

You know you are finished when you have completed the following:

- **Download the 2017-2021 Study Design (Economics)**
- **Complete the**
- **Answer the following questions**

Define Relative Scarcity

Define Absolute Scarcity

Define Opportunity Cost

Provide 3 examples of opportunity cost

What is the Law of Demand?

After lowering the price of smartphones, Samsung finds that sales have increased.

Explain why consumers have behaved in this way

Draw a correctly labelled diagram which shows a shift of the demand curve

What is the difference between the shift of the demand curve and the movement along the curve?

Identify the Demand Side Factors

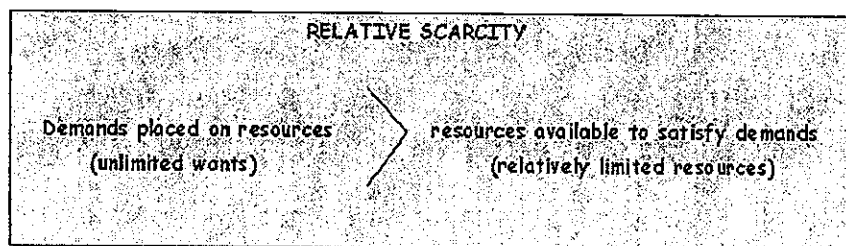
- Define each one
- Explain the effect each one has on the demand curve
- Provide an example of each one

What is an economy?

It is any place or region around the world where production of goods and services takes place, spending on those goods and services occurs and income is made from the selling of those goods and services. Put simply, an economy is a place where production, income and expenditure (referred to as economic activity) occurs. In Australia alone we have several economies: the Australian economy, the Victorian economy, the NSW economy, etc.

What is economics?

Economics is all about how people make decisions about the use of resources (such as our land and labour) that exist in economies. These decisions must be made because every nation demands countless goods and services that require resources (or factors of production) to produce them. However, nation's resources are limited when compared to the demands placed upon them. This creates an 'imbalance' that is referred to as the problem of *relative scarcity*.



Typically, our resources fall into four major categories:

1. Land and natural resources (e.g. forests, minerals, water, etc.)
2. Capital resources (e.g. machinery, robotics, trucks, etc.)
3. Labour resources (e.g. workers such teachers, managers, etc.)
4. Entrepreneurial resources (e.g. Rupert Murdoch, Bill Gates)

All of these resources exist around us in various forms within our economy. They all have one important characteristic in common: they are all key inputs in the production process. Every business will have examples of all four 'factors of production' working to produce goods and/or services.

Exam Tip: In the 2011 examination, Q4 (a) asked students explain the following statement: 'Economics studies how scarce resources are allocated among competing uses.' It is easy to read too much into a question like this and to forget that it is simply about scarcity and how this economic problem ultimately defines the study of economics. All students need to do is explain how the unlimited wants/needs (or 'uses for resources') require decisions about how to allocate resources in the production of goods and services.

Given that all resources (which are relatively limited or scarce) can be valued by money, and all demands for goods and services are typically valued in monetary terms, **scarcity simply means that we don't have enough money to purchase all of the goods or services that we desire.** Accordingly, every one of us encounters the problem of relative scarcity every day. We must therefore make a choice about how we should best use our resources (or money) to satisfy our demand for goods and services.

Exam Tip: Do not be confused about the role of money. It is not a resource in itself!

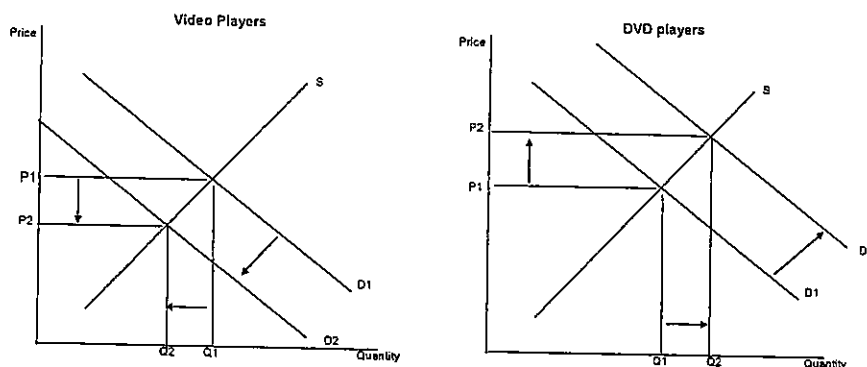
When we decide to use our resources (or money) in some way, it necessarily involves us foregoing, or giving up, the opportunity to use those same resources (or money) in some other way. This is because resources are relatively scarce and have alternative ways of being used. Accordingly, the opportunity cost of decision making can be defined as the value that could have been derived if the next best alternative was chosen. For example, the Victorian government has substantial (but limited) funds at its disposal to use for society's benefit. If it chooses to spend \$4b on constructing a water de-salination, it foregoes or sacrifices the opportunity to use that same \$4b for investment in health, education or renewable energies. The opportunity cost in this example is the benefits that could have been derived from the investment in either health, education or renewable energies, whichever was considered the next best option for the State of Victoria.

The overriding consideration for governments when seeking solutions to the above questions is how do we maximise welfare and living standards? In Australia, we primarily have a market based economy, where the market is comprised of both buyers and sellers of goods and services coming together in exchange, where the rate of exchange is the price of the relevant goods and services. The market will effectively determine the way most resources are allocated in the Australian economy via the price mechanism (also referred to as the market mechanism).

The market mechanism

The market or *price mechanism* describes how the forces of demand and supply determine (relative) prices of goods and services which then ultimately determines the way our productive resources (e.g. labour and capital) are allocated in the economy. As prices change in various markets, for example, because demand is very strong, it sends a signal to suppliers that profit opportunities exist if they direct resources, such as labour and capital, into those areas experiencing higher demand.

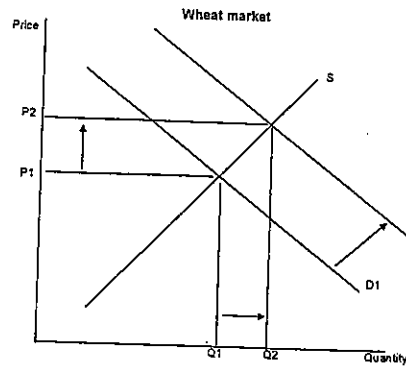
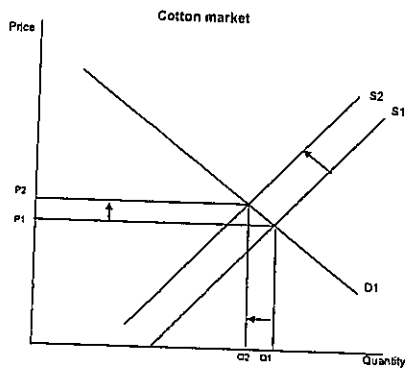
For example, with advances in technology, some products become obsolete relatively quickly. Take for instance DVDs replacing videos (or more recently, blue-ray replacing DVDs). In the market, we would have observed the following:



The changing conditions in this market (the invention and demand for DVD players) caused a change in the relative prices of goods and services. The price of video players will fall relative to the price of DVD players because fewer consumers are demanding video players and instead demanding DVD players. This is reflected in the demand curve for video players falling from D1 to D2 and the demand for DVD players increasing from D1 to D2. Suppliers will then devote fewer resources (e.g. labour and capital) to the production of the video players, which is reflected in a contraction along the supply curve and less production (Q1 to Q2). In contrast, suppliers will devote more resources to the production of DVD players as the demand and price has increased. This is reflected in an expansion along the supply curve for DVD players and more production (Q1 to Q2).

Exam Tip: Students need to understand the significance of relative prices as opposed to prices. It is a change in relative prices that causes a reallocation of resources. A rise in results in a likely change in the profitability of alternatives on one product over another. For example, if the demand for cherries increased, which caused the price of cherries to increase relative to the price of tomatoes, it should result in more resources being allocated to cherry production and less to tomato production. However, if the prices of cherries, tomatoes and all other products increased by the same amount (i.e. inflation), there is no change in relative prices and no signal for a change in the allocation of resources. Note that it is possible for the relative price of cherries to increase even if there has been no change in the price of cherries at all!

A more recent example relates to the use of crops in fuel production. The growing demand for wheat for use in ethanol (fuel) production has caused resources to be allocated away from the production of other fuels (e.g. petrol) and towards the production of ethanol. This scenario is just like that for videos and DVDs. However, what has happened to prices and resource allocation in agricultural markets? The higher relative price for wheat has encouraged farmers to reallocate their resources (land and water, capital and labour) away from the production of other crops (like cotton) and towards the production of wheat. In the cotton market, the exit of suppliers results in excess demand for cotton, forcing the price to rise, but not by as much as the rise in wheat prices. This results in an overall higher relative price for wheat, but higher overall prices for a range of agricultural commodities, causing higher agricultural prices relative to other prices in the economy. This has placed upward pressure on food prices around the world. This situation is depicted in the D/S diagrams below:



These types of shifts or changes in the way resources are allocated occur every minute of every day in an economy as a result of changes in relative prices, which are in turn caused by shifts in demand or supply.

Take another example relating to the price of labour. Given the mining boom experienced by Australia over recent years, the demand for mining workers has increased. In order to attract mining workers to remote parts of Australia, the mining companies have been forced to offer higher rates of remuneration. This has resulted in a higher relative price of mining labour (i.e. a higher wage) relative to non-mining labour, causing a re-allocation of labour resources towards the mining industry. For example, a truck driver earning a \$60,000 wage in Victoria may observe that the wage for a truck driver on a Western Australian mine has increased from \$90,000 to \$120,000. This increase in the 'relative price' of mining labour may be enough to entice him to quit his job in Victoria and offer his services to a WA mine. It is the change in relative prices (in this case, the price of labour) that has ultimately resulted in a re-allocation of the nation's labour resources.

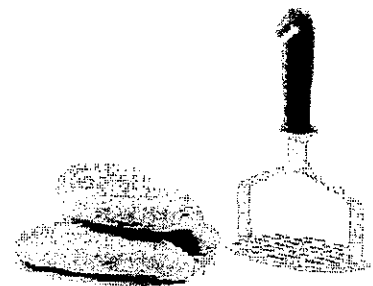
Example: In the 1990s, the price of gold rose relative to other commodities. This caused a re-allocation of resources from other sectors to the gold mining sector. As a result, the price of gold increased further, and the price of other commodities decreased. This is an example of how changes in relative prices can cause a re-allocation of resources.

Example: In the 1990s, the price of gold rose relative to other commodities. This caused a re-allocation of resources from other sectors to the gold mining sector. As a result, the price of gold increased further, and the price of other commodities decreased. This is an example of how changes in relative prices can cause a re-allocation of resources.

Example: In the 1990s, the price of gold rose relative to other commodities. This caused a re-allocation of resources from other sectors to the gold mining sector. As a result, the price of gold increased further, and the price of other commodities decreased. This is an example of how changes in relative prices can cause a re-allocation of resources.

Floods in eastern Australia 2011 and changes to relative prices

The floods in eastern Australia during early 2011 are a recent case to use when demonstrating an understanding of how changes in relative prices can cause a re-allocation of resources. In particular, the floods damaged many crops in Queensland which effectively restricted supply and caused an increase in the relative prices of those crops affected. For example, potato crops were damaged, causing potato prices to rise relative to other agricultural prices, which then increased the potential profit to be made from supplying any given quantity of potatoes to the market. Accordingly, this provided greater incentive for farmers in non-flood affected areas (e.g. some in Victoria) to allocate more of their farming resources to the production of potatoes, resulting in a reallocation of some resources in the



How markets work – the detail

The above analysis of the market mechanism would be difficult to comprehend without an understanding of how markets actually work. This section is particularly geared for those students who have not completed Unit 1 Economics, or who found the mechanics of demand and supply difficult in their earlier studies.

Markets are places (or circumstances) where buyers and sellers of goods or services come together in exchange, where the rate of exchange is the price of the relevant good or service. The key characteristics of markets are Demand, supply, price and quantity (or production).

What is Demand?

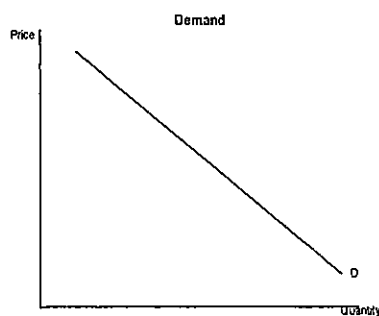
Demand is the willingness of consumer(s) to purchase a good or service for a price. The quantity demanded will typically vary for different price levels, with an inverse relationship between the price of a product and the total demand for that product in the market.

The law of demand provides that:

As $P \uparrow \Rightarrow D \downarrow$ and as $P \downarrow \Rightarrow D \uparrow$ (ceteris paribus)

This relationship gives us the Demand curve below, where a fall in price causes demand for the product to increase for two main reasons:

- First, existing consumers of the product are likely to buy more of the product (this won't always apply, but will in many instances); and
- New consumers are now encouraged to buy the product at the lower price.



Whilst the relationship between price and the quantity demanded is drawn as a straight line, it typically takes on a curved shape for reasons you don't need to be aware of for this course. Hence, it is commonly referred to as a Demand curve even when it is presented as a straight line.

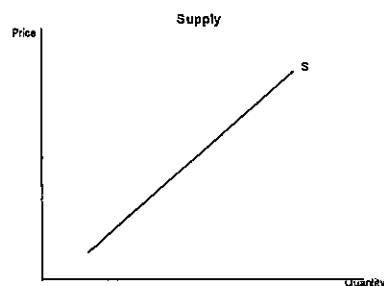
What is Supply?

Supply is the willingness of suppliers to sell a good or service at a price. The quantity supplied will usually vary for different price levels, with a positive relationship between the price of a product and the total supply in that market.

The law of supply provides that:

As $P \uparrow \Rightarrow S \uparrow$ and as $P \downarrow \Rightarrow S \downarrow$ ceteris paribus

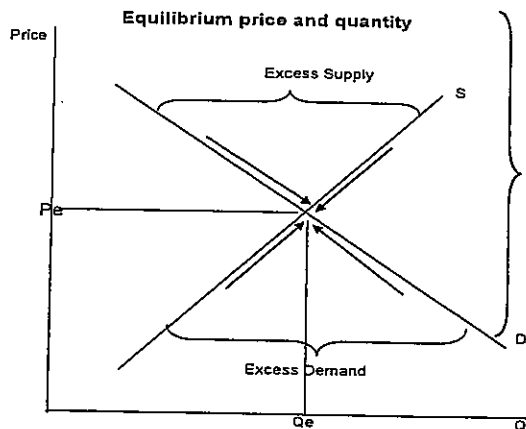
This relationship gives us the supply curve below.



It is upward sloping because when the price of a particular product is rising, it provides producers with added incentive to devote more resources to its production. This is because a higher price (ceteris paribus) means bigger profits and producers are typically motivated by profit.

Equilibrium price and quantity

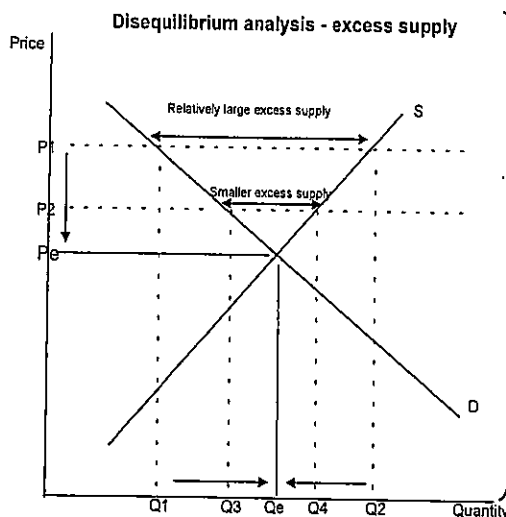
In every market, the forces of demand and supply will determine both prices of the product and the quantity that is likely to be supplied for a given time period. Price and quantity will tend to move towards their 'equilibrium levels'.



P_e denotes 'equilibrium price' and Q_e denotes 'equilibrium quantity'. It is the equilibrium because the market is in a state of rest. There is no pressure for price to change from this level unless there is a shift in demand or supply.

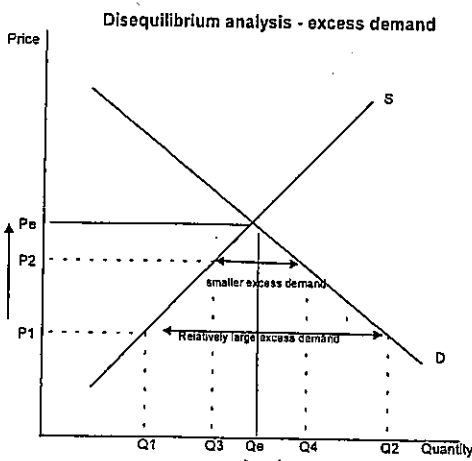
If the price in a market is not at its equilibrium level, then it is not in a state of rest and the price will converge towards its P_e level. The amount of time this takes will depend on a number of factors, in particular the market in question. For example, the price of grapes will quickly move towards its P_e level due to the perishability of grapes. However, it is likely to take significantly longer in the case of more durable goods like cars, white goods, etc.

How the price converges towards equilibrium is referred to as **disequilibrium analysis**. Assume that the price in a market is too high because shifts have occurred in demand or supply (which we will explore soon) or because a supplier has only recently started supplying the product and he/she is 'testing the market'.



The price set is at P_1 the supplier produces Q_2 but consumers are only prepared to demand Q_1 . It will become apparent that this price is too high because supplies will begin to build up (e.g. too much stock left on the shelves). The surplus or excess is represented by the difference between Q_1 and Q_2 . The supplier will then lower the price (e.g. to P_2) in order to eliminate the surplus. At P_2 , consumers will demand more of the product (Q_1 to Q_3) and the supplier will be willing to supply less on the market (Q_2 to Q_4). Whilst the supplier will notice that the excess supply is certainly falling (represented by the smaller area Q_3 to Q_4), there is still too much stock remaining on the shelves. This process of lowering the price to remove surplus stock will continue until a price is reached (P_e), where there is neither a surplus of stock nor a shortage of stock (Q_e). Note that it is possible for the supplier to 'overshoot' and lower the price to one that is below P_e . This would result in 'excess demand' where the price is driven up towards P_e .

Now, assume that the price in a market is too low. Again, price will be driven up towards its equilibrium level.

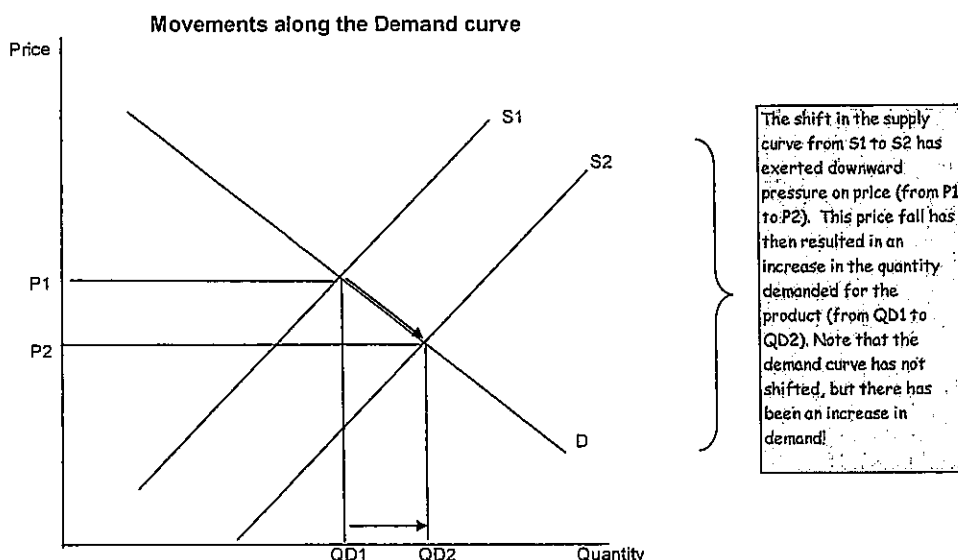


With price set at P_1 , the supplier is producing Q_1 whilst consumers are demanding Q_2 . It becomes apparent to the supplier that this price is too low because supplies are depleted relatively quickly and production is not keeping up with demand for the product. Excess demand (or shortage) is represented as the difference between Q_1 and Q_2 . Accordingly the supplier will raise the price to take advantage of the fact that demand for the product is relatively strong. As price rises, to P_2 for example, a shortage (excess demand) will continue to occur in the market. However, the shortage is smaller than that which occurred when the price was P_1 . The shortage is now represented by the smaller areas Q_3 to Q_4 . As before, this process continues, with price rising, until the market rests at P_e . If the supplier 'overshoots' by raising the price above P_e , then an excess supply will develop and price will then converge down towards P_e .

In reality, suppliers do not know the precise location of the equilibrium price and quantity and they simply respond to conditions that present themselves in markets via shortages or surpluses that develop over time. In addition, the equilibrium price and quantity levels continually change as the conditions within markets frequently change. These changed 'conditions' in markets take the form of shifts in demand and supply.

Shifts of the demand curve and movements along the demand curve

The demand for a product will change over time for a variety of reasons. The most obvious reason, and one we have already examined, is a change in price. For example, we have seen that if the price falls, demand is expected to increase and if the price increases, demand is expected to fall. This increase or decrease in demand has occurred purely as a result of a change in price. Accordingly, there is a movement along the demand curve – THE DEMAND CURVE DOES NOT SHIFT. This movement 'along the demand curve' will occur when the supply curve shifts, as follows:



In this case, there has been an increase in demand along the demand curve (sometimes referred to as an expansion of demand). Clearly, price is not the only factor that will influence the demand for a product. Demand can increase or decrease for reasons that are unrelated to the price of the product. For example, demand will increase (**ceteris paribus**) if any of the following 'hypothetical' events occurred in the market for Apple ipods:

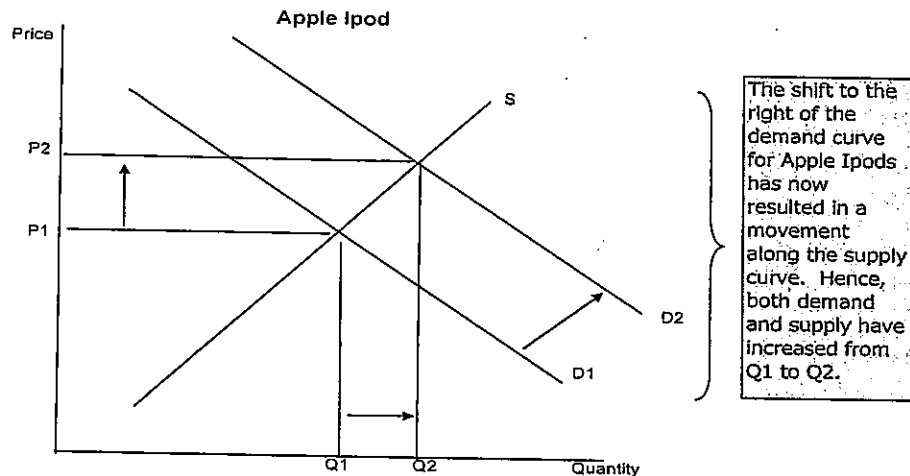
Exam Tip: Ceteris paribus is an important concept to remember when completing assessment tasks. It enables us to make better predictions about the likely behaviour of economic agents (e.g. consumers or producers) or the movement of economic variables (e.g. prices) because it isolates cause and effect and removes the influence of other factors. In the current example, it would be incorrect to say that an increase in the price of an ipod substitute will result in greater ipod demand because there are other factors that may simultaneously cause the demand for ipods to fall (such as a decrease in disposable incomes). Accordingly, students should make it clear that they are aware of the numerous factors at play that could change the outcome. It is, therefore, more accurate to say that ipod demand 'should increase' or 'is likely to increase' when there is an increase in the price of other MP3 players. In assessment tasks, use expressions like 'should' or 'is likely to' rather than 'will'.

- The **price of a substitute product** increases (e.g. there is a rise in the price of other MP3 players);
- The **price of complementary products** falls (e.g. the price of MP3 songs/podcasts available over the internet decreases);
- There is an increase in **disposable income of consumers** (e.g. the average wage in Australia increases by 20% or the personal income tax rates fall);
- There is a change in **consumer preferences or tastes** towards ipods as they become a status symbol;
- There is a **reduction in interest rates**, thereby encouraging more credit based spending on items like ipods (e.g. consumers are more likely to place the purchase of an ipod on a credit card when interest rates are lower);

- There is a change in the **size or make up (demography) of the population** that results in an increase in the number of consumers in the market for Apple Ipods (e.g. our population rises significantly as a result of increased births or immigration);
- **Expectations of consumers** (i.e. **consumer sentiment** or consumer confidence) improve such that they expect a better economic future, with greater job certainty and guaranteed income for a long period of time.
- **Advertising or marketing** of the product increases; and
- **Government action** in the form of a report suggesting that use of Ipods on public transport can significantly reduce stress levels.

Exam Tip: The 2010-12 Study Design only requires a knowledge of the undetermined factors above. However, a knowledge of additional events might prove to be useful in the examination.

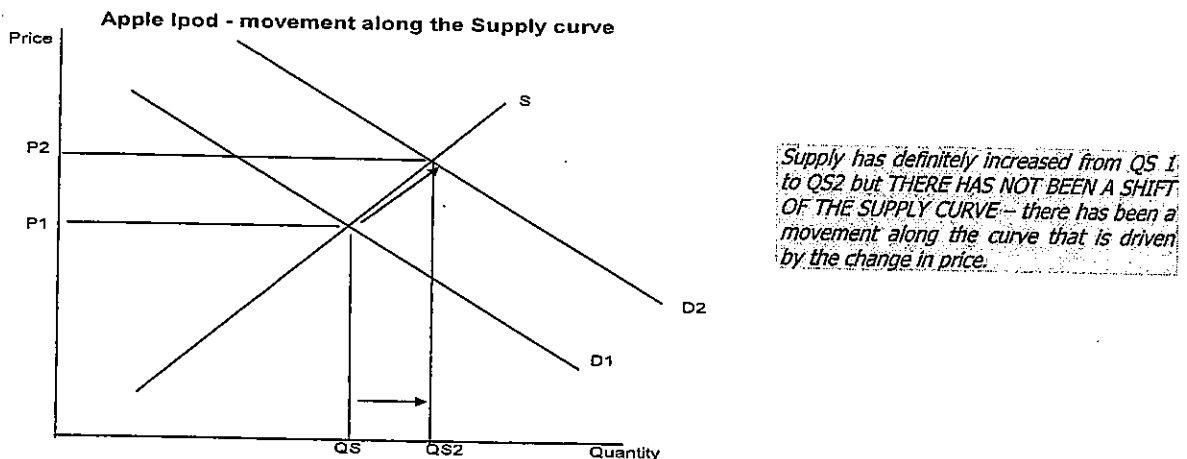
Each of the above hypothetical events will result in the demand curve shifting to the right and this will place upward pressure on price.



Exam Tip: Students often get confused about the relationship between price and quantity demanded. For example, some find it difficult to understand how there can be an increase in demand when price is rising, believing that this violates the law of demand. Always remember to isolate what came first: when trying to analyse cause and effect, a price increase will be associated with an increase in demand (the higher demand is what came first i.e. a shift to the right of the demand curve). However, a price increase will be associated with a fall in demand if the price increase is what came first (i.e. via a shift to the left of the supply curve).

Shifts of the supply curve and movements along the supply curve

Like demand, the supply of a product will change over time for a variety of reasons. Again, the most obvious reason is a change in price, which is captured by the slope of the supply curve and the law of supply. As price rises for example, suppliers are *more willing* to supply to the market (as discussed earlier). Price rises that occur in markets as a result of an increase in demand (shift to the right of the demand curve) will result in an upward movement along the supply curve (sometimes referred to as an expansion of supply), as we saw in the D/S diagram for Ipods.

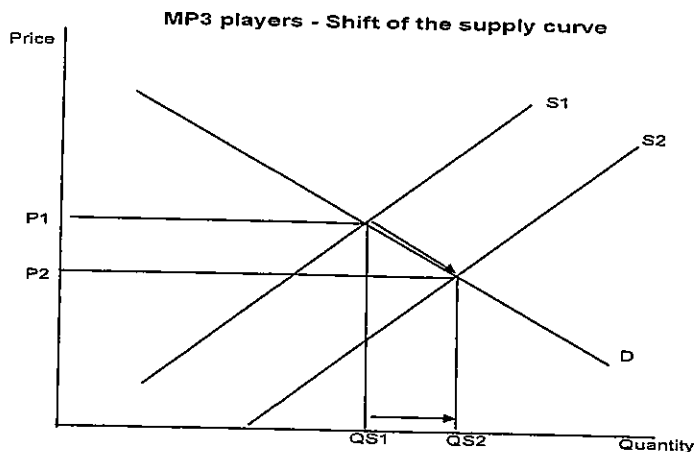


Apart from the price of the product, there are several other factors that will change the willingness of suppliers to supply to the market. These factors will result in a shift of the position of the supply curve, which will then influence price and quantity demanded in that market. Ultimately, all of the factors that influence the willingness to supply relate to the perception of profitability for each supplier in the market, where profitability is heavily influenced by the costs of production. Accordingly, any factor that causes a movement in the costs of production or a change in the perception of profitability should result in a change in the willingness to supply and a consequent shift in the position of the supply curve.

For example, in the market for MP3 players, the following factors are likely to cause supply to increase, placing downward pressure on price:

- A reduction in the price of factors of production, such as lower **labour costs** or a reduction in costs of **capital equipment**;
- Lower **costs of raw materials** (e.g. due to greater availability);
- Lower **business taxes**;
- An increase in **productivity** (e.g. due to more efficient labour methods);
- An increase in the rate of **technological change** within Australian industries (e.g. due to employment of the latest imported or locally invented technology that improves rates of productivity growth);
- More favourable **climatic conditions**;
- Decreased costs associated with compliance of **government regulations**;
- A decrease in the **number of suppliers** in the market; and
- A **reduction in price of other high tech products** (which reduces the opportunity costs associated with the production of ipods).

Exam Tip: This is a typical study question in the exam. It asks you to identify the factors that cause a shift in the supply curve. The answer is provided for you in the text above. You should be able to identify the factors that cause a shift in the supply curve. The answer is provided for you in the text above.



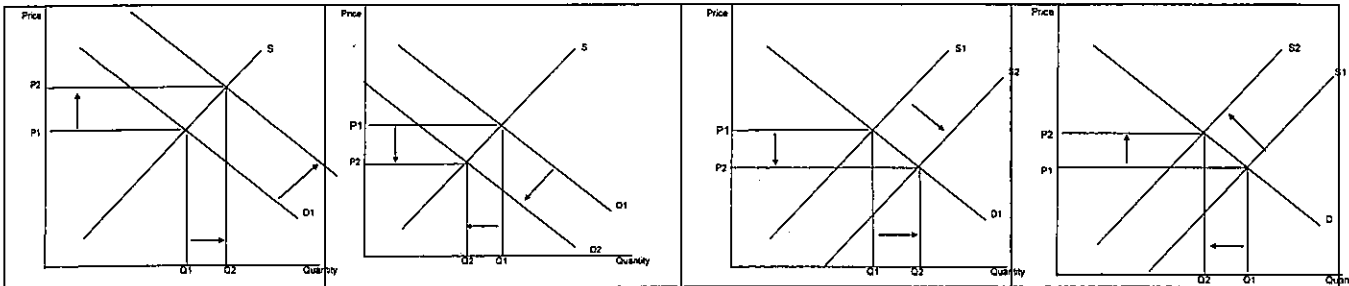
The shift in the supply curve has caused supply to increase from QS1 to QS2 resulting in a lower price for the MP3 players (from P1 to P2).

Exam Tip: The above example relates to a manufactured item that is affected by climatic conditions in minor ways. However, other producers (e.g. those in agricultural industries) will experience a shift of their supply curves due to climatic events such as droughts, floods or cyclones. For example, recent floods and cyclone Yasi in eastern Australia have caused the supply curves for many producers (e.g. cotton and banana growers and sugar cane farmers) to shift to the left.

Exam Tip: Like before, don't get confused about the relationship between price and quantity supplied. A price decrease will be associated with higher supply levels if the increase in supply is what came first (i.e. a shift to the right of the supply curve). However, a price increase will be associated with higher supply levels if the price increase is what came first (i.e. via a shift to the right of the demand curve).

DEMAND AND SUPPLY QUICK QUIZ

For each of the following situations (1- 40), choose one of the responses (A - D) that **most** accurately reflects what is likely to happen in the relevant market.



A	B	C	D
Water tanks: the government removes a \$500 rebate to those who purchase and install water tanks	Volkswagen cars: VW are caught manipulating emissions data from some of their vehicles to boost "green" credentials.	Cigarettes: the government increases excise tax on tobacco by an additional 12.5% in 2017	Butter: the price of margarine falls
Tourism: Attacks on Indians in Melbourne is headline news around the globe	Taxis: there is a shortage of traditional taxi drivers following the legalisation of Uber Taxi's in Victoria	Electricians in Sth Australia: the reconstruction following the early 2015 bushfires	Luxury cars: the government increases the luxury car tax
Stationery supplies: the school year ends	Buildings: government regulations require scaffolding around all building sites above a certain height	Motor vehicles: the cost of petrol falls following the 2014-15 global oil price shock	Pepsi Cola: the price of Coke decreases as a price war develops between the two rivals in late 2015
LPG conversions: the govt introduces a \$2,000 subsidy to car owners who converted their cars from petrol to LPG	i-tunes music: More and more consumers are using Spotify and Pandora	Cappuccinos: the cost of coffee beans increases	Apples: NZ apples are allowed to enter the Australian market
Herron pain relief tablets: Panadol tablet production ceases temporarily due to poisons found in the tablets	Air fares: a new airline operates on Australian routes (e.g. Scoot airways)	Bananas: A cyclone wipes out banana plantations in eastern Australia	Coffee: the price of sugar increases as a result of flood damaged crops
Taxis: Uber driving services become increasingly attractive for consumers	Normal Potatoes Sweet potato crops are wiped out in the Queensland floods	Insulation bats: the government provides a subsidy to consumers who insulate their homes	Gold: Several companies set up operations to find gold following the growth in gold prices
Milk: Coles and Woolworths engage in heated price war	Digital televisions: the government cuts off the analogue signal	Free range eggs: Consumers discover that some egg producers falsely claim that their eggs are free range	Alcohol the government introduces tighter liquor licensing laws
Entry to live music venues: the government's liquor licensing commission requires venues to hire additional security measures	Hair extensions: temples in India charge a higher price to hair buyers	large cars: the cost of small cars decreases significantly	Bank fees: The major banks buy out smaller/regional competitors such as Bank West and Bank of Melbourne
Crude oil: a rise in USA oil exploration and discoveries over 2014-15 via a relatively new technology known as 'fracking'	i-tunes music: tough new anti-pirating legislation is introduced that works to reduce the incidence of file sharing and 'illegal' downloading of music	Corn: More and more corn is used as a bio-fuel for motor vehicles	Houses: the government decides to substantially reduce immigration numbers
Carbon: The government re-introduces a carbon tax.	Toyota motor cars: Toyota recalls several motor vehicles due to faulty accelerators and Toyota publically admit that the cause is unknown	Newspapers: More and more people are using their tablets and/or the internet to read the news	Test cricket: 20/20 cricket captures the interest and imagination of consumers

Answers on page 127

