Chapter 8
Demand and Supply

NCEA Level 3 Economics material covered in this chapter is for Achievement Standard 90630 (Economics 3.2) 'Describe an economic problem, allocative efficiency and market responses to change', which involves:

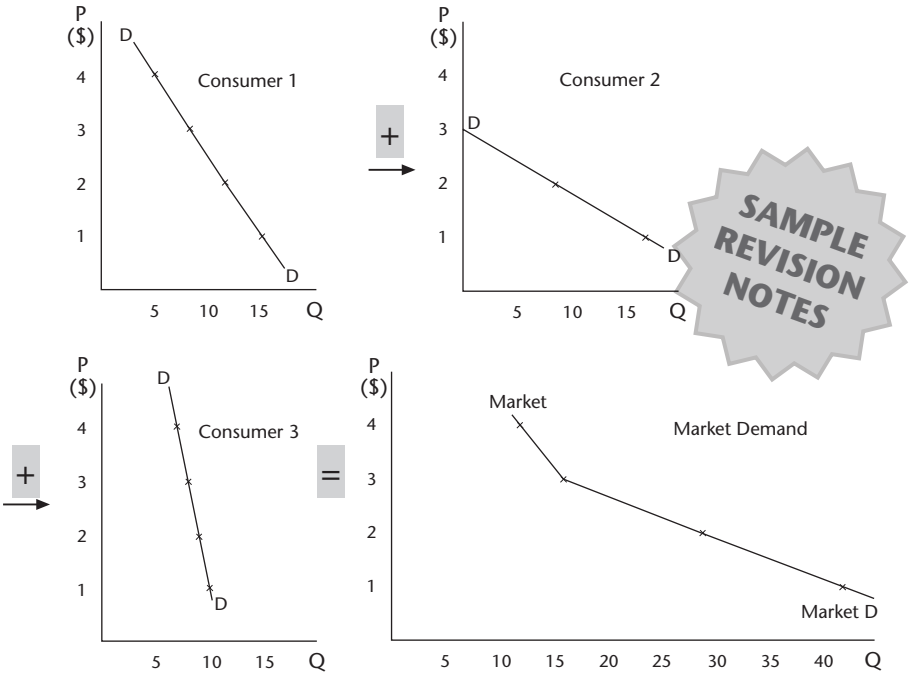
- Demand – construction of market demand curves by summing individual demand curves; movements along and shifts of the demand curve; reasons for shifts of demand curves.
- Supply – construction of market supply curves from the supply curves of individual firms; reasons for shifts of supply curves; movements along a supply curve and shifts in the supply curve.

The Market Demand Curve ('Achievement')

A market is made up of all individual consumers within it. To determine the **market demand curve**, all the *individual demand curves* are added together horizontally, ie at each price.

By adding together the *demand schedule* of each consumer, the *market demand schedule* is determined.

Example



The market demand schedule for the cans of drink is:

Price $	Quantity Demanded + Consumer 1	Quantity Demanded + Consumer 2	Quantity Demanded = Consumer 3	**Market Demand**
1	15	17	10	**42**
2	12	8	9	**29**
3	8	0	8	**16**
4	5	0	7	**12**

A movement *along* the demand curve

If price changes, then the *quantity demanded* will change. Figure 8.1 recaps the demand curve demonstrating the law of demand – when *price* changes there is a movement *along* the demand curve.

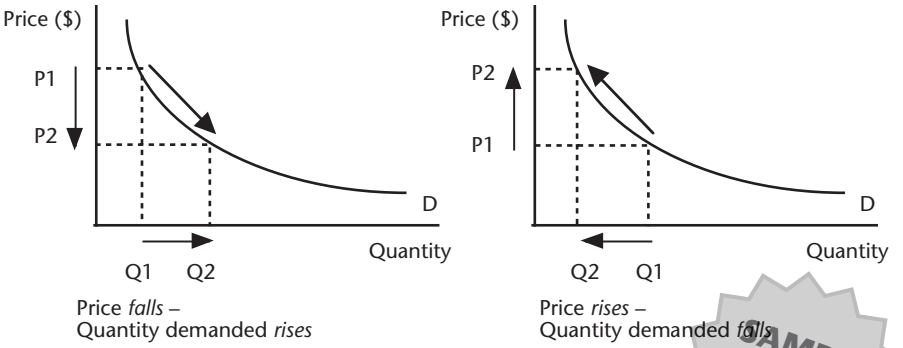


Fig. 8.1 *Movements* ***along*** *the demand curve*

A movement *of* the demand curve

A movement of the demand curve means that the whole curve moves from its original position. Something other than price has changed. *Ceteris paribus* or 'everything else held constant' no longer applies, as something other than price has changed.

The magnitude of any change in the curve depends on the size of a change in a **determinant of demand**. The determinants of demand are:

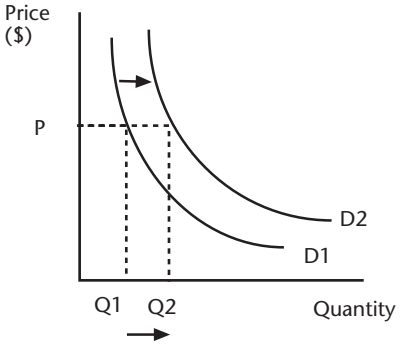
- Income, especially disposable income.
- Tastes and fashion.
- The price of complements – goods that are used together (such as game consoles and games).
- The price of substitutes – goods that are used instead of another (such as butter or margarine).
- The size of the market.

Income

If income rises, consumers will have more money to spend, and may choose to buy more *even if prices have not changed*. There may be an *increase in demand*. More is being bought, but price has not changed.

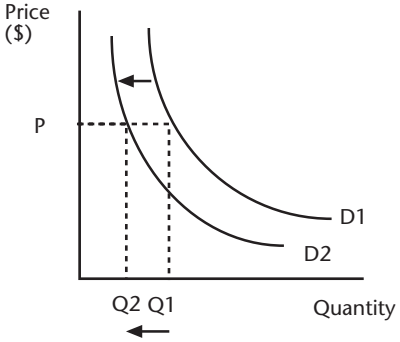
Following an increase in income, the demand curve has moved to the right. This is a movement *of* the demand curve, brought about by a change in a determinant of demand.

An increase in demand following an increase in income



If income falls (eg if workers lose their job or overtime is cut, or someone previously employed leaves work to study full time), cuts have to be made in buying patterns.

A decrease in demand following a decrease in income



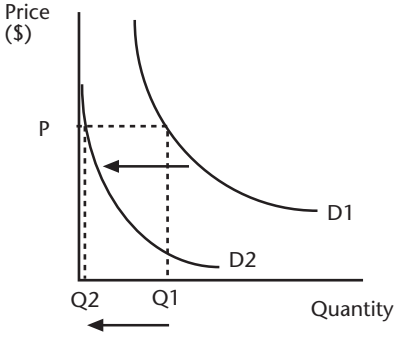
Tastes and fashion

It can be difficult to explain why people sometimes latch on to something as desirable, then go off it almost completely.

Example

Chatter rings were extremely popular in the late 1990s. Nowadays, they can't even be found in second-hand shops.

A decrease in demand caused by the demise in the craze for chatter rings



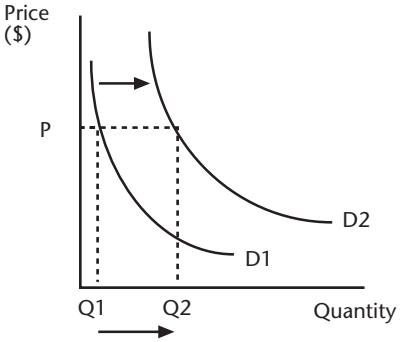
On the other hand, it is easy to understand why people prefer to buy more ice-cream in the summer than in the winter, and more warm clothes in winter than in summer.

Advertisers try to influence our buying by making their good or service seem more desirable. They want to increase the market demand for their clients' products or services without lowering the price. They want to create a movement *of* the demand curve, not a movement *along* the demand curve.

Example

Demand for a 'Harry Potter' movie increased after being promoted by marketers.

An increase in demand for a 'Harry Potter' movie after it has been advertised on TV



A change in the price of complements

If peaches rise in price, this probably will not have any effect on the number of pairs of shoes people want to buy, but if the price of cars falls, then it is reasonable to expect that more cars will be bought which will lead to an increase in the demand for petrol. Cars and petrol are complementary goods, but peaches and shoes are not.

Goods and services which are used together are called **complements**. Cars and petrol are complementary goods. More cars generate a need for more petrol. When New Zealand began importing large numbers of second-hand cars from Japan, the price of used cars in New Zealand fell, which was followed by an increase in the quantity of cars demanded – a movement *along* the demand curve for cars. (See Figure 8.2.)

This in turn led to an increase in demand for petrol, even though the price of petrol did not change – a movement *of* the demand curve for petrol. (See Figure 8.3.) What had caused an increase in the demand for petrol was a fall in the price of a complement – cars.

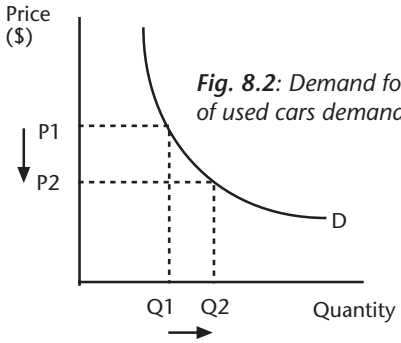


***Fig. 8.2**: Demand for cars – an increase in the quantity of used cars demanded following a fall in price*

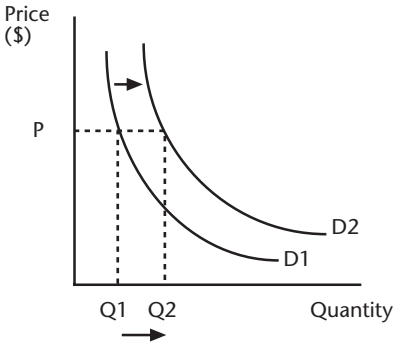


***Fig. 8.3:** Demand for petrol – an increase in demand for petrol following a decrease in price of used cars*

The opposite can also happen.

Example

If coffee rises in price, consumers may cut back the quantity of coffee they demand – a movement *along* the demand curve. This could lead to a decrease in their demand for sugar (if, for them, sugar was a complement), even though the price of sugar has not changed – a movement of the demand curve to the left.

A change in the price of substitutes

Substitutes are two goods or services that, in the mind of the consumer, can be used in the place of each other. This is a very individual concept.

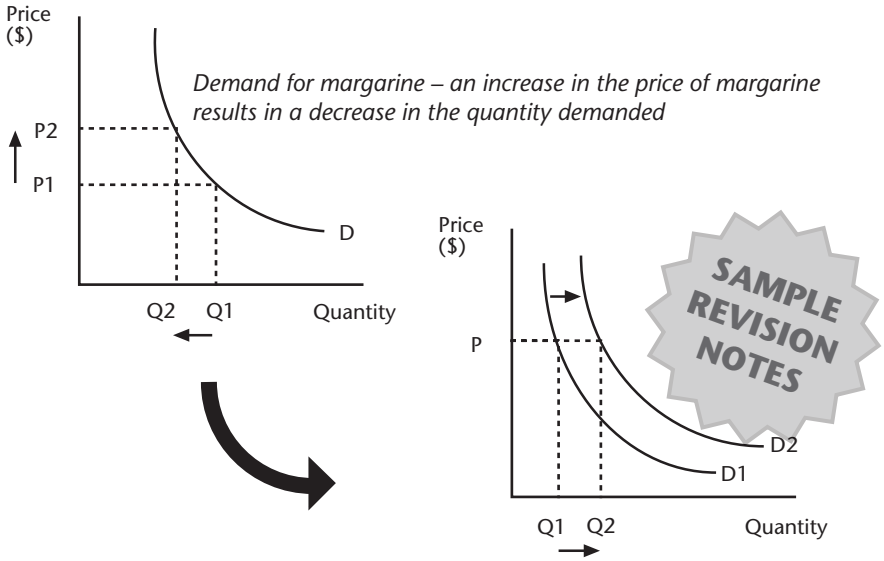
Example

If coffee rises in price, Consumer A may switch to tea, but Consumer B may dislike tea and switch to orange juice, while Consumer C cannot do without coffee and may cut back on something unrelated such as sweets.

It is sufficient to observe the relationship to know a substitute exists.

Examples

If, in the mind of a consumer, Coke™ and Pepsi™ are substitutes, then if Coke™ rises in price, this consumer may switch to buying Pepsi™. If sufficient consumers regard these two products as substitutes, then a rise is the price of Coke™ will result in a movement along the demand curve and the quantity of Coke™ demanded will fall, but the demand for Pepsi™ will increase without any price change in Pepsi™. Butter and margarine can be regarded as substitues.



Demand for butter – a rise in the price of margarine causes consumers to switch to butter: an increase in the demand for a substitute

Similarly, if the price of a substitute like *Vegemite*™ falls, this can cause a decrease in the demand for *Marmite*™ – provided *Vegemite*™ and *Marmite*™ were considered substitutes, which is something the makers of both *Vegemite*™ and *Marmite*™ would be keen to dispute. From a seller's point of view they want the consumer to believe that there is no substitute for their product, and spend a great deal of money trying to persuade us of this.

From the consumer's point of view, the more substitutes exist the better, so that they can switch as soon as prices change.

In an exam do not rely on your own concept of what is a substitute (nor of what is a complement). Read the question to see what the examiner wants. Students have lost grades because they have put their own personal preferences before sound economic judgement.

Changes in market size

If, for some reason, the population increases, so too will the demand. This may happen relatively slowly over time, ie a normal population increase, but more dramatic changes can result from a 'baby boom' such as occurred after World War II, or from a large influx of immigrants.

APEC, the World Trade Organisation (WTO) and other similar organisations try to break down trading barriers between countries, and to facilitate global trade. For a small economy such as New Zealand, this can have vast implications.

Example

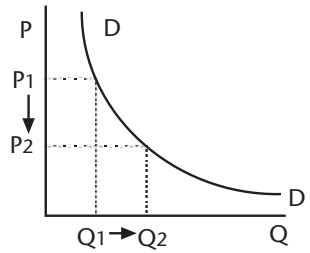
A manufacturer in New Zealand, selling domestically, cannot have more than 5 million customers, even assuming they made something that every person of every age was willing to buy. If that manufacturer could sell to Australia, immediately the demand for their product would increase by 500% – a big movement to the right of the demand curve for their product.

Summary

The differences between a movement along a demand curve and the movement of a demand curve can be summarised as follows.

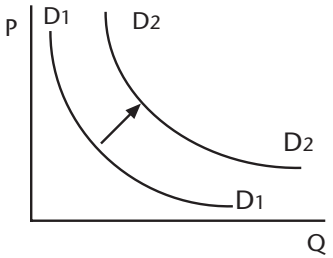
- Only a change in **price** can bring about a change in the **quantity demanded**.
- Only a change in a **determinant of demand** can move the whole demand curve.

Change in quantity demanded
can only come about as a result of a ***change in price.*** Demand, shown by the demand curve itself, does **not** move. A change in quantity demanded is shown by a ***movement along the demand curve.***



Increase in Quantity Demanded

Change in demand
comes about when any *determinant of demand* changes. A mere change in price will not result in a change in demand itself. When there is a change in demand, the ***whole curve will move.***



Increase in Demand

Activity 8A: Demand

1. Why is a bus company not interested in individual demand for bus rides, but only interested in the market demand?

2. When Jody was a student, she lived on $150 per week. She didn't have much money for entertainment, but she would allow herself one hired video per month. When she got her first full-time job, she was paid $500 a week. She was delighted, as she could now afford to hire a video once a week, or four times a month, with her increased income.

a. Demonstrate the effect of this increase in income on a demand curve.

b. Jody is able to buy a DVD player now that they have come down in price. What effect will this have on her demand for videos?

3. Using two graphs, distinguish between *A movement along a demand curve* and *A movement of a demand curve*.

Give an explanation of what you have done.

4. Advertising tries to influence people's tastes and preferences in favour of a particular good or service, by telling consumers 'how good it is' or 'how much use they could make of it (and so increase their utility)', and to assure buyers 'there are no substitutes for what they produce'. Explain, using economic language and appropriate graphs, what advertisers are hoping to achieve by telling people such things in their advertisements.
5. New Zealand producers are often keen to export their goods. What effect can the opening of a new export market have on the demand curve for their goods or services?

Exceptions to the Law of Demand

In almost all cases when price falls the quantity demanded rises, and when price rises quantity demanded rises. However, there are some exceptions to this rule:

- *Ultra-luxury goods* or *Conspicuous consumption (Ostentatious consumption)* – sometimes, it is not the good itself that gives the utility or satisfaction. Sometimes it is ensuring that other people know that the buyer could afford it that gives the most satisfaction. This is colloquially referred to as 'wearing the price tag on the outside' or 'snob value' (meaning boastful behaviour), demonstrating that the good is bought *because* of its high price and the desire of the buyer to ensure that others know the buyer is wealthy. Consequently, the higher the price, the more desirable the good must be, and more are bought – quantity demanded increases. This can apply to designer fashion wear, expensive cars and some cosmetics and perfumes.
- *The share market* – when the price of a company's shares is rising, potential buyers can see the rise, and decide to buy, because, obviously, other buyers know something they do not. The shares become more and more desirable as the price rises. When the price of the shares falls, the shares can be very difficult to sell, because potential buyers are waiting for the price to 'bottom out' before purchasing. Often, it is not until price begins to rise again that most buyers will re-enter the market.

The Market Supply Curve

A market is made up of all the producers that are prepared to supply it. While each producer will have their own supply curves, and may be prepared to offer different amounts of a good or service at any given price, they can all be summed horizontally to give a market supply curve.

Example

A market is supplied by three suppliers.

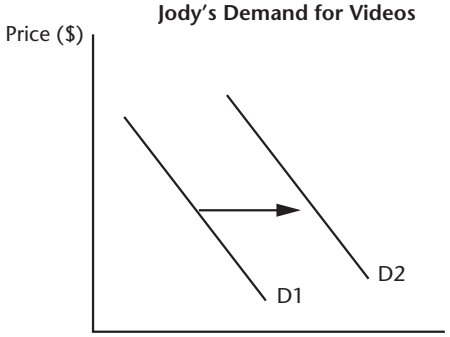
Price $	Quantity Supplied + Supplier 1	Quantity Supplied + Supplier 2	Quantity Supplied = Supplier 3	Market Supply
1	5	5	0	10
2	10	7	13	30
3	15	10	24	49
4	20	13	37	70

Chapter 8

Activity 8A: Demand (page 85)

1. A bus company needs to know the total demand for its services in order to schedule its buses for peak demand. A bus carries a number of passengers at one time. Market demand is far more important than individual demand in this instance. (***M***)

2. **a**.

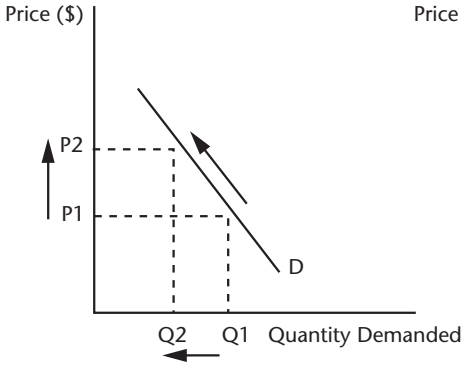


(***A***)

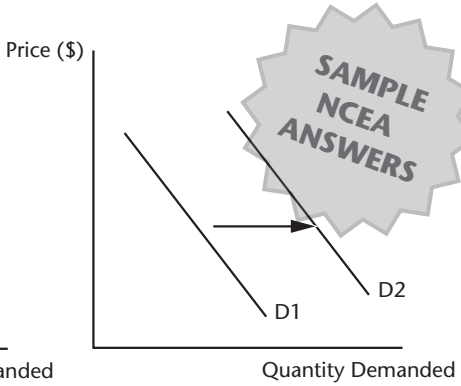
Labelling is important.

b. If Jody has a DVD player, she will want to hire DVDs instead of videos. Her purchase of a DVD machine will reduce her demand for videos. A fall in the price of a substitute. (***A***)

3.



A movement along a demand curve (a decrease in quantity demanded following an increase in price).



A movement of a demand curve (an increase in demand following a change in a determinant of demand).

(***A***)

Explanation: A movement along a demand curve is caused by a change in price only. When price changes, only quantity demanded changes. The demand curve does not move, as the demand curve shows at each price the quantity that will be demanded.

A movement of a demand curve will occur when a determinant of demand changes. Determinants of demand include income, tastes and preferences, the prices of related goods and the size of the market. A change in price will not cause a movement of demand. (***M***)

4. Advertisers are attempting to move the demand curve for their good or service to the right, so more will be demanded at each price. By demonstrating how utility can be increased, they hope to raise the Marginal Utility for each unit consumed. Substitutes are 'dangerous' to a producer, making their goods or services very sensitive to changes in the market and beyond their control. Advertisers are also aware that if two goods are interchangeable in the mind of the consumer, this makes their own product vulnerable to price changes. If they put up their prices, they will be doing their competitor a favour, as consumers will switch to their competitor's product – they will suffer a decrease in the quantity demanded but their competitor will be handed an increase in demand. (***M***)

5. The opening of a new export market can greatly increase the available market for goods or services. This will have the effect of moving the demand curve to the right by the amount of the new market. More of what they make will now be demanded without price having to fall. It is preferable for a producer to have people increase the number of goods or services they buy without the producer having to reduce price. An increase in demand is preferable to an increase in the quantity demanded. (***M***)

Glossary/Index

This glossary explains the meaning of many of the words you need to understand in studying Economics. It is also an index because it gives page references to where the words are further explained or where examples are given.

accelerator (**the**) (255): operates when sales of investment goods increase at an increasing rate, and ceases when sales increase at a decreasing rate.

accounting costs (26): money costs incurred in producing output.

accounting profit (25): monetary surplus after monetary costs have been deducted from revenue; Profit = Revenue – Expenses.

Aggregate Demand (**AD**) (261): total demand in an economy, made up of consumption, investment and government spending plus net exports, at a series of price levels.
AD = C + I + G + (X - M).

Aggregate Supply (AS) (263): total output of an economy at a series of general price levels.

allocating resources (130): resources are distributed to making goods and services by derived demand.

allocative efficiency (69, 99): greatest amount of satisfaction for both consumer and producer is at equilibrium, where resources are allocated for maximum benefit; allocative efficiency is the sum of the consumers' surplus and the producers' surplus; a chosen point on the PPF, where goods and services are being produced using all resources as efficiently as possible and in the combination that best meets consumer wants.

autonomous (239, 240): acting without regard to any governing force or flow; *see also* exogenous.

Average Costs (32): Average Fixed Cost plus Average Variable Cost; TC/Q.

Average Fixed Cost (32): Total Fixed Cost divided by units of output; TFC/Q.

Average Revenue (40): Total revenue divided by Quantity sold; TR/Q.

Average Total Costs (**ATC** or **AC**) (32): cost per unit of output; calculated as Total Cost divided by Quantity Produced.

Average Variable Cost (**AVC**) (33): Total Variable Cost divided by units of output; TVC/Q.

balance of payments (295): set of national accounts measuring overseas trade.

balance on income (297): net flow of international investment income (such as dividends).

balance on invisibles (297): Balance on services + Balance on Income + Balance on Current Transfers.

balance on services (297): balance of the value of the export of services minus the import of services.

barriers to entry (8): mechanisms preventing other firms from entering a market.

bartered (231): exchanging of goods for goods without the use of money.