CHAPTER 3

Demand curves

NCEA Level 1 Economics material covered in this chapter helps students to meet the requirements for Achievement Standard 90983 (Economics 1.1) 'Demonstrate understanding of consumer choices, using scarcity and/or demand', through creating understanding of the following.

- A demand curve for an individual consumer.
- A demand schedule for an individual consumer.
- Movement along a demand curve.
- Shift of a demand curve.

Demand

Price influences how much people will or will not choose to buy. The law of demand focuses on price.

Demand is what consumers are willing and able to buy at a range of prices.

The Law of Demand

Price influences the quantity that will be bought or demanded. The higher the price, the less will be bought. People will think twice before buying something expensive. If price is low, people love a bargain, and will want to buy more.

The **law of demand** is something that happens 'naturally'. There may be one or two exceptions, such as people who will buy some luxury item which is expensive just to 'show off' to others and to make the point that they have so much money they can buy really expensive things, but these people are the exception to the rule.

In Economics, a 'law' is not a piece of legislation passed by parliament. In Economics, a 'law' is a generality, something that happens almost all of the time.

The Law of Demand in Economics says:
'Provided nothing else is changed (*ceteris paribus*), as price falls the quantity demanded will rise, and as price rises, the quantity demanded will fall.'

Ceteris paribus

This is a Latin phrase which means 'hold everything else constant', or 'provided nothing else is changed'.

In a science experiment, making sure only one thing is changed can be very important. For example, if students want to examine the effect of sunlight on a leaf, they may cover most of the leaf with tin foil and leave the plant in the sun for a few days to see what happens. If they forget to water the plant they may conclude that sunlight kills plants because their plant died. They would not reach the correct conclusion. Not everything was held constant, other than the change in sunlight. As soon as another aspect is added, such as no one giving the plant any water, the conclusion is not valid.

In Economics, when price is changed, it is important to see that nothing else changes at the same time.

Example

If the price of jellybeans rises, the expected outcome would be that fewer packets would be bought, but if the observed result was that more were bought because there had been a bigger increase in the price of 'jet planes' (a substitute snack), then the conclusion would be suspect. Which had the biggest effect on the amount of jellybeans bought – the price of jellybeans or the price of jet planes? It would not be possible to tell.

When demonstrating the law of demand, it is important to ensure that other factors, such as income, tastes and preferences and the price of other goods, are all kept the same, and only price is altered.

A demand schedule

To see the law of demand in operation, it can be helpful to arrange the changes in price and the related changes in quantity demanded in the form of a table.

A **demand schedule** is a table showing for each price the quantity that will be demanded at that price.

It does not matter if the table shows prices rising or falling, as long as it is consistent.

Example

Helena really likes hot chips, but around town the price per scoop varies considerably. If the price is $3.50 per scoop, Helena considers this too expensive for chips, and will not buy any, but she will buy one scoop a month at $3.00. At $2.50, she will allow herself two scoops, but at the more regular price of $2.00, she is happy to buy five scoops. Occasionally, when the price is $1.50, she would like to buy ten scoops. If she could buy chips at $1.00 a scoop she would probably buy about 18 scoops in a month, and if the price ever fell to 50c she will buy up as many scoops as she could eat.

The information could be presented as shown.

The left-hand column should be labelled 'Price ($)'

The price can be shown either in ascending order or descending order

Helena's demand schedule for hot chips per month	
Price ($) (per scoop)	**Quantity demanded (scoops per month)**
3.50	0
3.00	1
2.50	2
2.00	5
1.50	10
1.00	18
0.50	30

The demand schedule should always have a title

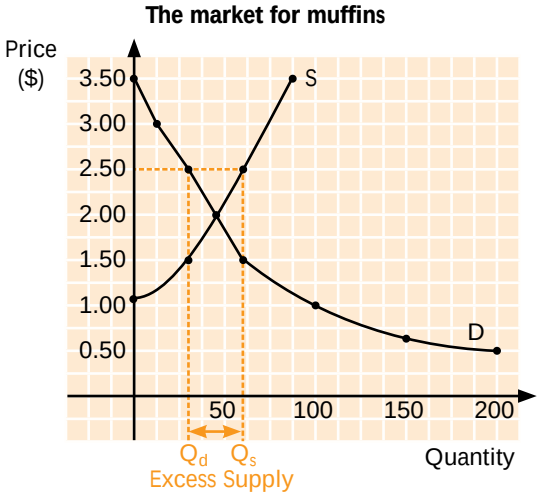
The right-hand column should be labelled 'Quantity demanded'

Helena's demand schedule for hot chips illustrates the law of demand – as price falls, Helena will buy more scoops of chips, *provided nothing else changes*, such as a reduction in her pocket money.

Examples

Muffins

In the market for muffins (see previous Example), at a price of $2.50 there will be an excess of supply of 40 muffins.

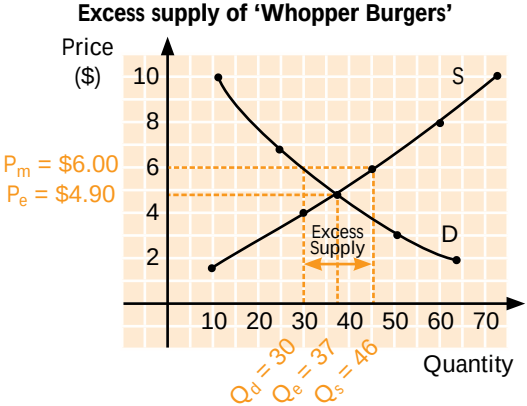


The cafe will supply 65 muffins ($\mathbf{Q_s}$) but some customers will think this is too dear, and will not buy muffins. At $2.50 each, only 25 muffins will be bought ($\mathbf{Q_d}$). At the end of the trading day there will be a large number of muffins left over. As muffins cannot usually be sold the next day, the shop will have to throw them away.

Only at a price of $2.00, the equilibrium price, will there be no unsatisfied demand, and no muffins left over at the end of the day.

'Whopper Burgers'

The producers of 'Whopper Burgers' decide to put their prices up to $6.00, as demonstrated in the diagram following.



When market price is $6.00 ($\mathbf{P_m}$ = $6), there will be *excess supply* of 16 burgers. The burger-bar owners will have burgers, or the ingredients to make them, left over. All they

can do now is throw the ingredients out as they are perishable. This is a waste, and sends the signal very clearly to the owners that they have made too many for the market. The price they are charging is now too high, so market price must be above equilibrium.

Excess supply occurs when market price is above equilibrium.

Excess supply will cause market price to fall.

Producers must lower their prices when there is excess supply, but by how much should prices be reduced?

Example

When the sellers of 'Whopper Burgers' charged $4.00 there was excess demand, so a price of $4.00 is too low, and at a market price of $6.00 there was excess supply, so $6.00 was too high; therefore the new market price should be somewhere in the middle – say, $5.00.

When market price is $5.00, there is a slight excess of supply of 2 burgers. At a market price of $5.00, the quantity demanded will be 36 burgers, but the quantity supplied will be 38 burgers. This excess supply is much less than occurred when **Pmarket** price was $6.00. A market price of $5.00 must be close to equilibrium.

Eventually, market price will reach equilibrium.

The experimentation with setting market price will continue until the equilibrium price of $4.90 is reached. Only at this price will the quantity demanded equal the quantity supplied.

Price performs the following two major tasks in today's economy.

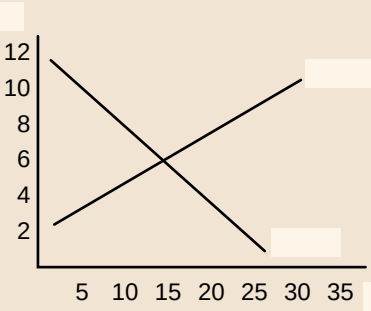
- *Price rations out scarce resources and output*. There are not enough resources to make all the goods and services people want. Price means that only those who are willing and able to pay that price will get the goods or services. (No money = get nothing!)
- *Price is a signal to producers as to what is wanted by consumers and what is not*. A high price means what the producer is making is wanted. A high price encourages the producer to make more. A low price means demand is low relative to supply, and the goods or services are not really wanted very much.

Activity 9F: Excess demand and excess supply

The diagram illustrates the market for packs of 6 cans of fizzy drinks.

Copy and use the diagram to answer the questions that follow.

The market for '6 packs' of fizzy drink



Certain resources were highly prized by Maori because of their scarcity rather than their survival qualities. Pounamu or greenstone was used to make sharp weapons such as mere, or to make precious keepsakes or taonga.

Many cultures today have certain ceremonies or beliefs whose original meaning has often been lost.

Example

Consider the English custom of throwing a pinch of salt over the shoulder if any was spilt. This was supposed 'to get in the Devil's eyes' so he could not catch you, but the original meaning was more straightforward. In the harsh English winters, the only food available was grain stored from the autumn's harvest, and meat preserved by salting it down. Without salt, meat would go rotten, and the people of the village could become sick through insufficent protein in their diet. Salt that was contaminated with dirt could poison the meat or make it unfit to eat, which is where the Devil stories came in – the Devil, the total opposite to a benevolent God, wanted bad things to happen, such as starvation.

Because different resources can have different beliefs attached to them, it is important to ensure that cultural beliefs and required ceremonies are taken into consideration before certain resources are used.

Activity 14C: The cultural dimension of resource use

1. What do tapu and rahui mean in terms of resource use?
2. The Resource Management Act requires a consent before any major resource, such as land, can be used. When the government built the prison at Ngawha in Northland, some locals were opposed to its construction on the grounds that a taniwha inhabited the spring on the land.
   Why might the presence of a taniwha be significant?

Classifying resources further

Resources can also be classified as to their type, origin and use, as well as whether they are renewable or non-renewable.

Different economists have different systems of classifying resources, but the most common system follows.

Land, natural resources:	All gifts of nature; all resources that occur naturally. These include sea, rivers, trees, animals, mineral deposits, oil, natural gas, grass, fish, birds, etc.
Labour, human resources:	Physical human effort. All human input to the production process. All human skills and effort, such as that of teachers, shop assistants, pharmacists, farmers, and every other occupation or job where people are engaged in producing goods or services for monetary reward or voluntarily.
Capital resources:	Human-made aids to production, eg tools, machines, buildings. Goods used to make other goods (eg a hammer is used to make a house).

***Entrepreneurship, human resources:**	****Managerial skill plus the ability to take risks and organise the other factors of production to get output.**

*Sometimes, entrepreneurship is not given as a separate category or classification, as it is a human skill.

**Some economists include *managerial skill* as a labour resource.

Some of the names given to the classifications above may at first seem a little confusing.

- Why call natural resources *land*, when it includes water, fish, mineral deposits and plants?
- Why call human input *labour*, when there are many jobs which do not involve labouring?

Both *land* and *labour* are old, eighteenth-century words, retaining the meanings that applied back then. Originally, in the 1770s, Adam Smith (the 'father' of economics) classified resources under the three headings of *land, labour* and *capital* using the meanings the words had then.

Land meant everything naturally occurring, labour meant all human work of whatever type or variety, and capital meant then what it still means today, the human-created tools and implements, buildings and machines needed to produce more efficiently.

Entrepreneurship – or managerial skill and risk taking – is sometimes given its own classification. All the other resources can be present, all the raw materials, the people and the necessary capital, but nothing will be produced until *someone* comes along and puts it all together to get output. Managerial skill is the ability to combine the resources to get output.

Activity 14D: Classifying resources

1. What is:
   a. a natural resource?
   b. a capital resource?

2. Using the photograph as an example, describe how labour and capital can combine to produce output.

Particular production processes

Look at a finished good, such as a school desk. What resources have been used to make it? If there is any metal present, this must first have been mined and the ore separated out, the ore must have been melted or smelted, and the metal produced rolled or extruded into a usable shape, then cut and bent into a final shape. Natural resources have been manufactured with the assistance of people and capital into a component of the desk.

Activity 21F: The marketing industry

Use the photograph to answer the questions that follow.

1. **a.** Identify the promotional activity shown.
   b. How might this promotion assist in selling this brand of petrol?
2. Explain how the marketing industry and service stations are interdependent, using the photograph as an example.

Finance services

Producers wanting to expand or update production methods often need to *borrow money*. Without the ability to borrow against future profits, most producers would be stuck doing the same thing in the same plant for a very long time, unable to improve technology or expand. Banks and other financial institutions can provide loans and give *financial advice* to their customers.

Producers also receive revenue from the goods and services they sell. Banks provide *deposit* services, allowing sellers to deposit their takings in a safe and secure way.

Accounting services

Knowing where and how a firm's resources are being used is most important for efficiency. Accounting systems track goods, purchases and inventories (stocks of goods), record sales and record what goods are returned as faulty, and provide Statements of Financial Performance and Financial Position each year. Good accounting provides the information for sound decision making, prevents wastage, and assists the producer to become more efficient in their specialist area. Accountants also provide advice on taxation law and provide auditing services which check that accounts have been prepared according to the law.

Communication services

If buyers and sellers cannot *pass information* to each other, the whole business of buying and selling slows down, and possibly even ceases altogether. Producer organisations need to communicate effectively within their organisation to achieve maximum efficiency and to promote a common goal.

Communications for producers today range from telephone services, internet, mail, couriers and fax, to video-conferencing and conferences. Within a producer organisation there can also be internal memos (short notes delivered around the workplace) and in-house magazines which detail what each part of the organisation is doing and achieving.

Communications require sophisticated aerials and dishes to transport information clearly, without distortion, around the country and around the world.

Communications can be between people as close as next-door offices, to around town, around the country, or around the world.

Activity 21G: The communications industry

1. Use the photograph of the Telecom building in Wellington to answer the questions that follow.
   a. What particular communication service is being promoted by naming the building in this way?
   b. Explain how a furniture manufacturer and Telecom are interdependent.
2. Use the photograph alongside to answer the questions that follow.
   a. Identify the activity in the photograph.
   b. In what ways does the service assist small-to medium-sized producers to be efficient?

ANSWERS

Note: The NCEA questions used in this book have ***A***, ***M*** and ***E*** grades. The assignment of grades is entirely the responsibility of the author and has been made according to the best judgement of the author at the time of writing.

Activity 2A: Needs and wants (page 5)

A **need** is something that *must be satisfied* or a person cannot survive. Everyone must drink enough to survive. A **want** is something which it *would be pleasant to satisfy*, but if it is not satisfied does not mean a person is deprived of a necessity of life. (***M***)

Activity 2B: Economic scarcity (or the economic problem) (page 6)

1. Scarcity means there are not enough resources to make all the goods and services which people want. (***A***)
2. Scarcity refers to resources which are limited; people's wants are infinite. (***A***)
3. Because of scarcity of resources. Means are limited in relation to wants, which are unlimited. (***A***)

Activity 2C: Opportunity cost (page 7)

1. **a.** Fleur does not see these activities as alternatives. Therefore, for Fleur, there is no opportunity cost as she does not need to choose one option over the other. (***A***)

   b. Fleur's parents think there will be a need to choose which activities to carry on and which must be dropped. In their minds, the opportunity cost of Stage Challenge will be that her school work will suffer, and they may believe this is too high a cost for taking part in something Fleur may enjoy, but at the expense of her later study and career. (***A***)
2. Different people have different perceptions and different priorities, which means they will have different ways of seeing the same situation. Fleur sees taking part in Stage Challenge as fun and thinks she can cope with all three objectives at once, so there is no opportunity cost. Her parents have different ideas. They do not believe it is possible for Fleur to take part in Stage Challenge without compromising her school work. They may be afraid that Fleur will put her social life ahead of her school work if she chooses Stage Challenge. Her parents see the opportunity cost of Stage Challenge as foregoing good grades in her school work. (***E***)

Activity 2D: Limited means (page 8)

1. Money income from KiwiSaver and Government Superannuation and sales of his toys; his garden allows him to grow vegetables; he uses his own skills and abilities to cook, shop and wash his clothes; his family provides him with entertainment and outings. (***M***)
2. Without Nathan, the local playcentre may miss out on having wooden toys for the children. Without Nathan as a neighbour, his neighbours would miss out on free fresh vegetables. (***M***)

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