development of digital scanners that read bar codes at supermarket tills means that more customers can be served in any one hour.

- **Training of workers.** A worker will become more effective at their job if trained. For example, a young person fulfilling an apprenticeship at a building site (requiring them to attend school or college one day a week) may become more effective.

- **Improving morale at the workplace.** Some workers will react positively to their work conditions which may improve their effectiveness. An obvious way to improve morale is to offer more wages (or an output-based bonus) although this increases costs. Another method may be to make the workplace cleaner, safer or generally more pleasant.

- **More effective management.** A good manager is one that can ensure that their sub-ordinates are working as effectively as possible.

ACTIVITY 6

Google have several offices around the world to house their employees and have plans to build a new one in London. A common theme throughout their offices are a series of resources to help its workers. These include swimming pools and saunas, 'nap' rooms for staff to have short sleep breaks, games rooms and zones that resemble children's play areas.

Why would Google include these types of resources for their workers when they come at such a large cost?

The benefits of increased productivity:

- It should increase output leading to higher sales
- It can lower costs leading to higher possible profit levels
- Lowering costs could be passed on to a reduction in price, making the business more competitive
- It could improve the quality of the products which, again, improves competitiveness.
- Higher productivity could lead to higher wages for workers (particularly if they are paid commission or by output).

ACTIVITY 7

A factory making golf balls employs 5 people and produces 1,000 golf balls a week. The factory purchases a new machine to help the manufacturing process and the number of golf balls produced increases to 1,500 per week. What is the increase in output per worker?

5 Economies of scale

One way a firm may be able to reduce unit costs is if it can benefit from **economies of scale**.

'Economies of scale' is any financial advantage that comes from increasing output or production and which leads to a fall in average unit costs. Mass production of goods should start to reduce the average cost of production per unit.

Types of economies of scale:

- **Technical economies** – these may arrive through the use of technology. Use of a machine, robot or computers can increase the speed and accuracy of production. However, the machinery may be expensive and its cost can only be justified if output increases significantly.
- **Purchasing economies** – businesses may be able to buy raw materials or components cheaper if they purchase them in bulk. The reduction in price may be achieved due to a fall in the average cost of transport if the raw materials are moved in larger quantities or due to a fall in administration costs.
- **Marketing economies** – a firm which is selling on a large scale may be able to afford more effective advertising. For example, a TV advert will have a much wider reach than a magazine advert. However, the business can only afford the cost of TV advertising if producing and selling in large enough numbers.
- **Financial economies** – businesses making larger loans can often do so at a reduced interest rate (reducing the cost of repayments). Larger firms may be able to raise more money through other methods such as selling shares.
- **Managerial economies** – larger firms can afford to employ more managers which can lead to an increase in efficiency of workers.
- **Risk-bearing economies** – larger firms are more able to increase the range of different products that they produce. In this way, the business is more able to cope with a fall in demand for one or more of its products.

The existence of economies of scale means that businesses are more likely to want to grow and increase their output. The reduction in average cost should lead to an increase in profits and improve the potential for gaining market share from competitors.

However, business growth does not come without some costs. Any factor which starts to lead to an increase in average cost is called a **'diseconomy of scale'**.

Types of diseconomies of scale:

- **Communication problems** – with an increase in the number of managers and workers, effective communication between them can become more difficult. Some staff may not know all the information that they need or it may take a longer time to inform everyone. This will make the workers less effective and increase average costs.
- **Co-ordination and control problems** – the more staff that are employed the more likely people will operate in different ways. This may make it more difficult to manage people.
- **Morale** – workers in organisations with a large number of people may start to feel as if they are less important as their view will count for less. This can lead to lower morale and less efficient work practices.

ACTIVITY 8

Identify the types of economies of scale occurring in these case studies:

	Type of economy of scale:
Paperworks paper manufacturing company was set up to offer good employment to people with registered disabilities and has just opened a much larger factory with state-of-the-art machinery. They now hope to supply paper to newspaper companies as well as stationery firms.	
Gordon Construction have grown so large they have been floated on the stock market. Now that they are completing massive building projects they are able to buy raw materials in large quantities at a discount.	

Multi-choice questions

1 Which of these is an example of a variable cost in a car maintenance garage?

A Manager's monthly wage

B Rent for the garage

C Advertising in local newspaper

D Replacement tyres

2 Which of these is a formula that could be used to calculate profit?

A Output x sales price

B Average revenue x sales

C Total revenue – total costs

D Total revenue/output

3 Which of the following is the most likely to lead to an increase in productivity for a shoe manufacturing firm?

A An increase in effective training

B An increase in demand for shoes

C An increase in the price of shoes

D An increase in the number of workers employed

4 A business decided to restructure its workforce and create a number of supervisory roles. This lead to a fall in average prices. This is an example of:

A Technical economies

B Purchasing economies

C Managerial economies

D Financial economies

5 A car manufacturer opened a new factory to produce small components for their cars instead of importing those components from abroad. However, this lead to an increase in average costs per car. This is an example of:

A Lower productivity

B Fall in output

C An ethical impact on production

D Diseconomies of scale

Short answer questions

6 A business makes wire baskets used in supermarkets. Give two ways the business could improve productivity:

1

2

2 Marks

7 Explain why average revenue tends to decrease as output and sales increase.

2 Marks

CHAPTER 5 COMPETITIVE AND NON-COMPETITIVE MARKETS

1 Competitive Markets

What is a competitive market?
A market is where buyers and sellers meet. A competitive market is a market that has many buyers and sellers. In order for the market to work efficiently, producers should face no barriers to entry into the market and consumers should have perfect information.

ACTIVITY 1

Have a short discussion with someone in your class about what barriers to entry there might be in different markets. If you are struggling for markets to discuss, use these: Pharmaceutical market, car manufacturing, newspaper publishing and the high street bank market.

How many did you and your friend come up with? Were there barriers to entry that were specific to a particular industry or were there general barriers to entry?

Profit maximisation
In a free market economy, it is assumed that all firms want to maximise their profits. Therefore, in order to be profitable in a competitive market, firms have to find ways of lowering their costs of production and this in turn means they can lower their prices.

Remember that in an **elastic market** where there are many **substitutes** (which there should be in a competitive market) a firm would have to lower its price in order to increase revenue. By increasing revenue, they should be able to boost profits, assuming they can keep costs the same or lower them.

Competition
The most obvious way that firms compete is through price competition. However, there is a limit to how low prices can go before producers start making a loss and therefore they have to come up with other ways of enticing the consumer.

ACTIVITY 2

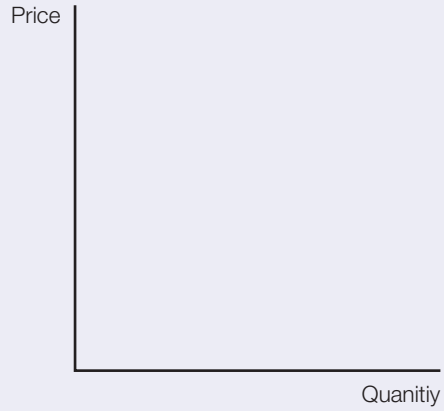
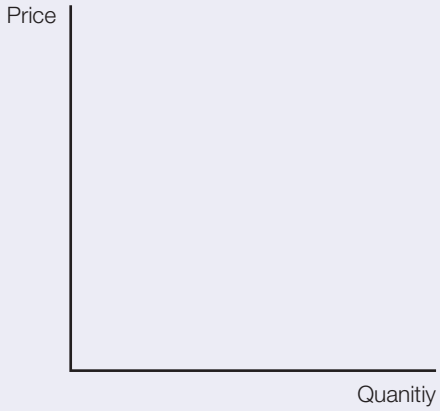
Think of all the different ways that producers try to make you part with your money. Can you break them down into price and non-price competition (i.e. factors not relating to the price of the product/service)?

Demand and Supply
A competitive market means that there are many buyers and sellers within the market.

As new firms enter a market, **supply** shifts to the right and this causes a reduction in price due to the increased **competition** leading to increased efficiency, which lowers the **cost of production**. Draw this in the activity below.

As there are more firms in the market, individual firms **demand** curves are likely to shift to the left as there are more **substitutes**. Draw this in the activity below.

ACTIVITY 3

Many firms entering the market:	Availability of more substitutes in market
	

Make sure that you draw the equilibrium price and output levels for both the original market position and the new one. You should be able to see, price falls in both cases, which is normally bad for the producers.

The economic impact of competition

How does competition impact the main economic groups?

- **Consumers** – those who demand goods and services should benefit from competitive markets, as they should pay lower prices and have more choice. Also, they may receive improved quality of products as firms innovate to survive. However, it's not all good news for consumers as sometimes the good or service might be of poor quality due to a producer trying to cut costs in order to compete. They might also be faced with higher prices as firms spend money advertising their goods and services and this is an additional cost that could increase the price.

- **Producers** – those who supply goods and services will have to become more efficient to survive. If they do not, then they could easily go out of business. As a producer in a competitive market, it should be impossible to make large profits as firms would be incentivised to enter the market if they could see large profits were being made and this would compete away profit. A producer would also have to think carefully about how to spend their profit. Would they use it to advertise in order to boost market share in the short term or invest into research and development in order to create innovative products in the long run?

- **Government** – the government normally encourages competitive markets as it leads to increased well-being for consumers through lower prices and greater choice. However, as producers receive lower profits, it means tax revenue will not be as high for the government.

ACTIVITY 4

Rank the order of competitiveness in the following markets:
Railways, Glasses, Fruit and vegetables, Computers, Fast food

1	2	3	4	5

Justify your rankings with a partner and discuss where you have differentiated.

2 Non-competitive Markets

What is a non-competitive market?
A non-competitive market is a market that has **few** sellers. A market where there is only one seller is called a **monopoly** and where there are just a few sellers it is called an **oligopol**y.

As well as the number of sellers, a non-competitive market will have the following characteristics:

- **Barriers to entry** – there may be a number of reasons which prevent other businesses entering the market. The existing business may benefit from customer loyalty or economies of scale. It may be that the cost of setting a business in the market is so large many private individuals do not have (or even borrow) sufficient funds to start.

- **Product** - The firms will ensure that their products are slightly different (called *differentiated*) to set them aside from their competitors. These differences are more likely to be important than differences in prices. For example, petrol forecourts in any one town may charge very similar prices for their fuel but may use opening times, offers or availability of groceries as a means of attracting customers.

- **Prices** - Non-competitive firms have a much greater say over the price that they charge. A lack of competition means that the firms are not having to drive their prices down to attract customers.

- **Profits** – most non-competitive firms will attempt to profit maximise. They may be so large that they suffer from diseconomies of scale.

ACTIVITY 5

Conduct some research into the supermarkets below. Find one example of a branded product (e.g. Heinz Beans) and find out the difference in price charged by the supermarkets. Find one example of how the supermarkets offer something different to their competitors.

Tesco	Asda	Sainsburys
Price of branded product:	Price of branded product:	Price of branded product:
One way the supermarket differentiates:	One way the supermarket differentiates:	One way the supermarket differentiates:

The economic impact of a non-competitive market

How does a lack of competition impact the main economic groups?

- **Consumers** – a lack of competition will mean that the price charged to customers is likely to be **higher** than a competitive market. Alongside this, there is less of a drive for the businesses to ensure as high quality as possible or to **innovate** and improve the functionality of the product. There may also be very little choice for consumers. As such, consumers often lose out in markets with few competitors.

- **Producers** – Businesses in non-competitive markets are able to make large profits. There is less drive for businesses to be highly efficient. However, those large profits may mean that the business has more funds to innovate. For example, Apple exist in a market for tablets with few genuine competitors. However, they use their huge profits to continually improve the quality of their Ipad. Likewise, whilst many competitors can produce cheaper, possibly better value tablets than Apple, brand loyalty means that the Ipad remains the most popular tablet on the market.

- **Government** – because there is a potential for consumers to lose out in non-competitive markets, the government are more likely to intervene on their behalf. For example, the UK government has discussed the possibility of setting an upper price limit on energy suppliers so that consumers are not paying higher and higher amounts. The government may prevent two firms merging if it will make the market less competitive. In some cases, the government can even force businesses to break into two separate firms so that more competition is created. The large profits made by non-competitive firms may bring in large **taxation revenues** for government.

ACTIVITY 6

The government has insisted that the arm of BT known as Openreach be legally separated from its parent company and should operate as an independent business. Openreach provides the cabling to almost every household and business in the UK allowing them access to data and the internet. They act as a 'monopoly' in the supply of cabling and have been accused of giving preferential treatment to businesses that use BT for other services (such as their telephone and mobile phone services). Another concern was that Openreach was not acting quickly enough to ensure that customers had the best quality of broadband fibre cables installed in their homes or offices.

Identify two issues that have arisen because Openreach operate in a non-competitive market:

Multi-choice questions

1 Which of the following would be described as a **competitive market?**

A Bus services

B Mobile phones

C Window cleaning

D Search engines

2 Which of these is a type of **non-price competition**?

A BOGOF (Buy One Get One Free)

B Promotional pricing on new products

C Flyers through the door

D 3 for 2 deals

3 In a competitive market, what is **most** likely?

A Elastic demand curve and inelastic supply curve

B Inelastic demand curve and elastic supply curve

C Elastic demand curve and elastic supply curve

D Inelastic demand and inelastic supply curve

4 Which of these is **not** needed for a competitive market?

A Many buyers

B Perfect information

C Many sellers

D Barriers to entry

5 How can producers use their **profits** to be more competitive?

A Reduce prices

B Pay their workers more

C Invest into Research & Development

D Advertise

Short answer questions

6 State one example for each of the two methods of competition::

Pricing

Non-pricing

2 Marks

7 Explain **one** possible impact of more firms entering a market on a producer already in the market:

2 Marks

CHAPTER 6 THE LABOUR MARKET

1 The role and operation of the labour market

What is the labour market?
The labour market is where the supply of labour offered by households interacts with the demand for labour by firms. This interaction gives us the price of labour (in other words the wage rate).

The demand for labour is said to be 'derived'. This means that the demand for labour is dependent on the demand for the products and services for which the labour is required.

The Labour market is where workers sell their labour and employers buy their labour. The market is made up of household's supply of labour and firms demand for labour.

How are wages determined?
In a free market economy wages are determined by the interaction of demand and supply. However, in reality the government and trade unions will exert influence on the actual wage level.

The labour market offers a meeting place for workers and employers to determine pay and the number of workers who will be employed. A shortage of workers leads to higher pay; this in turn sends a signal to the labour market that more workers are needed.

ACTIVITY 1

Sam is 17 and works at his father's fish and chip shop. He is working part-time for eight hours a week. The money he earns is used to run his second-hand car.
He doesn't expect to work in his current job for long as he is going to university in September.
Why does Sam choose to work only 8 hours per week?

2 How are workers paid?

Some workers are paid a salary where their annual pay is divided into 12 equal parts and paid monthly. Other workers are paid an hourly rate and this is known as their wage. Economists often use the term 'wage' to cover both salary and wages.

ACTIVITY 2

There are a number of labour markets which depend on location and nature of skills involved.
Can you list three of each type?

Location

Skills involved

There are some factors that may cause the labour market to not operate perfectly. These could include:

Workers lacking the skills required;

- **Workers are unwilling to move** to another part of the country or indeed to another country. We often use the term 'geographical immobility' to describe this feature of the labour market.
- **Personal factors** such as family ties may be an issue
- **Information failure** is a form of market failure where economic agents lack full information. Some people will be unaware of all of the job opportunities that exist.

ACTIVITY 3

Using the internet or local newspapers find a job that you would like to do for work experience.
What are the pay and conditions for this job?

What are the best and worst aspects of the job that you have chosen?

How can we use demand and supply to determine wages?

Previously, we have used demand and supply diagrams to show how price and quantity is determined in the market place. We can use a similar process in the labour market.

The factors affecting the demand and supply of labour

Demand factors

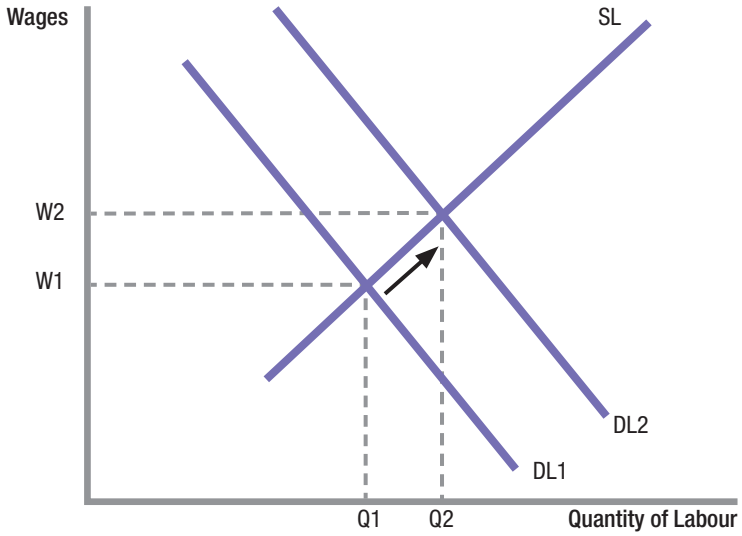
- **The performance of the economy** – if the economy is performing well and demand is growing, businesses are more likely to demand labour to make products or provide services.
- **Changing demand in specific markets** – if a particular market is growing, businesses within that market are likely to demand more labour
- **Wage rates** – if wage demands are relatively low, businesses are more likely to demand more labour
- **Productivity of labour** – the more efficient an individual is, the more likely to they are to be employed. However, as workers become more and more efficient, fewer people will be needed to perform a task
- **Profitability of firms** – the more profit a firm is making the more likely they are to increase employment.

Supply factors

- **Wage rate** – the higher the wages offered, the more likely people are to offer their services to employers
- **Other monetary benefits** – these could include bonuses or pension contributions from employers. Offering these means an individual is more likely to seek employment
- **Structure of the population** – if the population is aging (i.e. the proportion of older people is growing and the proportion of younger people is falling) there is a smaller supply of labour.
- **Fringe benefits** – these could include company cars, healthcare insurance or extended holidays. The more fringe benefits offered the more likely people are to seek employment with a particular business.
- **Education and training** – the more educated and trained people are the more likely they are to offer their services.

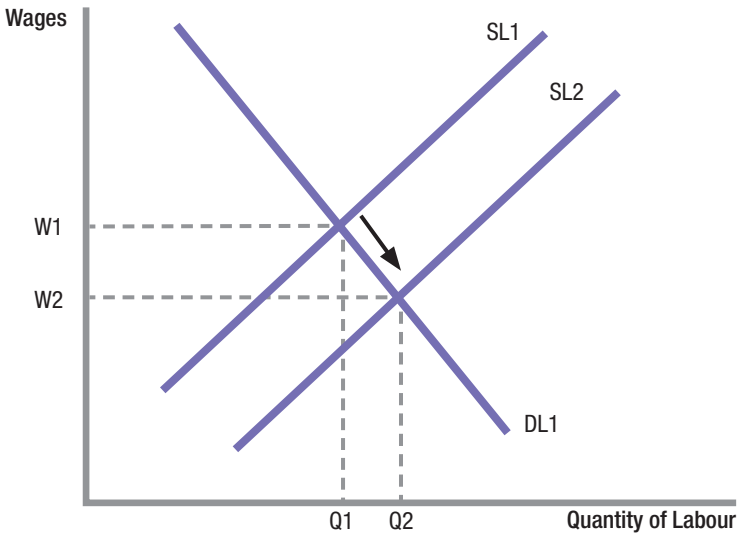
We can use a modified demand and supply diagram to illustrate the impact of changing conditions to the supply and demand of labour.

For example, what happens to the supply and demand for labour if the economy sees growth?



Note: the different labels for the axes and curves compared to demand and supply diagrams we used before. Here, the improvement in the economy has resulted in an increase in demand for labour. This causes a rightward shift in the Labour demand curve.

What if there is a decrease in the cost of nursery or creche facilities?



Here, as childcare facilities have become cheaper, more people are willing to supply their labour.

How big will the above changes in the labour market be?

At this stage, it is worth recapping your knowledge of Price Elasticities of Demand and Supply. Both of these will have an impact on the size of any change.

It is the interaction of the two that is important. For example, when demand is low and elastic and the supply is high and inelastic, the wage will be low e.g. cleaners.

There are cases where supply may be perfectly inelastic, for example a footballer with very rare talents, such as Premier League footballer will receive very high wages.

ACTIVITY 4

Draw a demand and supply of labour diagram to show what might happen to the wages of a Premier League Footballer after they have got their first call up for their international team.

3 Gross and Net pay

Gross pay is the wage that you receive before any deductions are made. **Net Pay** is the amount of money that you have to spend or save after all deductions such as income tax have been made. This is often referred to as take-home pay.

ACTIVITY 5

Complete the tables below to show gross pay

Monthly wage	£
Basic wage	22,500
Commission	1500
Gross Pay:	
Income tax	4,000
National insurance	1900
Pension contribution	1200
Net pay:	

Multi-choice questions

1 Which of these factors reduce the level of mobility of labour within an economy?

A Highly qualified workforce

B Highly skilled workforce

C Family ties

D Internet job recruitment services

2 Which of the following would make the supply of labour to a particular job more elastic?

A Low levels of skill required for job

B High levels of risk to personal safety when undertaking the job

C High levels of skill required for job

D Job requires unsocial working hours commitment

3 Which of these best describes factors affecting the supply of labour?

A The next best alternative job

B The cost of purchasing a house

C The weather

D The wage rate

4 Which of these is **not** considered a factor affecting the demand for labour?

A Increased demand

B Fashion

C Wage rate

D Profitability of firms

5 Which of these would appear as a deduction from Gross Pay on a pay slip when calculating Net Pay?

A Rent

B Wages

C Income tax

D Profit

Short answer questions

6 State two examples of factors that may cause labour markets to lack perfect mobility:

1 _____

2 _____

2 Marks

7 Explain what is meant by the term Demand for labour?

_____

_____

_____

_____

2 Marks

CHAPTER 7 MARKET FAILURE

1 Market Failure

Up until this point, we have been considering how markets determine prices and how demand and supply impact on output. The use of demand and supply curves to determine prices and quantities can often ensure that allocation of scarce resources is at its most efficient. However, there are examples of how these 'market forces' can sometimes lead to '**market failure**'.

Examples of market failure

- **Public goods** – for some goods the normal demand and supply rules can not apply. There are some where it is difficult to stop people consuming them for free. For example, if someone puts a street sign up to indicate location, it would be very difficult to stop someone else reading it without cost. Such goods are called 'public goods' and there is a danger that no-one will supply them as everyone will wait for someone else to supply the good first.

- **Merit goods** – some goods have really positive effects on society which can be under-appreciated. As such, they may be under-consumed. Education is a good example what is called a 'merit good'. Education gives people knowledge and skills that are not only valuable to them but to the rest of society. However, if you allowed people to make a simple choice about whether they pay and go to school or do not, many would choose not to go.

- **De-merit goods** – likewise, some goods may be consumed that have a negative impact on society as well as for those who consume it. For example, the negative health implications for someone who smokes a cigarette are well known but the process of smoking may well pass on harmful diseases to others who accidentally inhale cigarette fumes. The over-consumption of foods with high fat-content such as crisps contribute to high levels of obesity in the UK – this in turn places pressure on health care services. Such goods are called 'De-merit' goods.

- **Information failure** – for a market to work effectively consumers need perfect information access. This is difficult to ensure so can lead to consumers making decisions which are not optimal. For example, if a car manufacturer does not fully inform customers of the full environmental impact of their product before it is bought, a consumer may make a decision which does not match their objectives.

- **Market structure** – the existence of non-competitive markets such as monopolies may lead to higher prices and poorer quality goods.

What are the costs of market failure?

Market failure can have several costs:

- **Costs to society** – market failure may require actions to counteract their impact which have cost implications. For example, if we consume food and do not dispose of the wrapping appropriately, loose litter will have to be picked up (at a cost). If our roads do not work effectively because they do not have signage or traffic management systems then traffic will not run smoothly and businesses can not operate effectively. If people do not fully consume education or healthcare because they do not value its long-term benefit then our ability to run an effective and growing economy may be reduced.

- **Impact on quality of life** – market failure can ultimately impact on people's quality of life. For example, environmental issues such as global warming could eventually lead to falling living standards through a reduction in availability of resources.

- **Inequality** – if market forces are applied without any intervention and price is used as the only mechanism for rationing there will, by nature, be winners and losers (those who can and those who can't afford some goods and services). This will mean that not all people will have the same equality of access to resources.

Methods of Government Intervention to counter market failure

- **Regulation** – the government can introduce rules to control some markets and make them more competitive or act as if they are competitive. For example, the UK government attempts to prevent some markets being dominated by just a few firms (e.g. the energy market). In these instances, the government may cap prices or insist on firms operating in the public interest (rather than just to maximise their own profits).

- **Indirect taxation** – some goods and services that have negative impacts may also receive an extra level of taxation (other than VAT) on top of their market price. For example, cigarettes and alcohol both have an additional 'indirect' tax on top of their normal market price. This tax will increase the price of the good or service and should, therefore, reduce the demand for the product.

- **Subsidies** – the government can give funds directly to producers to allow them to reduce their prices to consumers. For example, the government may wish to subsidise farmers to ensure that they maintain the environment of their farms or subsidise solar panel manufacturers to help reduce the price of their products.

- **Government provision** – if a product or service will not exist or will not be provided in sufficient quantities the government can provide it themselves. For example, the UK government ensures that there is free provision of primary and secondary schools for all children in the UK. Also, most traffic management systems in the UK are provided by local governments.

- **Information** – the government may also implement policies to ensure that consumers are better informed. For example, most food products bought from supermarkets clearly indicate the levels of sugar and salt content so that consumers can make an informed decision before they purchase.

ACTIVITY 1

You may need to do some research to undertake this task. Which of the following products have 0% VAT charged upon them, which have 5% charged upon them and which have the full standard rate VAT charged upon them:

Alcohol, Bicycle Helmets, Books, Child car seats, Domestic Gas, Sweets,

0% VAT	5% VAT	Standard rate VAT

2 Externalities

'**Externalities**' refers to the impact of economic activity on a 'third' party who did not take part in the initial economic transaction. Externalities are the spill over effects of economic activity.

If you imagine that the buyer and seller are the first two parties in any economic activity, at times their actions impact on someone else who may be left with either a positive or negative impact. For example, if I buy a car from a showroom then I have benefitted from having a new car (to get me from A to B) and the showroom have made revenue (and possibly a profit). However, my car may create noise and other pollution for houses and other groups who had no say in the transaction between me and the showroom. These other groups are the 'third party'.

Positive and Negative Externalities

Pollution is the most common example of an 'externality' as environmental concerns grow and appear to be so far reaching. Pollution is seen as a 'negative externality'. However, some externalities may be positive. For example, if a new school opens in my neighbourhood and it is deemed to be a very good school, there is a chance that the value of my house will increase as people want to move to my neighbourhood to allow their children to attend that school.

So, externalities can be both positive and negative.

ACTIVITY 2

Separate the following into positive and negative externalities:
Fumes from a nearby chemical factory, job opportunities in a nearby chemical factory, noise from a late-night music venue, methane emissions from cattle, creation of an apple orchard near a beekeeping farm, opening of cycle lanes in cities

Positive externalities	Negative externalities

Some key terminology:

Private cost	This is any cost to a private individual from economic activity. For example, if you purchase a tube of toothpaste for 90p, the private cost of the purchase is the 90p (plus any transport costs to the shops). The private cost to the shop who sold you the toothpaste might be the rent for the shop and wages for staff.
Private benefit	This is any benefit gained by private individuals from the economic activity. So, purchasing the toothpaste will bring the benefit of more healthy teeth and potentially the reduced cost of possible dental treatment in the future. The toothpaste seller may well have made profit from the sale.
Social cost	This is the cost of any economic interactions to society. This includes all private costs plus any negative externality that may have occurred. So, the social cost of the toothpaste transaction may be the private costs to you and the retailer plus the cost of disposing of the toothpaste tube for the local council (and the environmental damage of the toothpaste when it is sent through sewage processes).
Social benefit	This is the benefit to wider society from any economic interactions. So, as well as the private benefits it will include any positive externalities. The social benefits of the toothpaste transaction include the private benefits described and the reduction of government costs from having to provide less dental care.

ACTIVITY 3

Separate the following into **private costs** and **private benefits**. **Note:** there are two examples of externalities – do not include these in your lists:

£1.50 bottle of anti-bacterial spray, advertisement at a bus stop,view of a nearby factory, £10 donation to a charity, £500 earned from selling an antique, Christmas tree planted in local town square

Private costs	Private benefits

The two externalities were:

ACTIVITY 4

Move the following phrases relating to the creation of a new solar farm to match the titles in the two equations below:

labour costs, technology used can be exported, cost of land, cheaper electricity, cost of manufacturing panels, congestion near farm, fewer harmful gases emitted, visual pollution

Social Cost =	**Private Costs**	**+**	**Negative Externality**
Social Benefit =	**Private Benefits**	**+**	**Positive Externality**

3 Consumption and Production Externalities

Externalities can occur either in the **production** stage of economic activity or in the **consumption** stage.

Production – many production techniques create externalities that are not 'paid for' by the business creating them. For example, factories may use fossil fuel energies which can create global-warming gases which impact on regions much further away than where the firm may be based. Some production techniques may also create harmful by-products (such as chemical waste or toxic fumes) that the producer does not pay to remove (nor pass on the cost of that removal to their customers) – either through using sewage systems, dumping in rivers or other sites or by allowing fumes to escape into the atmosphere from chimneys.

As neither the producer nor buyer are paying for these external costs, the burden for clear-up may lie with the wider society. Some emissions are so harmful they may cause healthcare issues and, again, these are often paid for through the society's healthcare system.

Consumption – consumption of a good or service may have a spill over effect on others. For example, litter that is not carefully disposed of may have to be paid for by wider society. Cigarette fumes (and possibly fumes from e-cigarettes) could have a harmful effect on third parties who inhale. Over-consumption of fatty-foods is leading to increasing rates of obesity which may have a knock-on effect as it creates greater pressure on health care systems at the expense of other medical treatments.

ACTIVITY 5

Separate the following into externalities that may be occur because of production and those caused by consumption.

discarded high-caffeine drinks cans, noise from traffic at building site, healthcare costs of alcohol addiction, road congestion causing loss of working hours, increased use of gyms, depletion of rainforest used for farming animals

Externalities from production	Externalities from consumption

Multi-choice questions

1 Which of these may be considered a '**merit**' good?

A Cigarettes

B Alcohol

C Museum

D Gambling

2 Which of these is the **most appropriate** government policy for dealing with a market where two firms have a high market share?

A Regulation

B Use of income tax

C Use of interest rates

D Increase government spending

3 Which of these is a **positive externality** from immunisation of children from disease?

A Higher profits for pharmaceutical businesses

B Greater incidents of side-effects from immunisation medicines

C Software to monitor patient health

D Fewer people contracting the disease

4 A factory opened on the banks of a river 2 years ago. Biologists have recorded a reduced number of fish living in a river since the factory opened. This could be an example of:

A Positive externalities from production

B Positive externalities from consumption

C Negative externalities from production

D Negative externalities from consumption

5 Which of these is a **private cost**?

A Healthcare issues caused by being over-exposed to harmful sun rays

B Increase in rainfall

C Increase in tourism

D Wages paid to workers in tanning salon

Short answer questions

6 A large number of mobile phones have been discarded on landfill sites even though they still function adequately. Many people discard the phones once they have upgraded to a new phone. The phones can create environmental problems due to toxic chemicals that reside in their batteries. Give two suggestions for government policies that could be introduced to reduce this issue:

1 _____

2 _____

2 Marks

7 Explain why an increase in obesity may lead to externalities.

_____

_____

_____

_____

2 Marks