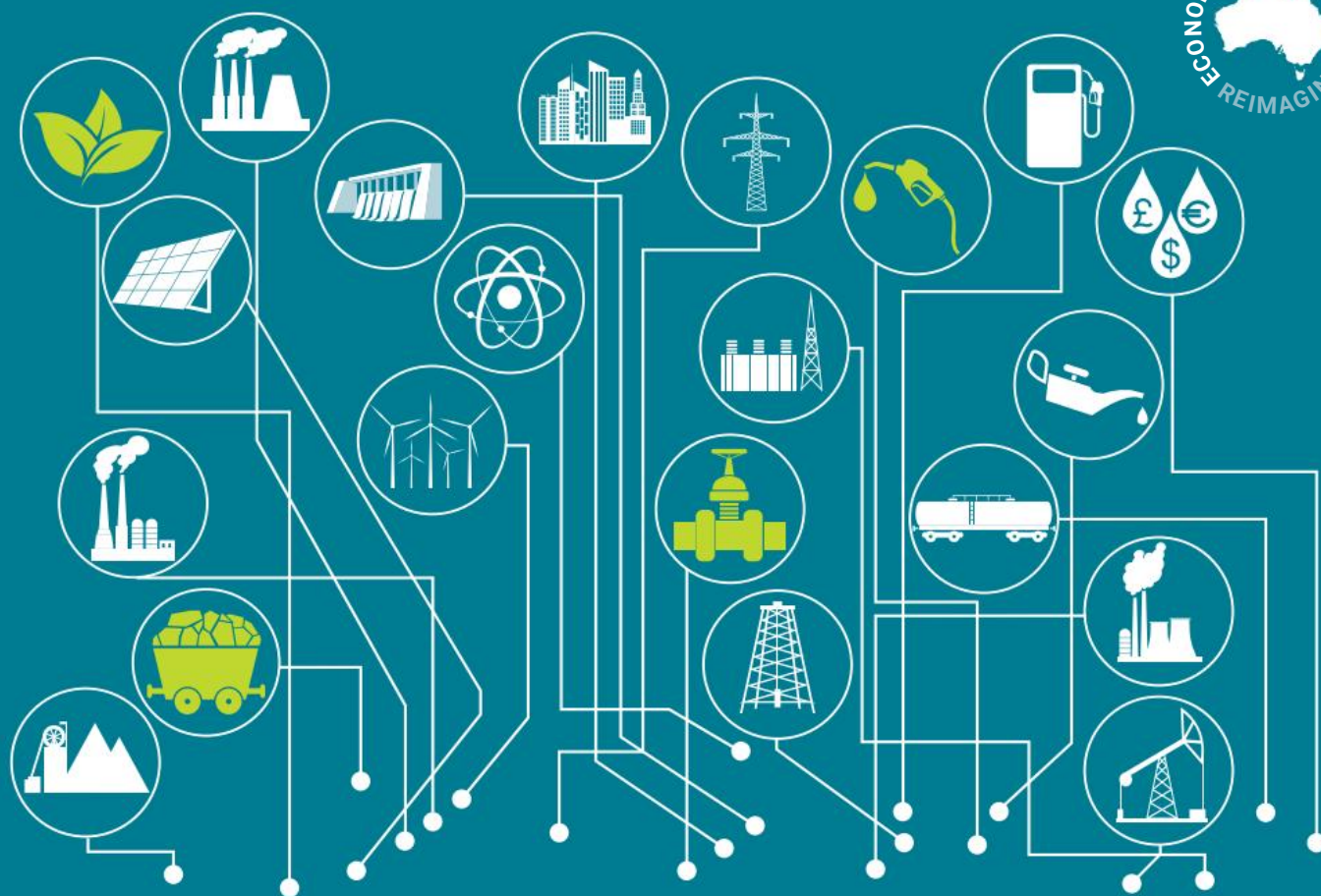


RICHARD MORRIS

JACARANDA KEY CONCEPTS IN VCE
ECONOMICS
UNITS 1 & 2 | ELEVENTH EDITION



JACARANDA KEY CONCEPTS IN VCE

ECONOMICS 1

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RICHARD MORRIS

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Key Concepts in VCE Economics has been reimagined to provide students and teachers with the most comprehensive resource on the market. This engaging and purposeful suite of resources is fully aligned to the VCE Economics Study Design (2017–2021).

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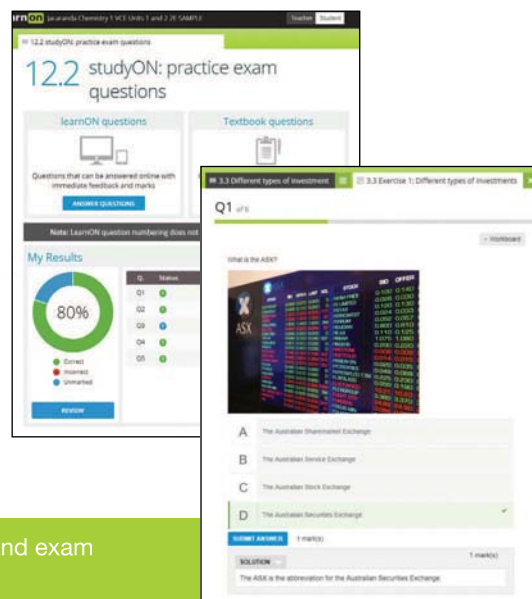


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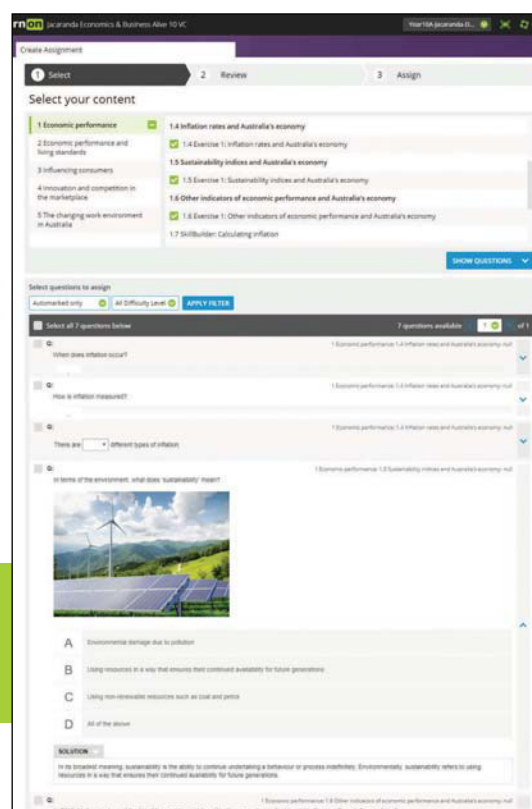
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Offline and online study, revision and exam practice

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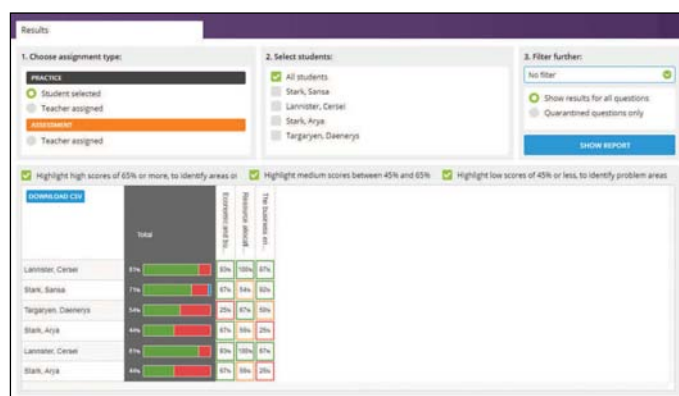
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Test Maker

Create custom tests for your class from the entire question pool — including all subtopic, topic review and practice exam questions



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UNIT 1

THE BEHAVIOUR OF CONSUMERS AND BUSINESSES

Economics is a social science that explores the way humans behave and evaluates decisions we make to meet the needs and wants of our society. It is a dynamic and constantly evolving study and important economic issues surround all of us, twenty-four hours a day, every day.

In this unit, we will explore the forces that help to shape the behaviour of consumers of goods and services, and that of sellers when they make business decisions. We will interpret and apply economic models to analyse how markets make key economic decisions in most economies around the world. In these markets, consumers and businesses interact to determine relative prices, and hence the relative profitability of alternative areas of production. All this information, from thousands of markets, helps profit-seeking businesses to direct our limited resources into areas where they are most needed and wanted, largely without government intervention. In turn, such economic decisions greatly affect the wellbeing of us all.

AREA OF STUDY	OUTCOME	TOPICS
1 Thinking like an economist	Describe the basic economic problem, discuss the role of consumers and businesses in the economy and analyse the factors that influence decision making by consumers and businesses.	1 Thinking like an economist
2 Decision making in markets	Explain the role of relative prices and other non-price factors in the allocation of resources in a market-based economy.	2 Decision making in markets

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1 Thinking like an economist

1.1 Overview

Numerous **videos** and **interactivities** are available just where you need them, at the point of learning, in your digital formats, learnON and eBookPLUS at www.jacplus.com.au.

1.1.1 Introduction

Although economics is always in the news because of its importance and relevance to us all, like most students starting their studies in this area, you probably have little or no idea of exactly what you have let yourself in for! No doubt you want to know what this subject is all about and what you will learn. In this topic, we are going to investigate some of the basic concepts of economics like scarcity and making choices, and then drill down a little, to try and get inside the minds of economists to see how they think about economic issues.

FIGURE 1.1 Economics is a social science that investigates many issues that affect people's wellbeing.

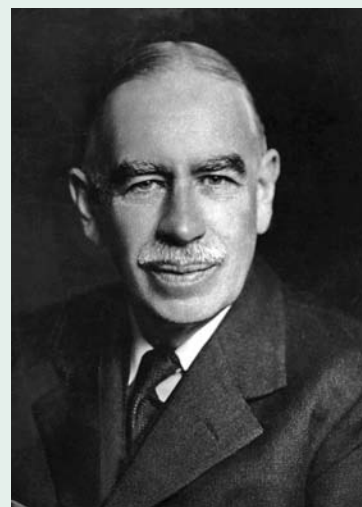


Famous Economist: John Maynard Keynes

John Maynard Keynes is one of the most influential economists in history. Born on 5 June 1883 in Cambridge, England, Keynes developed ideas that fundamentally changed the economic policies of governments around the world, and the way we view macroeconomics to this very day.

Keynes greatly advanced our understanding of how the economy changes through business cycles, and in the turbulent times of the Great Depression argued that governments needed to stimulate the economy through increased spending and lower interest rates. Doing so would increase overall demand for goods and services produced in the economy and reverse the downward spiral that had been taking place.

Keynes developed an economic school of thought that is commonly referred to as Keynesian economics, and is accepted as a more appropriate way of managing entire economies than was previously suggested by neoclassical economic theory. The impact of such economic theories on the decisions of governments — and in turn on the day-to-day lives of ordinary people around the world — is profound, arguably placing economists such as Keynes among the most influential people of his time.



The ideas of economists ... Both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else ...

Source: John Maynard Keynes, *The General Theory of Employment, Interest and Money*, 1936.

1.1.2 What you will learn

KEY KNOWLEDGE

Use each of the following points from the VCE Economics Study Design as a heading in your summary notes.

Introductory concepts

- the basic economic problem of relative scarcity and the need for economic decision making
- the concept and applications of opportunity cost
- resources used to meet needs and wants: natural, labour and capital
- the meaning and significance of positive and normative economics
- the purpose of economic activity and the influence on material and non-material living standards
- the three basic economic questions: 'What and how much to produce?', 'How to produce?', 'For whom to produce?'
- the need for trade-offs such as current versus future, short run versus long run, and cost-benefit analyses
- the production possibility model to illustrate the concepts of scarcity, choice, opportunity cost, underutilisation of resources and efficiency
- the two sector circular flow model of the economy.

Consumers

- the traditional economic viewpoint of consumer behaviour such as rationality, ordered preferences, informed decision making and marginal benefits from consumption
- economic factors that may influence economic decisions made by consumers such as:
 - utility maximisation
 - budget constraints
 - internal influences on economic decision making for example, personality types, ethics, habit
 - external influences on economic decision making for example, culture, marketing, and government
- developments in research about consumer behaviour, including the contribution of behavioural economics
- the ways consumers and workers might respond to positive and negative incentives
- the effects of technological change on consumer behaviour.

Business

- the traditional economic viewpoint of business in the economy: profit maximisation
- how businesses might respond to positive and negative incentives
- the evolution of business and changing goals such as sustainability, community involvement, gender equality, innovation, research and development
- the effect of technology on business behaviour and the trade in goods and services
- the nature and effectiveness of strategies businesses may use to increase profitability including price discrimination, multiple branding and illegal, anti-competitive behaviour as outlined in the Australian *Competition and Consumer Act 2010*.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- apply economic theory to make economic predictions
- gather and synthesise information from a wide range of sources to assess the effect of economic decisions on relevant stakeholders
- compare the traditional economic viewpoint with research in the behavioural economics area
- construct, interpret and apply economic models to analyse the consequences of economic decisions
- evaluate the costs and benefits associated with a range of economic decisions
- investigate and evaluate alternative viewpoints on economic issues.

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Resources

 **Digital document** Key terms glossary (doc-31525)

studyon

To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31526).

1.2 BACKGROUND KNOWLEDGE Definition and nature of economics

BACKGROUND KNOWLEDGE

- To think like an economist, we need to be able to define economics and outline what it involves. This includes understanding the meaning and significance of positive and normative economics.

1.2.1 Definition of economics

Some people may think that **economics** is all about money. While economics can involve money, it is not always the case. Economics is a study of human behaviour. It involves looking at the way individuals, families, businesses and governments make decisions or choices about how to use their limited resources in ways that best help to satisfy their basic needs and unlimited wants.

Every day we make all sorts of decisions involving choices between alternative uses of our limited resources. For instance:

- Should you continue your education or get a job?
- Should you have a girlfriend or boyfriend, or just concentrate on your VCE?
- Should you go to the Falls Festival at Lorne or stay at home?
- Is it better for you to invest in shares or just leave your money in a bank savings account?
- Should businesses produce mobile phones, hamburgers, jeans, uranium or wool?
- Should a firm advertise its products in newspapers or use social media?
- Is it better for a government to build new childcare centres, or put more resources into sport, roads or national defence?
- Does Australia benefit from free trade with other countries, or should we seek to be more self-sufficient in our production of goods and services?
- Should mining be allowed on the Great Barrier Reef or on sacred Aboriginal sites?

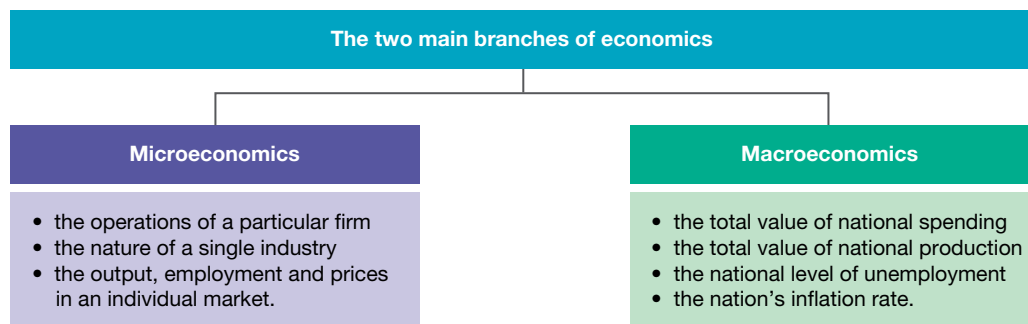
In making these sorts of decisions, economics also studies issues related to the production, consumption and distribution of goods and services.

Additionally, economics could look at how to economise and be less wasteful so that our resources go further and can be used to increase our wellbeing.

1.2.2 The two branches of economics

Economic issues can often be examined at *two* different levels — through the study of *microeconomics* and the study of *macroeconomics* (see figure 1.2).

FIGURE 1.2 Microeconomics and macroeconomics are the two main branches involved in the study of economics.



Microeconomics

Microeconomics often looks at the factors that influence the small bits, units or various parts making up the overall Australian economy including the decisions made by individual consumers or single firms. For instance, it may concern the things that affect the operations, production costs, prices and *profitability* of:

- a particular firm (e.g. Woolworths, National Australia Bank, BHP and Myers)
- an industry (e.g. the childcare, fashion, beef, egg and woodchip industries)
- a single market (e.g. oil, barley, uranium, property, labour and wool).

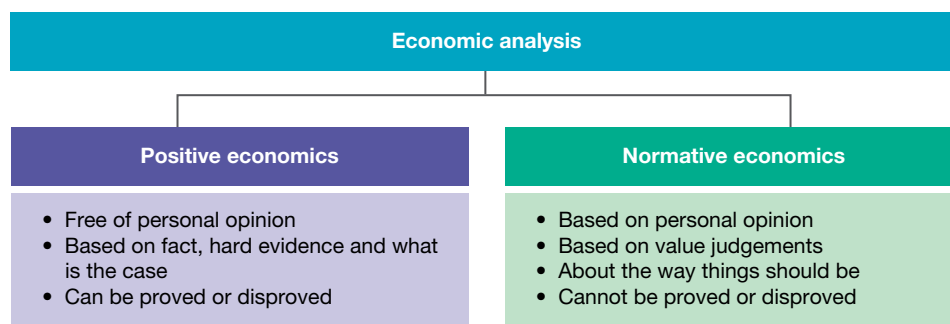
Macroeconomics

Macroeconomics takes a wider ‘bird’s-eye’ look at the *whole economy* and the larger flows affecting overall economic conditions in the country: booms, when the economy is growing too fast, or recessions, when there is a downturn in the economy. Macroeconomics therefore looks at the bigger picture and is concerned with levels of national spending, national production (measured by gross domestic product or GDP) and national incomes, as well as the country’s overall unemployment and inflation rates.

1.2.3 The meaning and significance of positive and normative economics

In addition to the split between *microeconomics* and *macroeconomics*, there is also a division between *positive economics* and *normative economics* (see figure 1.3).

FIGURE 1.3 Positive and normative economics are two branches of economics.



Positive economics

Most commonly, economics uses **positive economic** analysis of issues or questions that can be either proved or disproved beyond doubt. Positive economics analyses issues where the investigation is largely free of personal values, feelings or opinions. In other words, positive economic analysis often involves basic statements such as ‘If A occurs, then B is the result’. For instance, ‘If iPhones become more expensive, then the demand for them will decrease’, or ‘If tax rates rise, individuals will usually spend less’.

Normative economics

However, in economics it is sometimes difficult to just stick to positive economic analysis. Sometimes, personal, value-based statements are also made about what *should* be done (based on personal opinion, likes and dislikes). **Normative economics** involves statements about what should be done, based on personal opinion, likes and dislikes. For instance, to say that the Australian government ‘*should* increase its spending on defence by cutting outlays on welfare benefits’ is a statement of personal beliefs, so this represents normative economics. Being values-based does not necessarily make normative economics inferior to positive economics, as long as the reader is clear which approach is being used.

Combining positive and normative economic analyses

Although textbooks like this one contain mostly positive economics, the distinction can become a bit fuzzy, particularly when it comes to recommending the best government policy for dealing with a particular problem. For instance, imagine there are two economists examining the question, ‘Would cutting government unemployment benefits or tightening access to cash welfare payments cause a fall in the number of people who are unemployed?’ Using positive analysis, both may come to the same factual or objective conclusion. Even so, they may still disagree about how government welfare policy *should* be changed to make the welfare system financially sustainable for the future, because they have each taken a different normative approach involving different economic, social or political values. It has even been said that ‘if you put all the economists of the world end to end, they would not reach a conclusion’ — perhaps a lighthearted reference to normative economic analysis!

on Resources



Video eLesson Microeconomics versus macroeconomics (eles-3499)



Weblinks What is economics?

Microeconomics vs macroeconomics

1.2 ACTIVITIES

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Check your understanding

1. What does *economics* study?
2. Giving examples, distinguish between *macroeconomic* issues and *microeconomic* issues.
3. Explain the difference between *positive economics* and *normative economics*, providing your own examples of each. Why is it important to make this distinction?

Applied economic exercises

1. Define what is meant by the *study of economics*. Give two original examples of what this study might involve. **(2 marks)**
2. Macroeconomics and microeconomics
 - (a) What are the main differences between *macroeconomics* and *microeconomics*? **(2 marks)**
 - (b) Classify each of the following issues as likely to be primarily macroeconomic or microeconomic in their nature. Be prepared to justify your answer. **(8 marks)**

Economic issue	Is the issue primarily a macroeconomic or microeconomic issue? Why?
i. The pricing of iTunes	
ii. Trends in Australia's unemployment rate	
iii. The drought and debt crisis among farmers in Victoria's north-west	
iv. The closing down of a timber mill in Victoria's Otway forest	
v. The building of a new business making and selling surfboards and clothing in Torquay on Victoria's Surf Coast	
vi. A general fall in the rate of interest charged on loans made to individuals and businesses in Australia	

Economic issue	Is the issue primarily a macroeconomic or microeconomic issue? Why?
vii. A cut by the federal treasurer to the top rate of personal income tax from 45 per cent to 40 per cent, and the rate of company tax for large firms from 30 per cent to 25 per cent	
viii. The declining profitability and closure of Australia's car industry	

3. Positive economics and normative economics

(a) Distinguish positive economics from normative economics.

(2 marks)

(b) Classify the following economic statements as to whether they are *positive* or *normative*. Be prepared to justify your answer.

(4 marks)

Statement	Is this statement a positive or normative statement? Why?
i. Multinational companies operating in Australia should pay more tax.	
ii. Australia's annual inflation rate rose to 3.5 per cent, reducing the purchasing power of some individuals.	
iii. Research shows that paying young people a lower wage than that for adults helps to reduce youth unemployment rates.	
iv. Income inequality in Australia is too high and should be reduced.	

Fully worked solutions and sample responses are available in your digital formats.

1.3 The basic economic problem of relative scarcity

KEY CONCEPTS

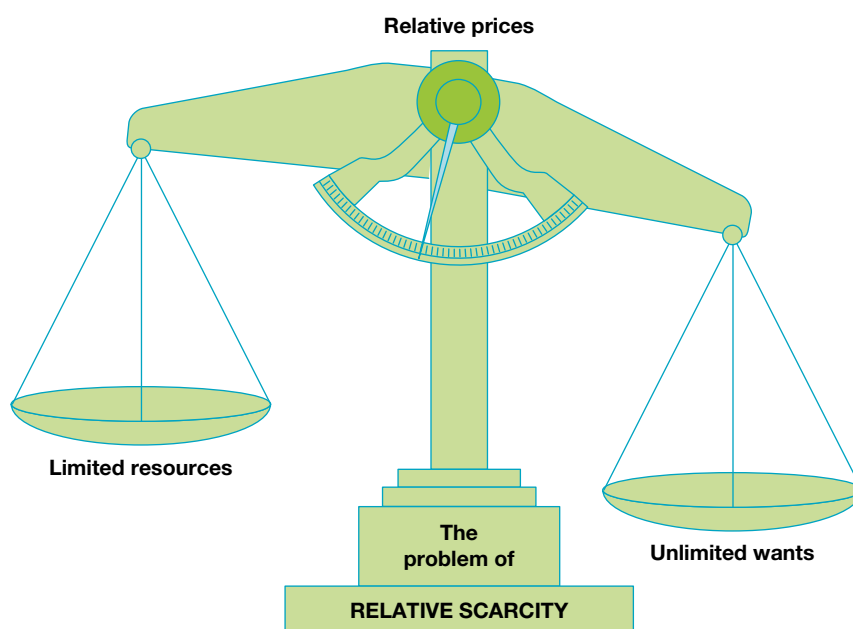
- the basic economic problem of relative scarcity and the need for economic decision making
- resources used to meet needs and wants: natural, labour and capital
- the purpose of economic activity and the influence on material and non-material living standards
- the three basic economic questions: 'What and how much to produce?', 'How to produce?', 'For whom to produce?'

1.3.1 Overview of relative scarcity

In total, we humans have many **wants** ranging from love and friendships, to social status and of course all those material things that make life more pleasant and exciting. Overall, we say that our material *wants* are *unlimited* or infinite. Additionally, to survive we have certain **needs** — a certain quantity of essential food, shelter, healthcare and clothing.

In order to satisfy all these material needs and wants, society would have to be able to make or produce infinite quantities of goods and services. Regrettably, this is simply not possible. We lack sufficient resources or productive inputs needed to generate this massive level of output. As shown in figure 1.4, this imbalance between unlimited wants on the one hand and limited resources on the other is called the basic economic problem of *relative scarcity*.

FIGURE 1.4 The economic problem of relative scarcity arises because people's unlimited wants exceed the limited resources available from which to produce goods and services. This means that only some wants can be satisfied and people must choose which wants to satisfy first.



1.3.2 People have unlimited wants

There are several reasons why we say that individuals, businesses and governments overall have *unlimited wants*:

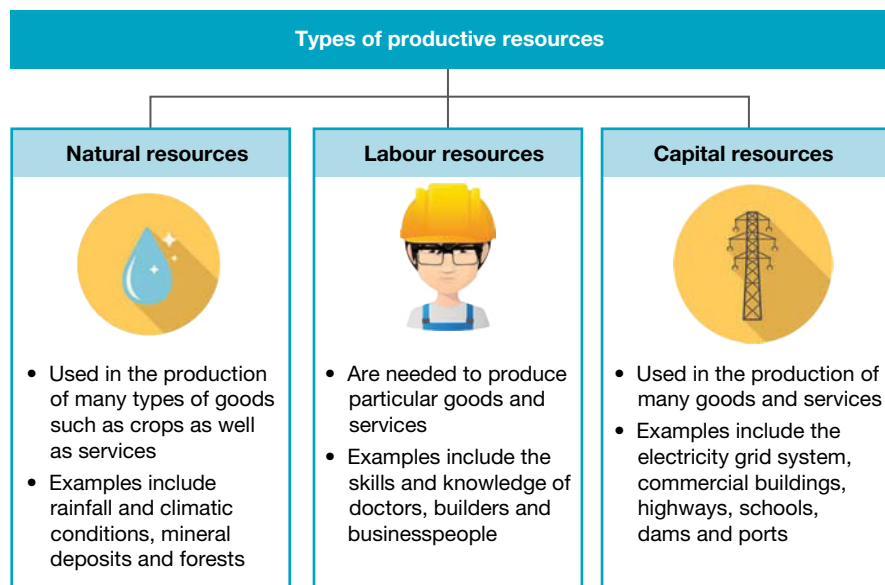
- As one want is satisfied, another appears (e.g. the latest model mobile phone).
- The more material things people have, the more they want and expect as a result of advertising, fashions and the spread of materialism.
- The world's population is growing quickly, multiplying the total number of wants.
- **Planned obsolescence** by manufacturers ensures that things date, wear out quickly and cannot be repaired. They need to be replaced with new items.
- Some people try to keep up materially with their friends by owning the latest things.

When individuals try to actually satisfy their wants through spending or using income to buy goods and services, they create a *demand*. In turn, this also creates a *derived demand for the resources* needed to make these things.

1.3.3 Our productive resources are limited

Resources are the *inputs* used by businesses to produce or supply the goods or services that we need and want. There are *three* main types of productive resource available in an economy — natural resources, labour resources (including entrepreneurship) and resources that involve capital equipment (see figure 1.5).

FIGURE 1.5 The three main types of productive resource available in an economy



1. **Natural resources** are the productive inputs that occur in nature (e.g. soils for agriculture, mineral deposits, forests, native animals, oceans, climate, rivers, clean air and the environment).
2. **Labour resources** are the intellectual skills, knowledge and manual effort that people provide as members of the nation's labour force (e.g. those of a doctor, mechanic, retail attendant and banker).
3. **Capital resources** (or capital equipment) involve manufactured or producer goods. Here, capital is seen as the stock of past production that is used to aid current and future production. This includes the physical plant and machinery (that may incorporate new technology) used by a firm to help make other finished goods and services. Examples of capital resources include tractors, factories and commercial buildings, industrial robots, highways, wind turbines, schools, dams and ports. Investment in capital equipment (i.e. 'physical' capital as opposed to 'money' capital) is very important because it helps to increase the productivity or *efficiency* of labour and natural resources.

FIGURE 1.6 (Left) *Natural resources*, such as rainfall and climatic conditions that affect water levels in dams, are used in the production of many types of goods such as crops as well as services. (Right) *Capital resources* like our electricity grid system are also used in the production of many goods and services.



1.3.4 The basic economic problem — relative scarcity

Relative scarcity is the basic economic problem or starting point in economics. It arises because the *volume* (i.e. quantity) and/or *efficiency* (i.e. quality) of resources available for production is finite or *limited*, relative to the level of people's needs and wants — which are virtually *unlimited*. In other words, people demand more goods and services than firms or businesses can supply or produce from the limited resources available. By contrast, if the supply of resources was infinite, all our wants could be satisfied, and goods and services would presumably be available free of charge.

Put another way, the existence of differences between the prices paid for different goods or services reflects their relative scarcity:

- A relatively high price indicates that the item is fairly scarce (e.g. diamonds, water in the desert).
- A low price means the item is relatively abundant (e.g. bananas following the main harvest).
- Things that are not at all scarce are free or have a zero price (e.g. air).

Because of the problem of **scarcity**, individuals and nations cannot possibly have all the material things they desire. They are forced to make choices or decisions as to which needs and wants to satisfy first. This limits a society's *material living standards*. However, those nations that have access to more resources and/or use those resources more efficiently can enjoy relatively better levels of material wellbeing (i.e. economic living standards), because they can produce and consume a greater quantity of goods and services and satisfy more wants. They can usually avoid starvation and disease, anticipate a longer life expectancy, and enjoy better levels of nutrition, healthcare, education, transport and housing.

1.3.5 The purpose of economic activity and the influence on living standards

Economic activity is a term used to describe the production process where firms use resources and convert them into the finished goods and services we need and want. Over a period of time, the *level of economic activity* or national production may increase or decrease. **Gross domestic product** (GDP) is the most common *measure* of the level of economic activity and represents the total value of finished goods and services produced by a country in a year. Nations that have higher levels of production per person (i.e. GDP per head, calculated by dividing the value of GDP by the total size of the population) generally have higher average *material living standards* or wellbeing than countries with lower levels of GDP per head. When GDP per head is higher, average incomes and consumption of goods and services (food, education, health, homes, holidays, clothes) per person will also be greater. More material needs and wants can be satisfied.

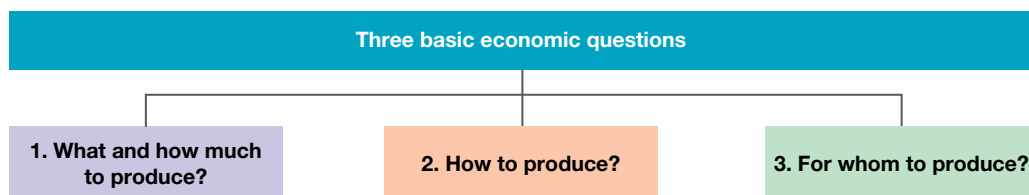
However, it is also important to note that society's general wellbeing is not only determined by the levels of economic activity, production, income and consumption. *Non-material living standards* also affect the quality of our daily lives. Here, we might think of non-material aspects such as freedom, democracy, happiness, culture, family cohesion and relationships, life expectancy, pollution and the environment, and the level of crime.

It is true that rising levels of economic activity and material living standards can sometimes improve our non-material wellbeing. For instance, researchers suggest that, at least up to a point, having more income can alleviate economic hardship and make us happier. It can improve lifestyle choices that extend our life expectancy and make our existence more exciting. However, beyond a certain level of income, having more material goods apparently does not generally make us happier, as many lottery winners would testify. Additionally, using up resources to produce more goods, and raise material living standards now, is detrimental for the environment and for the living standards of future generations.

1.3.6 The three basic economic questions

Collectively, our wants exceed the resources available, ultimately limiting the potential level of national production and economic activity. We cannot produce all the goods and services required to satisfy all our wants. This forces a society to make three important economic choices or decisions (see figure 1.7).

FIGURE 1.7 The three basic economic questions



1. The **‘what and how much to produce’ question**. This question involves making decisions about how resources should be allocated or used so that the right types and quantities of goods or services are produced. We cannot produce everything in unlimited quantities so, for instance, should we produce rice or fish, guns or butter, education or health, tourism or cars, or childcare or aged homes? As we shall soon see, consumers generally make these choices by what they do or do not buy. Businesses simply follow consumers’ orders or instructions, thereby helping to maximise the general extent to which society’s needs and wants should be satisfied.
2. The **‘how to produce’ question**. This question is about deciding how to actually produce the particular goods and services that have been chosen. Should this be done by using lots of labour, or by using robots and machinery? Generally, the lowest cost or most efficient production methods will be selected by businesses because they usually seek to minimise costs and maximise profits.
3. The **‘for whom to produce’ question**. This involves how the goods, services and incomes that are produced in the economy will be divided or shared between individuals. For instance, should they be distributed evenly, or is some inequality a good thing? Generally, higher incomes and more goods and services go to those who sell scarcer or more valuable resources.

Relative prices, and the decisions made by consumers and businesses, are generally used to make these decisions and answer the three basic economic questions.

on Resources



Weblinks Scarcity

Economic scarcity and the function of choice

Scarcity, choices, and exchange (EconMovies 1: Star Wars)

1.3 ACTIVITIES

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Check your understanding

1. Distinguish between the *needs* and *wants* of individuals and society.
2. Why do we say that our wants are *unlimited*?
3. What are *resources*?
4. Giving examples, define each of the following *types* of resources:
 - (a) natural resources
 - (b) labour resources
 - (c) capital resources.
5. Why do we say that resources are *limited*?
6. Explain what is meant by *relative scarcity*.
7. Explain what is meant by the term *economic activity*. How does the level of economic activity affect our overall living standards?
8. List and explain the three basic economic questions that society must answer because of the basic economic problem of relative scarcity.

Applied economic exercises

1. Needs and wants

- (a) What is the difference between something that you *need* and something that you *want*? (2 marks)
- (b) Classify the following as to whether you think it generally represents a *need* or a *want*. Be prepared to justify your answer. (12 marks)

Purchases	Is this purchase likely to be a need or a want? Why?
i. A Queensland holiday	
ii. A grand final ticket	
iii. A glass of water	
iv. Bus transport to work	
v. One pair of shoes	
vi. A university education	
vii. One meal a day	
viii. Makeup and cosmetics	
ix. Access to a doctor	
x. A new mobile phone	
xi. Electricity	
xii. A new iPhone	

2. Resources

- (a) Define the meaning of the term *resources* as used in economics. (1 mark)
- (b) Giving examples, explain the concept of *capital resources*. Suggest reasons why capital resources are so important for an economy. (2 marks)
- (c) Classify each of the following resources as *labour*, *capital* or *natural* resources, briefly justifying your answer. (10 marks)

Resource	Labour, capital or natural resource? Why?
i. A new childcare centre constructed in your neighbourhood	
ii. An expanded CityLink freeway system	
iii. The Geelong football team	
iv. Buildings at the Docklands complex	
v. Coal deposits in Gippsland	
vi. Artesian water (high-quality water used for drinking or irrigation) in central Australia	
vii. The twelve years or so you spent gaining an education	
viii. The purchase by a business of robots and an advanced computer system	
ix. Australia's Prime Minister	
x. A dam constructed on a farmer's land	

- (d) i. Describe one type of natural resource that is most needed to improve the productive capacity of a country like Australia, justifying your response. (2 marks)
- ii. Describe one type of natural resource that is most needed to improve the productive capacity of a country like India, justifying your response. (2 marks)

3. The basic economic problem

- (a) Describe the *basic economic problem* that is faced by both individuals and countries. (2 marks)
- (b) A long-lost wealthy aunt generously left you \$3 million in her will. Would you still face the problem of scarcity? Explain your reasons. (2 marks)
- (c) Why is fresh air normally a *free good*, while electricity is relatively expensive? (2 marks)
- (d) Explain what is meant by the level of *economic activity*. What is the main *purpose* or *aim* of economic activity? What is the main factor limiting a country's level of economic activity? (3 marks)
- (e) Define what is meant by the *standard of living* and state how this might be measured. (3 marks)
- (f) How would a *rise* in the level of economic activity be likely to affect the average living standards of a country? (2 marks)
- (g) Examine this data for a hypothetical country before answering the questions that follow:

Indicator	2020	2021
Annual percentage change in national production (GDP)	2.5	1.1
Annual percentage rise in the country's population	1.4	1.8

- i. Over the two-year period, what has probably happened to average material living standards? Why? (6 marks)
- ii. Explain the likely effect of the change in material living standards on non-material living standards over the two-year period. (2 marks)
- (h) Because of the problem of scarcity, society cannot have all the material things it would like, forcing it to choose between the production of alternative goods and services by answering the 'what and how much to produce question'. How might you use information about relative prices to decide what and how much of a product to produce? (5 marks)

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1.4 Making economic decisions

KEY CONCEPTS

- the concept and applications of opportunity cost
- the production possibility model to illustrate the concepts of scarcity, choice, opportunity cost, underutilisation of resources and efficiency

We have seen that, given the basic economic problem of *relative scarcity*, there are limits on the quantity of goods and services that a country can produce. Our potential level of national output (or GDP) is held down. Not all of our wants can be satisfied using the resources currently available. As a result, we are forced to make economic *choices* or *decisions* between the production and consumption of one particular good or service to satisfy one want, and the production and consumption of another to meet an alternate want.

1.4.1 The concept of opportunity cost and its applications

Opportunity cost arises whenever choices or decisions are made between alternative uses of resources.

Opportunity cost relates to the value of production or consumption forgone (i.e. given up) in one area

when resources are allocated or diverted to their next best alternative use. It is the value of the benefits you give up when you choose one thing over another. The concept of opportunity cost or *trade-off* can be applied in every decision made by individuals, firms and governments, and the particular choices made will reflect our values and priorities.

Opportunity costs for individuals

Individuals have limited resources and face opportunity costs when they make decisions. For example:

- If you choose to devote your time and money to go surfing or to buy an ice cream, you cannot then use those same resources to have a holiday or go to the cinema.
- Deciding to do Economics as a subject may mean forgoing the thrills of studying Chemistry.
- Watching a movie on YouTube may mean staying up later to complete your homework, or even getting lower grades.
- Suppose that a hamburger costs twice as much as fries. Here you may choose the fries and forgo the burger because it does not produce twice the pleasure, utility or satisfaction.
- If you were to regularly gorge on luscious chocolate lamingtons filled with jam and cream, the long-term opportunity cost of this moment of pleasure may be your health.

Opportunity costs for businesses

Firms also have limited natural, labour and capital resources available for use and so they too need to make economic decisions and deal with opportunity costs.

- A business that chooses to produce icy poles may forgo production and profits from the sale of ice cream.
- A farmer that uses more land and other resources to grow barley may need to reduce the production of wheat or beef.
- A manufacturer that puts extra resources into the purchase of expensive new equipment designed to reduce carbon dioxide emissions and pollution may need to accept lower profits in the short term.
- An international company that produces cars in Australia less efficiently than in another country may be sacrificing profits and higher returns for shareholders, as well as its future financial sustainability, by continuing to operate its business here.

Opportunity costs for governments and nations

Governments face opportunity costs when they make decisions because their resources are also limited. For instance:

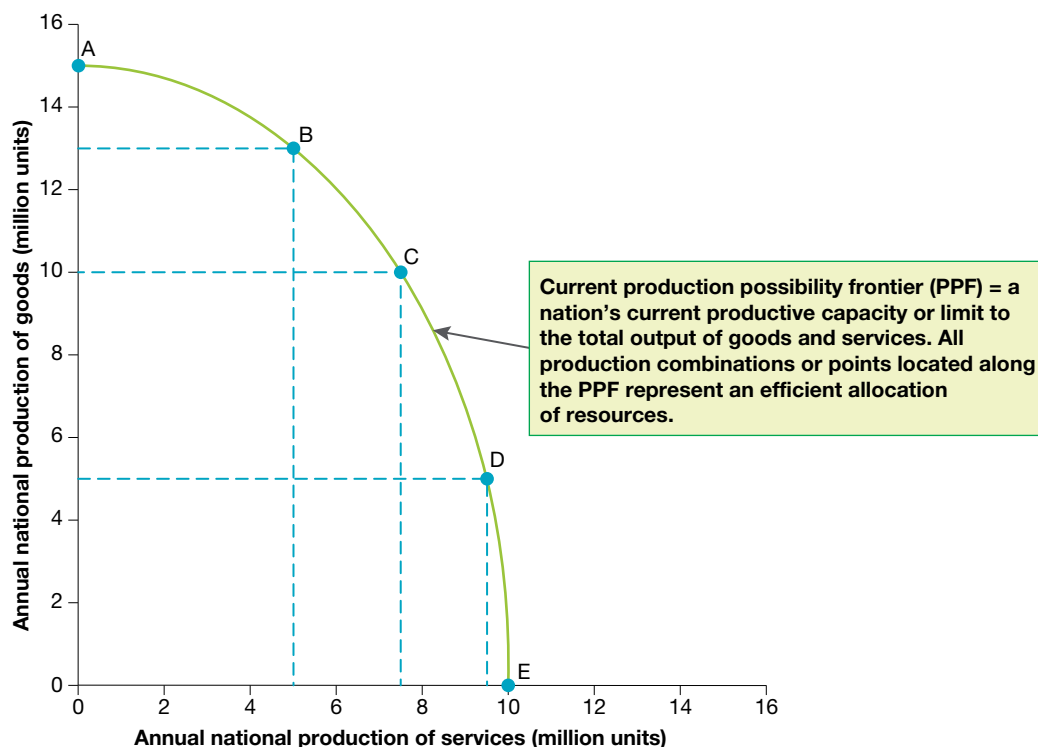
- You might think that governments do not face opportunity costs for increasing spending on defence or welfare because they can simply obtain the necessary money from rises in taxes or by borrowing credit. However, clearly this is not the case since higher taxes mean that the opportunity cost has been passed to firms or individuals that pay taxes and who are then forced to give up their purchases of something else that can no longer be afforded. Alternatively, if the government has borrowed the necessary money to pay for the provision of these services, the cost may be passed on to future generations who then have to pay higher tax and suffer lower material living standards.
- Opportunity costs would exist in cases where a government decides to protect inefficient local industry from foreign competition by placing taxes (tariffs) on imported items to make them more expensive and the local good relatively more attractive. By encouraging more resources to be used inefficiently, these same resources will not be used in their most productive way. The likely opportunity cost is that the nation's output and living standards will be lower than otherwise because, potentially, production has been forgone. Because of this, governments have tended to reduce tariff protection of inefficient local producers.
- If the government tries to grow the size of the economy so we produce more goods and services with little regard to the environmental impact, the trade-off is likely to be accelerated climate change and even more severe weather events. As a result of this decision, future generations in particular will pay a high economic and ecological cost that will lower their living standards.

1.4.2 The production possibility diagram and its many applications

Economists love using models and diagrams to help illustrate and simplify concepts. One such model is the *production possibility diagram* that, among other things, can be used to illustrate ideas such as scarcity, choice in production, opportunity costs, efficiency in the use of resources, a nation's productive capacity, unemployment of resources, inflation and living standards.

Let's start our look at the **production possibility diagram (PPD)**, illustrated in figure 1.8, by imagining that this hypothetical country could produce only *two* things with the natural, labour and capital resources at its disposal: goods or services. It could *produce goods* (shown on the vertical axis) or it could *produce services* (shown on the horizontal axis), or combinations of the two.

FIGURE 1.8 The production possibility diagram for a nation — illustrating a nation's limits to production or productive capacity, along with the opportunity costs associated with making economic choices or decisions.



Type of production (i.e. resource allocation)	Some of the nation's efficient production possibilities or output combinations (i.e. A, B, C, D, E) that may be chosen				
	A	B	C	D	E
• Annual production of 'goods' (million units)	15	13	10	5	0
• Annual production of 'services' (million units)	0	5	7.5	9.5	10

Now for a closer look at some interesting features and applications of the PPD shown in figure 1.8.

A nation's productive capacity and its determinants

The **production possibility frontier (PPF)** or line traces out the *productive capacity* or *physical limits* of a nation's total production or quantity of goods and services that could be supplied. The PPF also shows the country's potential output combinations of goods and/or services. It marks the boundary between achievable and unachievable combinations of production. The level of productive capacity or *size* of this nation's PPF depends on two things.

1. The *volume* or *quantity* of resources available affects our productive capacity. For example, the volume of resources could grow as a result of new discoveries of natural resources, population growth or the purchase of new capital resources.
2. How *efficiently* these resources are employed affects our productive capacity. Efficiency (i.e. the output gained from a unit of input or resource) might increase over time as a result of businesses applying new technology like robots on an assembly line, or workers increasing their productivity (efficiency or output per worker per hour), skills or training.

From the production possibility diagram shown in figure 1.8:

- **Point A** shows where the potential or maximum real level of goods that could be produced occurs on the PPF. Here, the production of goods is limited to a maximum of 15 million units per year (provided that no services were produced).
- **Point E** shows that the maximum possible production of services is only 10 million units per year (provided that no goods were produced).
- Between these two extremes there are many other production possibilities, including **points B, C and D**, involving various output combinations of goods and services.

Remember that all points making up the PPF represent an efficient use of resources, where potential production and employment are at their maximum.

Opportunity cost

Any choice or production combination (e.g. A, B, C, D and E) that is located along the PPF involves an *opportunity cost*. That is, output of one type of production (e.g. services) must be sacrificed or given up in order to gain extra resources to lift production in another area (e.g. goods). For example, what is the opportunity cost of a decision by the country to produce at point A? Here, in order to have the maximum of 15 million units worth of goods produced each year, there is the loss of all 10 million units worth of services. Alternatively, a choice made by the country to operate at point E, and to lift the production of services from 0 to 10 million units per year, involves cutting the output of goods from 15 million to 0 units per year. This means that there is an opportunity cost of 15 million units of goods.

Maximum efficiency in the use of resources

Efficiency is about getting the biggest output of goods and services from the resources or inputs currently available. Referring to figure 1.8, all points or production combinations located on the PPF are equally efficient. This is the case because each may potentially maximise the satisfaction of society's wants. In the end, the product mix or point chosen as the 'best' output mix would be a matter of personal values by those making the decisions. However, what we can say is that any production point that is somewhere *inside* the PPF is using resources *inefficiently* and would certainly lower society's satisfaction and wellbeing.

Unemployment, incomes and poverty

Unemployment exists when those who want a job can't find work. At any point inside the PPF (e.g. at point U on figure 1.9), output levels are below the economy's potential capacity or maximum level of production. Low production such as this implies that some resources are not being fully used. Put another way, there is unemployment of workers and idle or unused capacity exists in factories, farms and other businesses. Here, we would expect people's incomes and material living standards to fall, and poverty levels may rise.

Unachievable output combinations perhaps leading to inflation

By contrast to the zone of unemployment located inside the PPF, any point *outside* the PPF (e.g. at point I on figure 1.10) is currently beyond the economy's productive capacity because there are insufficient resources to enable such high levels of output. Any attempt to operate at this level of national production would be likely to cause inflation (where the prices of most goods and services are rising). This is because there would be general shortages of resources.

FIGURE 1.9 Using the production possibility diagram to show unemployment in an economy.

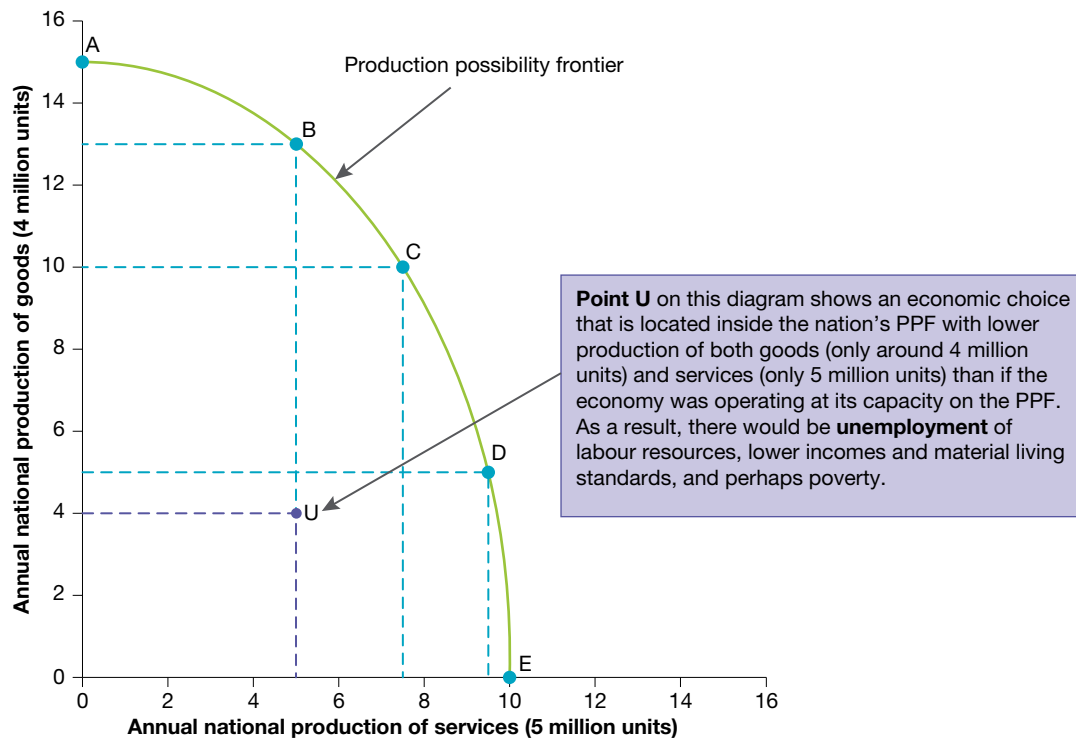
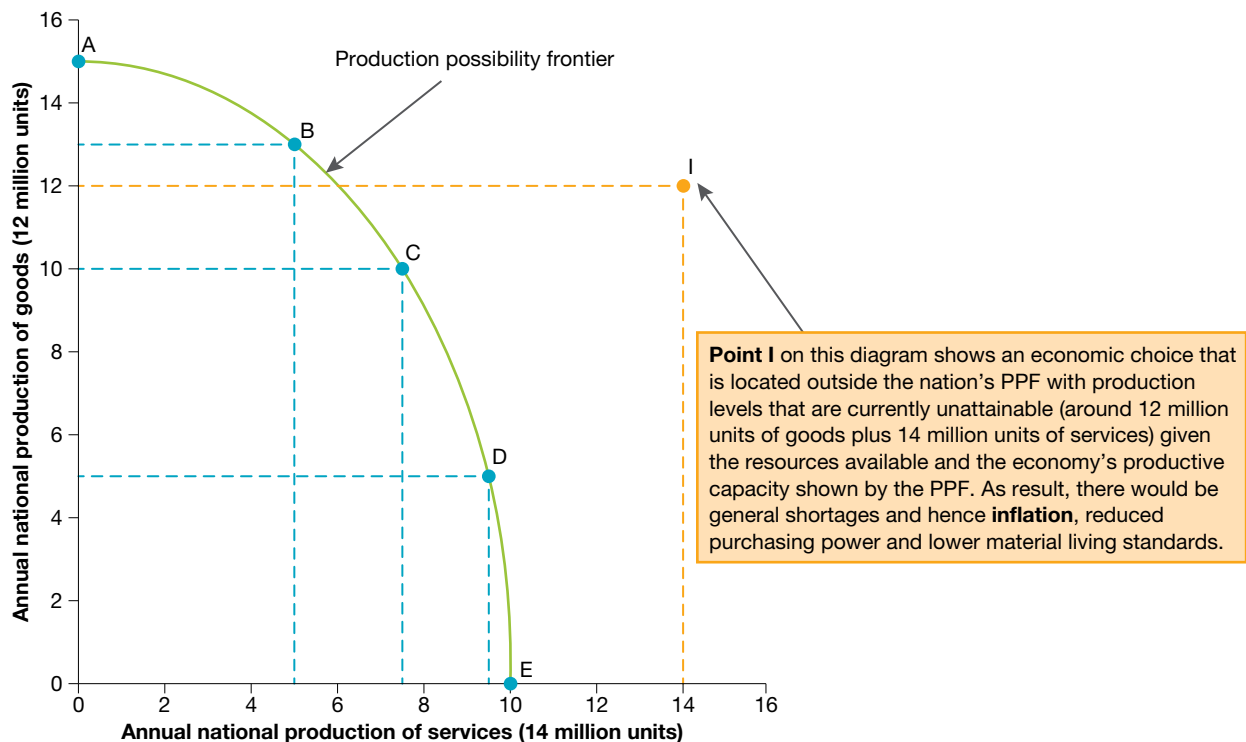


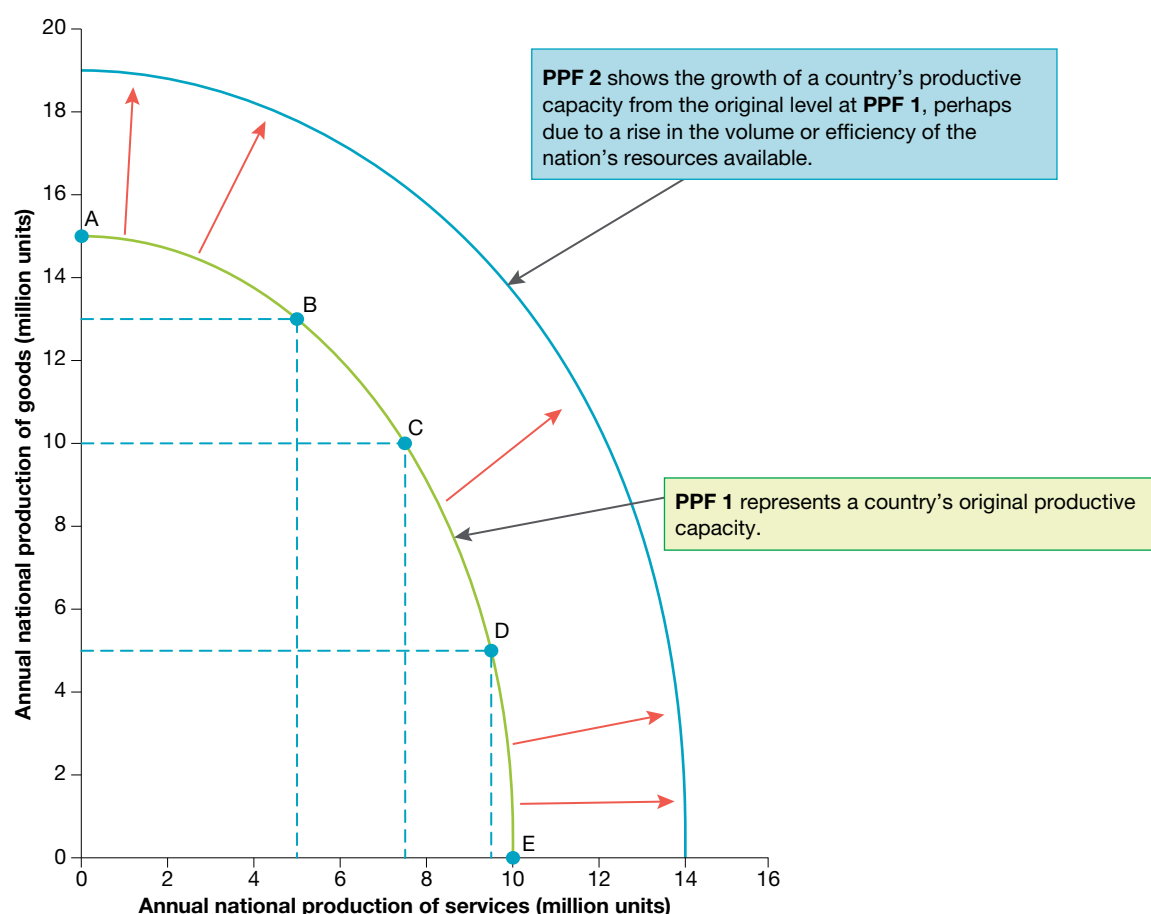
FIGURE 1.10 Using the production possibility diagram to show currently unattainable levels of production in an economy.



The growth of an economy

Economic growth occurs when the total volume of goods and services produced *by a nation* rises between one year and the next. For a country already on its PPF, this can happen if the *quantity* (volume) or *efficiency* (productivity or output per unit of inputs) of resources available to a country increases. This could occur if there were new discoveries of minerals, better technology, improved worker efficiency, higher levels of foreign investment, immigration of skilled workers, better education or increases in people's skills. Such developments cause a rise in the country's *productive capacity* so that the PPF (*potential GDP level*) grows in size and shifts outwards (perhaps parallel to the original frontier), creating a brand new frontier. (This is shown in figure 1.11 by the shift from PPF 1 to PPF 2.) If this occurs, production levels previously unattainable may now become attainable.

FIGURE 1.11 Using the production possibility diagram to show the effect of growing the resources available and capacity of an economy.

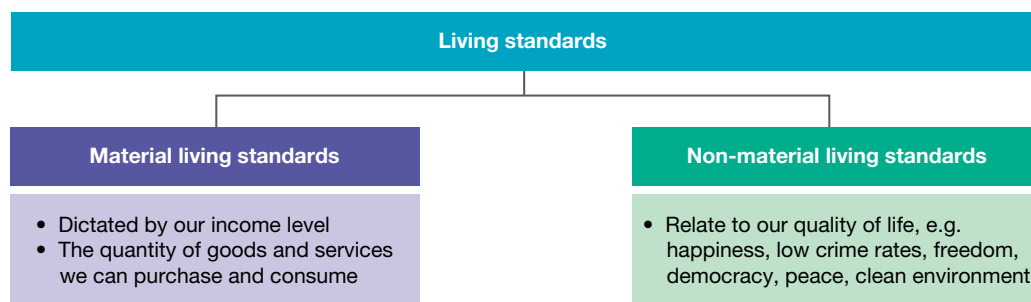


Society's material and non-material living standards

Living standards is a concept used to describe how well off people are overall. These are affected by both *material* wellbeing and *non-material* aspects. Material living standards are dictated by our income level and the *quantity* of goods and services we can purchase or consume each year. Non-material living standards relate to the *quality* of life and are not directly related to how much money people might have. Here, we might think of quality aspects like happiness, low crime rates, religious and political freedom, democracy, peace, a healthy environment, the absence of pollution, involvement in community, and so on. Returning to the PPD (figure 1.11), if the size of the PPF

grows at a faster rate than the nation's population, the amount of goods and services produced and income per person should both rise. On average, we should each be able to consume more goods and services. Theoretically, this is likely to make people better off *materially* and raise their *economic living standards*. However, it is also possible that growing the PPF in this way may involve a *trade-off* or cost in terms of reduced *non-material living standards*, potentially as a result of increased carbon pollution of the atmosphere, increased incidence of severe weather events, rising sea levels, poisoning of the soils, rivers and oceans, waste disposal problems, reduced leisure time due to increased work, and the depletion or overuse of non-renewable resources like oil and minerals leaving less for future generations.

FIGURE 1.12 Overall living standards are affected by both material and non-material aspects.

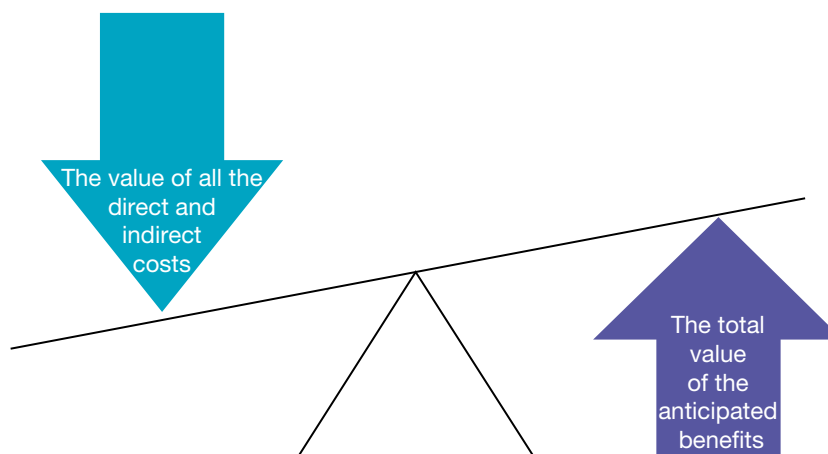


1.4.3 The need for trade-offs and using cost–benefit analysis in making economic decisions

Trade-offs are simply *opportunity costs* associated with individuals, businesses and governments making decisions or choices in their use or consumption of resources. Sometimes, the choice will have an immediate *short-term* impact or cost. However, sometimes the opportunity cost will only be felt in the future or *long term*, some years down the track. In attempting to minimise opportunity costs and trade-offs, decision makers often use *cost–benefit analysis* and research to weigh up the options available and reach conclusions.

As the name implies, **cost–benefit analysis** is a matter of adding up the anticipated value of all the direct and indirect costs of a particular decision (e.g. resource and monetary costs, time, opportunity costs) in both the short and long terms, and comparing these against the total value of the anticipated benefits. The aim is to ensure that the benefits of a decision will outweigh the costs (including the benefits forgone or opportunity costs of other decisions or uses of resources).

FIGURE 1.13 Cost–benefit analysis



Clearly, accurately estimating all the costs and all the benefits in dollar terms (both in the short and long term) is a very tricky business, and can be imprecise. Getting precise information for this process is especially problematic for governments making decisions about the types of goods and services they might provide for the community. For instance, a policy decision to direct more resources into building a government school or public hospital that individuals do not directly pay to use, means that it is hard to estimate the true direct value of benefits. In addition, there are indirect and wider benefits for the whole community and the economy involved with better health and education standards that also need to be taken into account. However, often this analysis provides an improved basis for making decisions.

on Resources

-  **Video eLessons** Budget constraints (eles-3501)
Trade-offs (eles-3502)
-  **Interactivity** Production possibility diagram (int-7878)
-  **Weblinks** Individual PPC
Production possibilities curve
PPC and resource changes

1.4 ACTIVITIES

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Check your understanding

- How do economists diagrammatically show the concept of *choice*?
- What does the *production possibility frontier* (PPF) represent?
- What two *general* factors dictate the size of a nation's PPF or productive capacity?
- What factors or developments could cause the size of the PPF to grow over a number of years and shift outwards on the diagram?
- What is *opportunity cost*? Give an original example of how this may apply to decisions made by:
 - the government
 - a business
 - yourself.
- Thinking of the production possibility diagram, what *problems* are likely to arise if a country is located:
 - inside its PPF?
 - outside its PPF?
- Explain the use of *cost–benefit analysis*.

Applied economic exercises

- This exercise is about *opportunity cost* and the *production possibility diagram*. Examine the data contained in table 1.1 for a farmer who can produce only two products, wheat or oats, with the resources available.

TABLE 1.1 Data relating to a crop farmer's production possibilities

Production type	Production possibility A	Production possibility B	Production possibility C	Production possibility D
Wheat (tonnes per year)	0	90	140	170
Barley (tonnes per year)	70	50	30	0

- Define the term *resources*. List and explain the *three* main categories of productive resources available to this farmer. For each category of input, define the resource and try to give several specific examples as applicable to crop farming. **(6 marks)**
- Use table 1.1 to neatly draw and fully label the crop farmer's production possibility diagram. Your graph can also be completed in Excel. **(3 marks)**

- (c) Define the term *productive capacity*. What are the *two* general factors that typically limit the farmer's productive capacity at a given point in time? **(3 marks)**
- (d) Using your production possibility diagram, what happens to the maximum production of barley that is possible as the farmer increases the production of wheat? Why is this the case? **(2 marks)**
- (e) Using your production possibility diagram, what happens to the maximum production of wheat that is possible as the farmer increases the production of barley? **(2 marks)**
- (f) Define the meaning of the term *opportunity cost*. **(1 mark)**
- (g) What is the opportunity cost or trade-off for the farmer producing or gaining 70 tonnes per year of barley? **(1 mark)**
- (h) What is the opportunity cost or trade-off for the farmer producing or gaining 170 tonnes per year of wheat? **(1 mark)**
- (i) If both crops sell for the same price per tonne, which of these two crops is the farmer generally most efficient at producing? Explain why and try to calculate how much more efficient the farmer is at producing one crop rather than the other. **(3 marks)**
- (j) If both crops sell for the same price per tonne, which production possibility (A, B, C or D) should the farmer choose in order to maximise income and material living standards? Explain how you calculated this. **(2 marks)**
- (k) If the farmer cut total crop production and decided to produce only 50 tonnes of wheat and 20 tonnes of barley per year, explain what would happen to the farmer's income and the employment level of resources. **(3 marks)**
- (l) Explain why the farmer is currently *unable* to simultaneously produce 150 tonnes of wheat and 40 tonnes of barley. Explain five specific ways in which the farmer might realistically be able to increase total crop production to this higher level in the future. **(6 marks)**

2. This subset of questions is about *opportunity cost*. They are based on *two* case studies:

Case study 1 — Transport options

You are the federal Minister for Transport and Communications and have to choose *one* of the following:

Option 1 Provide government assistance of \$18 billion to a private consortium to help build a very fast train (VFT) between Adelaide, Melbourne, Sydney and Brisbane

Option 2 Spend the same amount of money on widening the current highway and building a tunnel to carry an increased volume of trucks and private cars

Case study 2 — Your future options

You are about to start Year 11 and have to choose *one* of the following:

Option 1 Work full-time in a retail shop selling women's clothing where you would earn a steady wage of \$30 000 per year

Option 2 Continue your two years of VCE followed by three years of tertiary study. After five years of education, you will graduate with a degree in commerce. Then you would start on around \$50 000 per year and gain rapid rises thereafter.

- (a) In case study 1, what is the trade-off or opportunity cost of supporting the VFT? **(1 mark)**
- (b) What is the trade-off or opportunity cost of the freeway upgrade? **(1 mark)**
- (c) Often decision makers use *cost-benefit analysis*. In some detail, explain what this would involve if such analysis were used in case study 1 to make a decision. **(5 marks)**
- (d) In case study 2, what is the trade-off or opportunity cost of you leaving school immediately and taking up the retail position? **(2 marks)**
- (e) What is the trade-off or opportunity cost over a five-year period of you staying at school and then going on to university? **(2 marks)**
- (f) Which option in case study 2 is most attractive economically in the short term, and which option is most attractive economically in the long term? **(2 marks)**
- (g) Identify and explain the economic concept that these two case studies illustrate and have in common. **(2 marks)**

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1.5 The two sector circular flow model of the economy

KEY CONCEPT

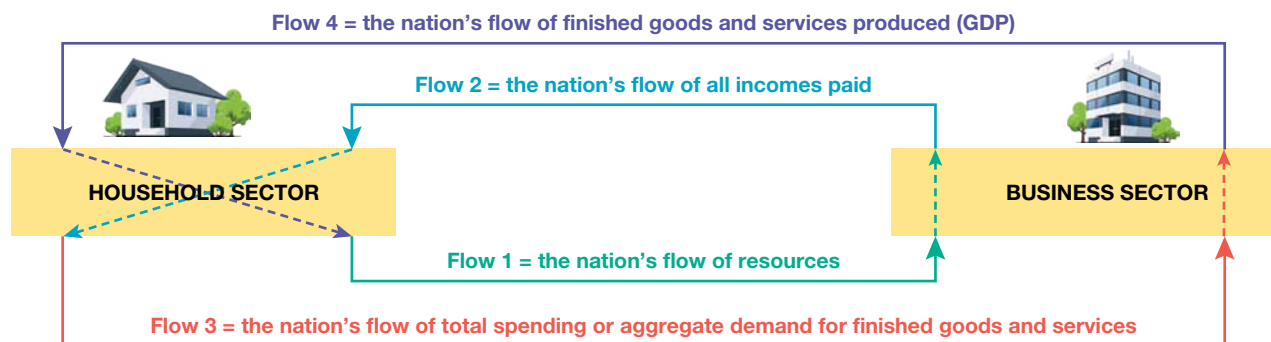
- The two sector circular flow model of the economy

1.5.1 The two sector circular flow model of the economy

Because resources are relatively scarce, there is a need to use them wisely so that people can enjoy good living standards. For this reason, all countries have an economy or economic system. **Economic systems** are needed to help organise the production and distribution of goods, services and incomes. Australia has a **market capitalist economy**. Here, *economic decisions* or choices are made largely through the operation of the **market economy** or system involving buyers and sellers of goods and services, and most businesses (e.g. shops, farms, mines, factories and banks) are *privately owned* by profit-seeking individuals, meaning that we also have a **capitalist economy**.

Australia has a very complex economy with thousands of parts to it. These parts interact, and changes in one area can bring about changes in another. To improve our understanding of how our economic system works, economists have constructed models to represent the economy. One such diagrammatic model is the **two sector circular flow model** (see figure 1.14).

FIGURE 1.14 The two sector circular flow model representing a simple economy for a country.



As the name says, flows in this model move round in a *circular* way and it has two main *sectors* or parts that make up the economy — the **household sector** and the **business sector**.

- **The household sector** consists of over 25 million Australians who, on the one hand, are *consumers* or demanders of goods and services; on the other hand, some are also the owners, sellers or suppliers of resources.
- **The business sector** in Australia comprises around 2.5 million large and small businesses or *producers* of goods and services (from sole traders like the corner shop to large public companies like Wesfarmers, BHP and the Commonwealth Bank of Australia). Most of them are privately owned.

Notice too that there are *four* main *flows* or transactions within our economy that connect the household and business sectors. These flows are *equal* in dollar value and *interdependent*, move in a circular manner, and represent the ways the household and business sectors interact.

- **Flow 1 — the nation's supply of resources.** The *household sector* supplies or sells wanted resources (i.e. natural, labour and capital resources) to the business sector. Resources are normally sold through various resource or *factor markets*.

EQUALS

- **Flow 2 — the demand for resources and the payment of national incomes.** Businesses need to buy or demand resources from the household sector in order to produce goods and services designed to help satisfy our wants. This involves businesses paying incomes to households through the various factor or resource markets.

EQUALS

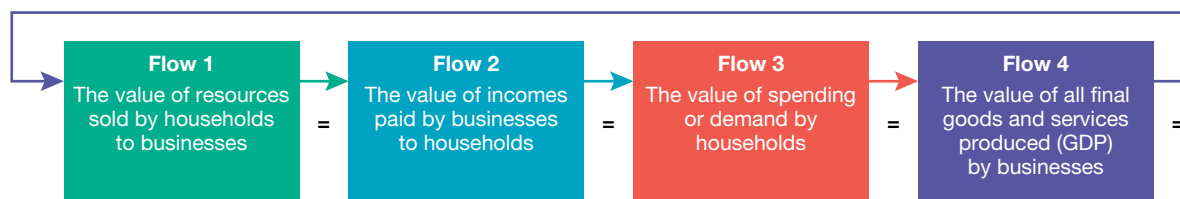
- **Flow 3 — the nation's spending of incomes or demand for goods and services.** Households that receive income from the sale of resources normally spend this money in final markets to purchase or demand finished goods and services. The total value of spending is often referred to as aggregate demand (AD).

EQUALS

- **Flow 4 — the production of final goods and services or the nation's GDP.** In response to spending by households and individuals in final markets, businesses produce a certain level of goods and services. For an economy, the size of this flow of goods and services is commonly measured by gross domestic product (i.e. GDP equals the total value of final goods and services produced by a nation in a year).

In this simple and partly unrealistic model of our economy where there is no overseas trade or saving, these four flows are seen as being of *equal value* (measured in dollar terms). As shown in figure 1.15, this means that the four flows are also *interdependent*, so if one changes, the others must also change either upward or downwards in value, to again restore equality between the flows.

FIGURE 1.15 Relationships between the four flows in a two sector circular flow model representing a simple economy



- If, for example, households decide to spend a total of \$1500 billion on finished goods and services per year (flow 3), businesses would attempt to produce \$1500 billion worth of finished goods and services or GDP (flow 4) requiring that firms purchase \$1500 billion worth of resources (flow 1), for which they pay households a total of \$1500 billion of income (flow 2). Notice that the four flows are equal in value.

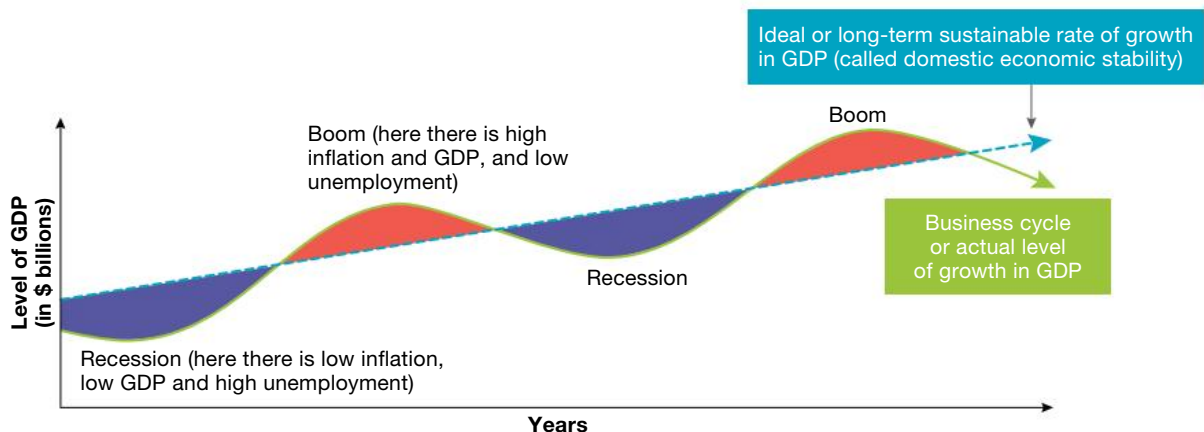
- However, if households collectively made a decision to cut their spending on finished goods and services to just \$1400 billion (flow 3), firms would together reduce the total value of national production or GDP to \$1400 billion (flow 4) and the *level of economic activity* would slow. They would also decrease their purchases of resources to just \$1400 billion (flow 1), households would receive only \$1400 billion of income and some individuals may even lose their jobs and be unemployed (flow 2). As shown hypothetically in figure 1.17 representing the **business cycle**, this is what happens in an economic *slowdown* or *recession* where the size of the economy contracts. Business cycles are the expansion and contraction of the production of goods and services in an economy over time.

- By contrast, if households increased spending to \$1600 billion (flow 3), firms would try to lift production or GDP, employment of resources and incomes to \$1600 billion each (flows 4, 1 and 2). This would lead to a period of economic **expansion**, possibly even a *boom* where general prices paid for items would rise if spending was too strong and outstripped the economy's resources (see figure 1.17).

FIGURE 1.16 When the total value of spending on Australian-made goods and services by households and others is down, businesses cut production or even close down. This causes the level of national production and the number of jobs to fall and unemployment of labour resources to rise, as during the Great Depression of 1929–33. A nation will then be located somewhere inside its production possibility frontier.



FIGURE 1.17 The business cycle diagram: how changes in economic decisions made by households and businesses can affect a country's macroeconomic conditions including GDP, inflation and unemployment



So in this simple model of our economy, the country would experience cyclical or wave-like ups (expansions and/or booms) and downs (**contractions** and/or recessions) in national production or **economic activity** (indicated by GDP), employment of resources and inflation (rises in general prices), in response to *changes in the spending and production decisions* made by households and businesses. It is these aspects of *decision making and behaviour* to which our attention now turns.

Resources

-  **Weblinks** The circular flow model of a market economy
- Circular flow
 - Circular flow matrix

1.5 ACTIVITIES

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Check your understanding

1. What is the two sector circular flow model?
2. Draw and label the two sector circular flow model.
3. Use the two sector circular flow model to explain the likely effects on the economy of a *rise* in the total value of household spending.
4. Use the two sector circular flow model to explain the likely effects on the economy of a *fall* in the total value of household spending.
5. According to the two sector circular flow model, what would be the immediate *cause* of an expansion/boom or a contraction/recession in an economy?
6. Define the term *gross domestic product (GDP)*.
7. What are the economic problems associated with a *slowdown/recession*, or an *expansion/boom*?

Applied economic exercises

1. Two sector circular flow diagram
 - (a) What do economists use the two sector circular flow diagram to show? **(2 marks)**
 - (b) Neatly draw and fully label a simple two sector circular flow diagram. **(3 marks)**
 - (c) Assume that the small African country of Zenophobia originally had a GDP equal to \$3 million in 2020. Referring to a two sector circular flow model for Zenophobia, explain logically, step-by-step, what would happen to macroeconomic conditions given each of the following hypothetical events:
 - i. Households decide to reduce their spending to \$2.6 million. **(3 marks)**
 - ii. The value of GDP increases to \$3.9 million. **(3 marks)**
 - iii. There is a dramatic rise in the total value of income paid to households by \$1.1 million. **(2 marks)**

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1.6 Consumer behaviour

KEY CONCEPTS

- the traditional economic viewpoint of consumer behaviour such as rationality, ordered preferences, informed decision making and marginal benefits from consumption
- economic factors that may influence economic decisions made by consumers such as utility maximisation, budget constraints, internal influences on economic decision making (e.g. personality types, ethics, habit) and external influences on economic decision making (e.g. culture, marketing, and government)
- developments in research about consumer behaviour, including the contribution of behavioural economics
- the ways consumers and workers might respond to positive and negative incentives
- the effects of technological change on consumer behaviour

As a study, **consumer behaviour** looks at why, how, where and when consumers choose to purchase or not purchase a good or service. In an attempt to understand what makes consumers tick, it draws on ideas from psychology, anthropology and economics.

There are over 25 million people making up Australia's household sector, and every one of them is a *consumer* of goods and services. As mentioned, we will attempt to understand consumer behaviour and what motivates them to spend or not spend.

At the outset we need to realise that there are many types of consumers such as the price-conscious, cautious, impatient, impulsive, adventurous, and bargain-seeker. This can make them quite unpredictable, so it is difficult to generalise about their behaviour. Despite this, gaining a better understanding of consumers is of great importance for businesses sales, success and profitability.

FIGURE 1.18 Economists are interested in studying the factors that affect consumer behaviour and their response to changing conditions.



1.6.1 The traditional view of consumer behaviour

In the 1800s and earlier 1900s, economists traditionally assumed that consumers behaved rationally, acted in their own self-interest, had priorities or ordered preferences, made thoughtful and informed decisions and factored in *diminishing utility* or reduced pleasure from increased consumption of a particular good or service. They assumed that consumers sought to maximise their pleasure and minimise their pain. These traditional assumptions about consumer behaviour include:

- **Consumers make informed and smart decisions.**

Traditionally, it was assumed that consumers make informed decisions. That is, before purchasing an important good or service, consumers try to get quality factual information from various sources so that they can weigh up the potential advantages and disadvantages, allowing them to make the best decision possible.

- **Consumers act rationally and in their self-interest.**

It is generally assumed that consumers behave rationally or in a logical, self-interested and calculated way. This means that when they spend their limited income, they do so in ways that maximise their overall satisfaction or pleasure by selecting the best mix of goods and services. For example, imagine that you are about to make a small purchase and could have one dollar's worth of lollies or a dollar's worth of text messages. If you liked texting more than lollies, perhaps because you believe it is better for your health, it would not be rational to purchase the lollies since this would lower your satisfaction. In addition, it is rational that consumers shop around for the best deal and the lowest price. Buying cheaply can help your money go further and lead to greater satisfaction. This is why consumers flock to clearance and stocktake sales offered by some retailers.

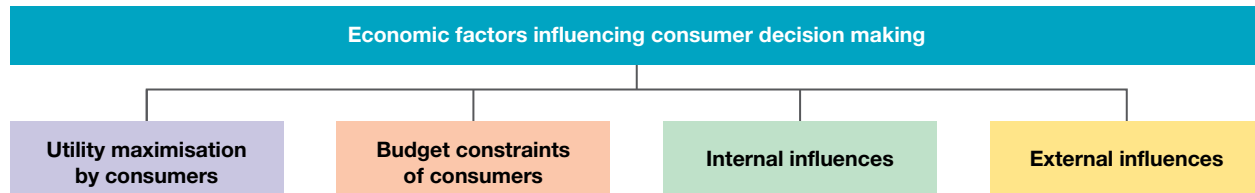
- **Consumers have ordered preferences.**

As consumers there are lots of things we all need and want, but our ability to satisfy these is limited, partly by our income. After purchasing essential goods and services to satisfy our basic needs for food, shelter, clothing and health, typically attention then turns to other non-essential spending designed to help meet our wants and make life more exciting. In other words, consumers unconsciously rank their spending priorities and first purchase the things that result in the greatest benefit.

1.6.2 Economic factors that may influence economic decisions made by consumers

There are many *economic factors* affecting the way consumers spend and make economic decisions.

FIGURE 1.19 Economic factors affecting the way consumers spend and make economic decisions



- **Utility maximisation by consumers**

Consumers consider marginal benefits from each purchase. **Marginal utility** is a term used to describe the extra satisfaction gained from consuming additional quantities of a good or service at a point in time. Imagine, for instance, that it is a really hot day and you are very thirsty. The first icy-cold can of soft drink you slam down provides you with a great deal of utility or pleasure, so you decide to purchase another. This time, it is still satisfying but less so than when you consumed the first. While the marginal utility is still positive, it is lower. By the time you hit the fifth can, you are feeling really ill, causing you to vomit. Clearly, by now the marginal utility of extra cans of soft drink is zero, or perhaps even negative! The same principle of diminishing marginal utility or benefit applies to virtually everything we buy, whether that means installing two, three or four extra LED downlights in your study, buying a second sports car, going to the footy or eating potato fries. When it comes to consumer behaviour and maximising utility, the old saying goes that ‘variety is the spice of life’. Most people prefer to have a bit of many things, rather than a lot of one particular good or service.

Exceptions are rare to this theory of diminishing marginal utility in consumer spending behaviour, but they do exist. Take the example of buyers who are addicted to alcohol or tobacco, the compulsive shopper who is excited by the actual act of purchasing something, or those who consume just to impress others (called ‘conspicuous consumption’) by building massive houses or wearing extravagant jewellery. Despite these special cases, generally individuals make decisions that maximise their utility or pleasure.

- **Budget constraints of consumers**

One side of the typical *family budget* shows the money earned or coming into the household that is available for spending or consumption. Because this is limited, all of us must make choices and ‘live within our means’. This even applies to those who finance their spending using borrowed credit (e.g. to buy a house using a mortgage). Income levels also affect the pattern or type of spending. For example, when income rises, *inferior goods* are often replaced with *superior goods* (e.g. the motor scooter or pushbike is replaced by the Maserati). Sometimes, too, individuals are forced to set aside savings for making future purchases and gaining utility.

- **Internal influences**

Personal internal factors can affect consumer choices and behaviour, and the things we do or don’t buy. These might include the following influences:

- personality type, marital status and habits
- lifestyle and occupation
- values and code of ethics
- appetite for risk
- perceptions.

- **External influences**

External influences are those that are outside the control of the individual consumer, yet have an impact on what is purchased. Here we might think of the following:

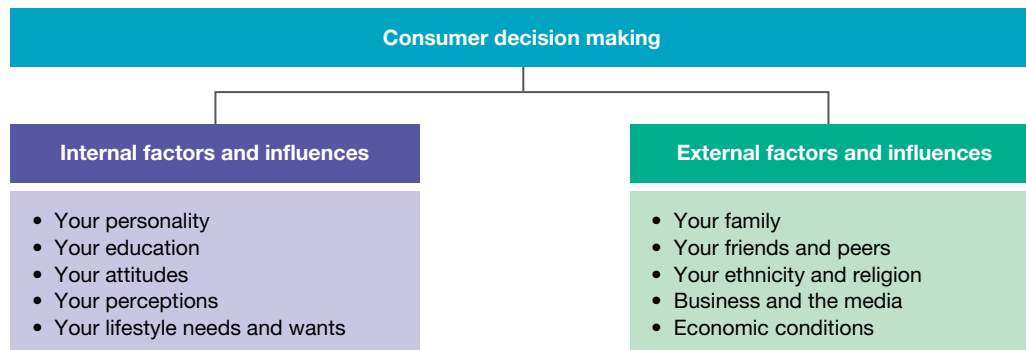
- feedback gained from family, friends and other reference groups
- demographics and social status
- culture and subculture
- ethnicity
- marketers and advertising agencies
- government policies and laws.

Figure 1.21 summarises some of the internal and external influences of consumer behaviour.

FIGURE 1.20 Some consumers will take the time to learn about a product and its alternatives before committing to a purchase.



FIGURE 1.21 Economic factors influencing consumer behaviour and decisions



1.6.3 Developments in research about consumer behaviour

As a study, economics is less than 250 years old, but from the outset, economists have tried to understand and predict how consumers of goods and services might behave.

Some of the first economists including Adam Smith (1723–90) and Jeremy Bentham (1748–1832) adopted a psychological explanation. Bentham, for instance, helped to shape the idea of consumer *utility* or satisfaction gained from our decisions.

Next there was a group of economists who saw individuals as essentially *rational* economic beings. Then came the idea that consumers make decisions based, among other things, on a dislike or *aversion to loss* or pain.

More recently, since the 1970s, **behavioural economics** has sought to better explain consumer behaviour than the simplistic theories traditionally used. In essence, behavioural economics uses psychological experiments to come up with theories about how consumers behave and make decisions. It has found that individuals do *not* always seek to maximise personal benefits or gains, are not always self-interested or rational and do not always seek to minimise pain. Instead, some behavioural economists propose that consumer decisions are guided by **bounded rationality**. They suggest that we take shortcuts when making decisions by, for example, adopting *herd behaviour* (i.e. following the decisions of our peers) and applying the *status quo* (i.e. following the same decisions we have made in the past). This occurs because we have limited time to complete research and inadequate brainpower to weigh up all the possibilities, and also because our decisions are affected by non-rational considerations such as our particular psychological and emotional circumstances.

The **nudge** is an idea derived from behavioural economics. The nudge is used to help guide consumer decisions, choices or behaviours towards a particular outcome. It is gentle and still allows consumers to make free choices. In this respect, the nudge clearly differs from more direct methods such as bans, fines and laws designed to punish people who fail to make a given decision (e.g. punishing car drivers for using mobile phones when driving, or banning soft drinks at the school canteen). The nudge has been applied in many areas. For instance:

- Lollies are displayed at eye level near the checkout queue in some supermarkets.
- Automated mobile phone reminders are sent to remind people they have a doctor's appointment coming up soon.
- Free waste disposal vouchers are provided by some councils.
- A default organ donation scheme is encouraged by requiring people to opt out if they do not wish to participate.

Behavioural economics is not limited to consumer decision making. It is also applied to finance, marriage, business operations, urban problems, health, marketing, energy and many other fields.



1.6.4 The effects of technological change on consumer behaviour

In the past, the quality and quantity of knowledge available was very limited and sometimes there were few product choices available to the consumer. However, these days technology and widespread household access to the internet has made buyers more informed than ever, placing them in a much stronger position to make good decisions and shopping choices.

Online shopping is now commonplace. It has affected how, when and where consumers purchase goods and services, as well as the price they pay and the range of product on offer. Technology has made it more difficult for traditional retailers like Myer, David Jones and Harvey Norman (with high overhead costs involved in running their stores) to be competitive and attractive to customers.

Furthermore, technology does not only enhance informed consumer choice. It also leads to the development of new, convenient and exciting products, such as iPhones, smart watches and driverless cars, to cause consumers to part with their money.



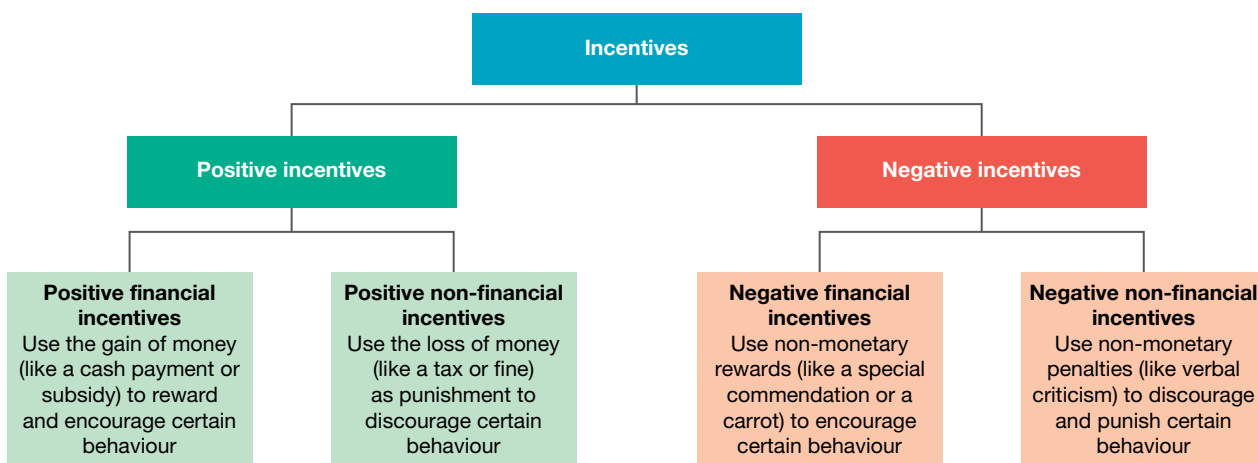
1.6.5 The ways consumers and workers might respond to positive and negative incentives

An **incentive** is an inducement designed to change or modify the behaviour that would otherwise occur. It assumes that most people do what is in their own self-interest, often to maximise their gains and minimise pain. Incentives are used in many situations we face in our daily lives, at school, at home, in the workplace and by governments.

As shown in figure 1.22, there are two main types of incentives (positive and negative), each with two possibilities (financial and non-financial).

Some examples of how incentives are used in our daily lives might help to clarify the point:

FIGURE 1.22 The main types of incentives used to alter our behaviour.



- At school, you may have benefited or suffered as a result of positive and negative incentives. For instance, your teacher or sporting coach may have rewarded you with a prize for exceptional achievement, while your parents may have given you a pat on the back, a rise in pocket money or permission to go to a party this weekend. This is designed to make you try even harder to do well. Of course, there is the possibility that you have also experienced negative incentives or punishments like a suspension, to deter certain behaviour. For instance, some students may have been given a homework detention for failing to do the work, or perhaps may have been suspended from attending school.
- In the workplace, sometimes employees enjoy positive incentives like a bonus or extra pay, a ticket to the footy or a promotion for exceptional performance. However, at the extreme, negative incentives might mean reduced pay or getting fired from your job.
- Workers keep a close watch on changes in wages (the price or value of one's work) that are set in the labour market. This is because changes in the relative wage for a worker in one firm against what she or he could earn if they worked for another employer, act as an incentive that affects their choice of job. Higher relative wage levels in different occupations can also act as an incentive to cause individuals to seek employment in different industries, even those where conditions are dangerous (e.g. abalone diving) and unpleasant (e.g. underground in a dusty mine).
- In looking for the best deal around, consumer decisions also respond to the incentive of lower prices and other inducements. Sometimes, for instance, the thought of gaining a bargain like 'two for the price of one' is just too much for some consumers, even if they have no use for the second item!

on Resources



Web link

Science of persuasion



Digital document

The Ultimatum Game (doc-31527)

1.6 ACTIVITIES

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Check your understanding

1. What does a study of *consumer behaviour* investigate?
2. Explain the *traditional* view of how consumers behave
3. Identify and outline the main *economic factors* that might affect consumer behaviour.
4. What is *marginal utility* and how does this help to explain how consumers behave?
5. What is *behavioural economics*?
6. How has *technology* affected the way consumers behave?
7. Giving examples, what are *internal* and *external* factors affecting consumer behaviour?

Applied economic exercises

1. Consumer behaviour
 - (a) What might a study of *consumer behaviour* involve? (2 marks)
 - (b) Describe the *traditional view* of consumer behaviour and the key factors that influence this behaviour. Apply this view to your decision to buy a secondhand car. (8 marks)
 - (c) Explain the concept of *marginal utility* as a factor affecting consumer behaviour. Provide an original example to demonstrate this concept. (4 marks)
 - (d) Describe how you might set up and conduct an actual experiment to demonstrate the concept of diminishing marginal utility for consumers. (3 marks)
 - (e) Some behavioural economists have conducted experiments to demonstrate that individuals do not always act rationally, as has been traditionally assumed. Use **The Ultimatum Game** digital document in the Resources tab to access the instructions before trying a behavioural experiment.
 - (f) Complete the following table by classifying the action as either a 'nudge' (allowing free choice) or something more forceful (a smack or punishment). (6 marks)

Action	This action is a nudge	This action is more forceful
i. A higher tax imposed on the sale of cigarettes and alcohol		
ii. The drink-drive advertising road safety campaign		
iii. Green footprints painted on public footpaths leading to rubbish bins		
iv. Supermarkets providing free fruit for children to eat while they are with parents shopping		
v. Installation of speed cameras		
vi. Police using brightly coloured cars on highway patrols		

- (g) Litter is a real problem at many schools. The solution is to try and change student behaviour in this area.
 - i. Identify and describe what you feel would be the two most effective ways that 'the nudge principle' could be used to reduce litter. (4 marks)
 - ii. What is an alternative approach to using the nudge? (2 marks)

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1.7 Business behaviour

KEY CONCEPTS

- the traditional economic viewpoint of business in the economy: profit maximisation
- how businesses might respond to positive and negative incentives
- the evolution of business and changing goals such as sustainability, community involvement, gender equality, innovation, research and development
- the effect of technology on business behaviour and the trade in goods and services
- the nature and effectiveness of strategies businesses may use to increase profitability including price discrimination, multiple branding and illegal, anti-competitive behaviour as outlined in the Australian *Competition and Consumer Act 2010*.

There are about 2.5 million businesses operating in Australia. **Business behaviour** looks at the factors influencing the decisions of firms involving the production and sale of particular goods and services. Over the years, our understanding of businesses has grown, and as new challenges arise, firms have been forced to adapt their operations.

1.7.1 The traditional economic view of business decision making

The *traditional view* of a business is that it generally seeks **profit maximisation** in both the short and especially long term. To do this, firms make decisions that seek to do *two* main things — maximise sales revenue and minimise production costs:

- **Maximise revenue.** Firms usually make decisions (especially in the long term) that try to maximise the revenue they receive from selling their goods and services. This means using strategies that seek to capture extra customers (e.g. through advertising or the development of new products through innovation) and try to grow the firm's share of the market in which it sells (e.g. through aggressive pricing in the short term). It also means giving consumers what they seek — a quality product, sold at a competitive price.
- **Minimise production costs.** The other way to maximise profits is to try and cut production costs — the cost of wages (for staff or labour resources), raw materials, equipment, transport, and utilities like power and water. This means being efficient in the use of resources where the aim is to gain a higher level of output from a given level of inputs.

However, in reality, business decisions are more complex than this and are also affected by other considerations:

- **The market structure in which firms sell.** Some businesses operate and sell their goods and services in markets where there may be hundreds of competitors or rival firms. Here, firms have little power to set their own prices and profits can be relatively low. This is called a *competitive market*. However, others sell their goods or services in markets where there are few or no other competitors and the business has considerable power when selling. Here, firms can set their prices at a level that will return the highest profit.
- **Government rules, policies and incentives.** Governments greatly affect the economic decisions made by firms about what they produce and how they sell. For instance:
 - Occupational health and safety (OH&S) requirements in the workplace
 - The setting of the annual minimum wage by the Fair Work Commission, along with leave entitlements and the payment of superannuation

FIGURE 1.23 While most businesses see the growth in profits as important, it is not the only goal used to guide their decisions.



- The need for firms to compete fiercely, rather than be involved in price fixing or anti-competitive behaviour that is contrary to the Australian *Competition and Consumer Act 2010*
- The setting of national product standards
- Keeping taxation records and paying appropriate tax
- Restrictions on the production or sale of some products like drugs, alcohol and tobacco
- The availability of cash subsidies to some producers acts as a positive incentive. These government payments help firms to cover production costs and encourage them to increase production, mostly of goods and services that are seen as beneficial for the community.
- The use of *negative incentives* by government to discourage some types of business activities. For example, in the case of the sale of alcohol, tobacco and petrol, there are special excise taxes imposed that make these goods more expensive for consumers to buy, and that discourage their production and sale. In addition, there are laws banning or limiting some goods, and fines are used to help ensure compliance.
- **The activities of unions.** Although trade unions have less influence than in the past, in some industries their power is still considerable. Businesses need to negotiate with unions to settle disputes over wages and conditions, and hopefully develop good relations and avoid strikes.
- **Reports in the media.** Media reports affect the decisions made by firms. In particular, businesses want to avoid unfavourable reports where their poor conduct has been exposed (e.g. articles about industrial pollution, workplace accidents, shoddy products, and the underpayment and poor treatment of staff), since these can undermine consumer sales and profits.
- **General community attitudes.** Over the years, community attitudes change and business decisions must respond positively to these developments. For instance, there is growing concern about the environmental impacts of some production, the depletion of natural resources, and the low ethical standards adopted by some firms. Additionally, business decisions must take account of the multicultural environment in which they operate.

1.7.2 How businesses might respond to positive and negative incentives

We now know from our studies of consumer behaviour that incentives can be positive or negative, or economic or non-economic; and that they are designed to alter the decisions people make. Businesses, too, respond to incentives.

- **Positive economic incentives.** An example of a positive economic incentive is government subsidies or cash payments made to firms to help cover some of their costs and make the production of some beneficial good or service more profitable than otherwise. For example, governments have chosen to subsidise private schools, Tasmanian freight services, the use of technology to reduce carbon emissions, and the wages for firms employing older Australians. While not environmentally beneficial, government pays massive subsidies to our coal industry to make its prices more competitive, expanding sales and jobs.
- **Negative economic incentives.** Business behaviour is also affected by negative economic incentives designed to punish firms that behave in detrimental and socially undesirable ways where there are social costs paid by the wider community. Here, we might think of the fines imposed on firms involved in anti-competitive behaviour (see section 1.7.5) like overcharging consumers, or those on firms that break our environmental laws. Alternatively, higher taxes or levies can apply to some firms (e.g. large businesses and banks), altering their decisions.
- **Non-monetary incentives.** In addition, there are non-monetary negative or positive incentives that can influence business behaviour. Possibly the most powerful type of incentive here is exposure to good or bad media coverage and reporting of company operations including the treatment of staff (e.g. recent negative media reports about how Flight Centre and 7-Eleven allegedly dealt with some of its employees) or the quality of the products sold.

1.7.3 The evolution of business and its changing goals

Change is inevitable and essential for the survival and growth of business. While profit maximisation is still central and represents the bottom line (short or long term), most firms (except the *not-for-profit* ones) need to adapt to the changing economic, social and political environment around them. Over the years, Australian businesses have seen a changed focus on *four* key areas:

1. Concern about environmental sustainability

Without question, most academics and the general population are no longer sceptical about the close connection between increased carbon emissions into the atmosphere (arising from our relentless growth in production and consumption of goods and services) and the problems of global warming, where the forecast rise in temperature by 2100 could be between 2 and 10 degrees centigrade. Climate change is also linked with health issues, damage to infrastructure, an increased incidence of severe weather like drought, cyclones and fires, rising sea levels, the displacement of people and global migration.

Increasingly, there is the expectation by the community that business will take decisive and responsible action by changing how they produce and sell their products to reduce emissions. For instance, there have been various community protest marches, including the one by thousands of Australian students in November 2018 (see figure 1.24), bringing the issue of environmental concerns into focus for business, governments and individuals.

The Australian government, too, has signed various international agreements to help reduce climate change including our ratification of the Paris Climate Agreement that currently requires us, by 2030, to limit the growth in our greenhouse gas emissions by 26 to 28 per cent below our 2005 levels. The hope is to restrict the rise in global temperatures to less than 2 degrees above pre-industrial levels. To achieve this target, it is vital that businesses take a more environmentally sustainable approach in the way goods are produced and sold.

To help force businesses to change their behaviour, the Australian government has adopted various policies:

- Between 2012 and 2014, Australia relied on the *carbon tax* to accelerate this switch by making it costly for firms to pollute (initially \$23 per tonne of CO₂ emissions) and ultimately more expensive for households to consume products with high carbon emissions.
- In 2014, the carbon tax was abolished, and reliance was placed on a scheme called *Direct Action*. This involves firms bidding for government money for projects that give the greatest reduction in emissions for the lowest dollar cost. Time will tell if this government policy provides sufficient incentive for businesses to cut pollution.

Of course, the issue of sustainability is not just about emissions. Other non-renewable resources like oil are being devoured at an alarming pace by our growing population and relentless pursuit of materialism. The community also expects businesses to improve their recycling and minimise waste during the production process, as well as openly conduct and publish audit reports of their progress.

2. The need for R&D and innovation

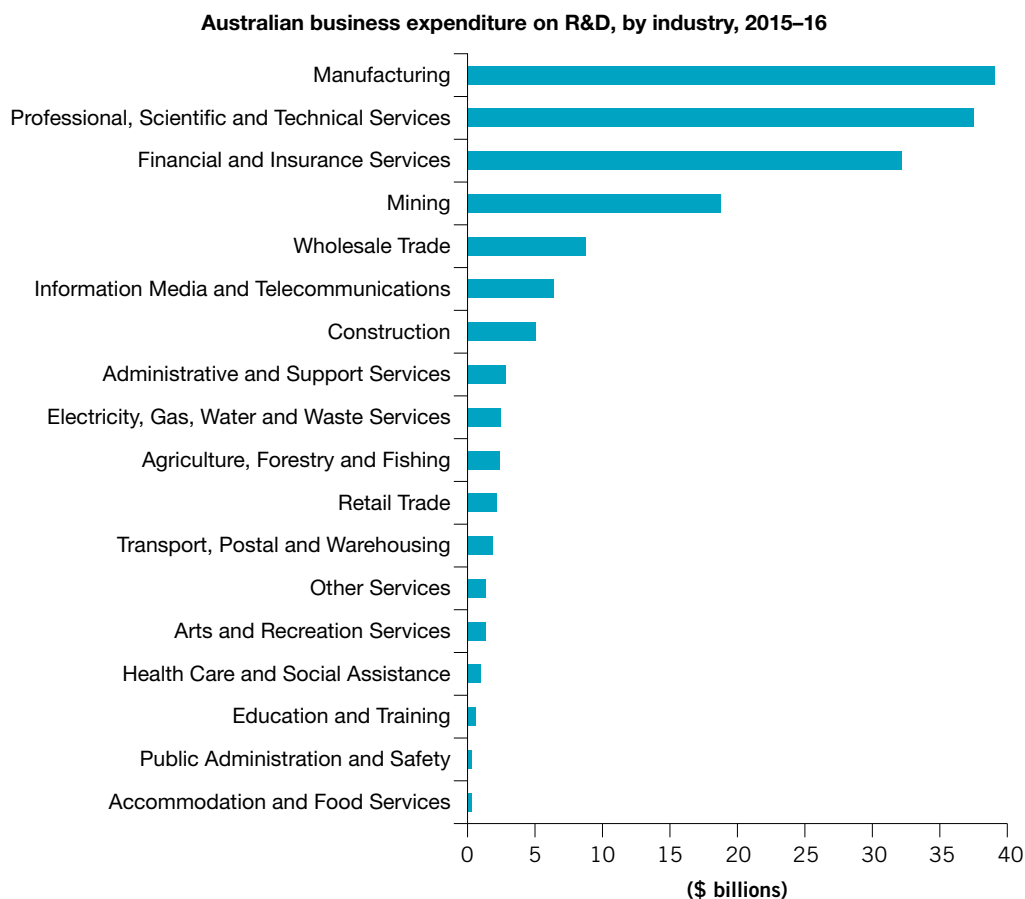
Australian businesses now spend the equivalent of around 2.2 per cent of GDP on research and development (R&D). This is up from just 1.4 per cent in 1998–99. However, despite significant growth in our R&D spending by firms — particularly in manufacturing, mining, finance and professional services — overall Australia compares poorly with other countries. Figure 1.25 shows how much some of the world's most

FIGURE 1.24 There is growing concern about the devastating effects that human production and consumption is having on the planet.



successful companies by industry spent in 2018 on R&D. In Australia, firms like Telstra, CSL (making vaccines), Aristocrat (involved in gaming and leisure products), Cochlear (ear implants), One Steel (steel products), Computershare (share registry and transfer) and Amcor (paper and packaging) realise the huge benefits and profits that potentially stem from R&D and innovation, but other firms are slow to catch on. Ultimately, businesses that fail to innovate will be left behind and replaced by those that do.

FIGURE 1.25 Global businesses that spent most on R&D



Global top 6	2018 Expenditure (\$US billions)
Amazon.com, Inc.	22.6
Alphabet Inc.	16.2
Volkswagen	15.8
Samsung Electronics Co., Ltd.	15.3
Intel Corporation	13.1
Microsoft Corporation	12.3

Australian top 4	2018 Expenditure (\$US billions)
Telstra Corporation Limited	0.9
CSL Limited	0.6
Aristocrat Leisure Limited	0.2
Cochlear Limited	0.1

Source: Graph drawn from ABS data (cat. no. 8104.0, data cube: Business expenditure on R&D, by ANZSIC06 industry subdivision—by type of activity, 2015–16); table extracted from PwC, The 2018 Global Innovation 1000 study, www.strategyand.pwc.com/innovation1000.

3. A need for community involvement

Businesses like Telstra and Westpac believe that partnerships with the community are important as part of their corporate citizenship.

Involvement allows firms to give back to the community that led to their success in the first place. Telstra, for instance, has a number of community programs including Business Women's Awards, e-Smart Libraries, Kids Fund, sponsorships for sport and cultural activities, help for Indigenous Australians and disaster relief efforts. Westpac runs the surf lifesaving rescue helicopter service by contributing around \$2 million a year for its operation. McDonald's supports various rural and other community health support programs, and BHP helps to fund local and international community projects in areas like health and education. In addition to these profit-seeking firms, the importance of not-for-profit businesses has grown. One reason for their expansion is that they have established close partnerships as a result of the socially beneficial programs they provide.

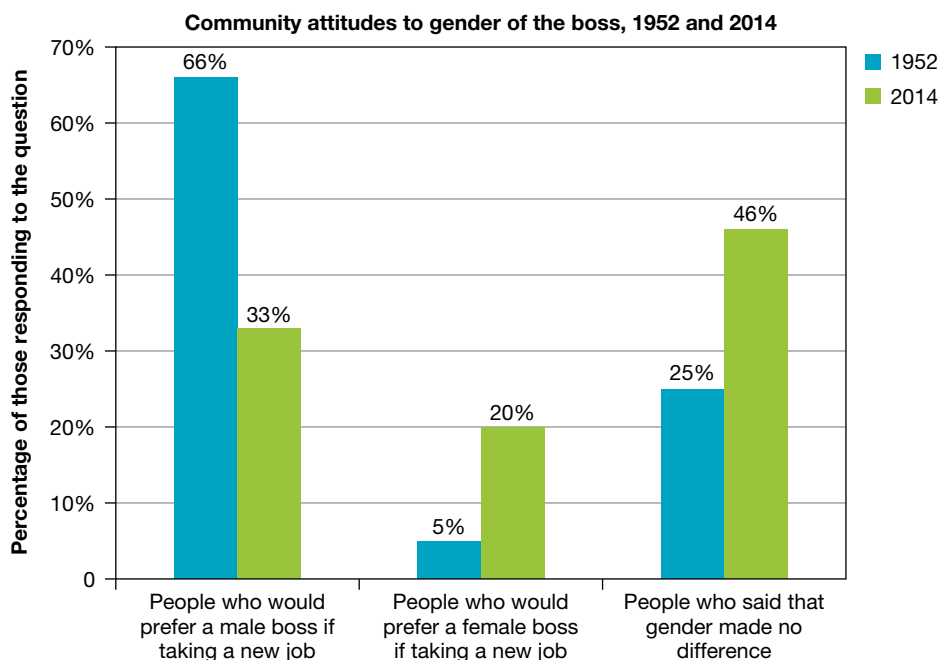
FIGURE 1.26 Westpac runs the surf lifesaving rescue helicopter service by contributing around \$2 million a year for its operation.



4. Gender equality

Traditionally, the board of directors and senior positions of responsibility in Australian business were filled by males. In part, this reflected the thinking of the day. However, all this started to change, especially from the 1970s when traditional attitudes towards the roles of males and females started to break down. Indeed, figure 1.27 shows how dramatically the gender bias in favour of a male boss in the workplace, has been transformed during the past six or so decades.

FIGURE 1.27 The change in staff attitudes to the gender in the workplace.



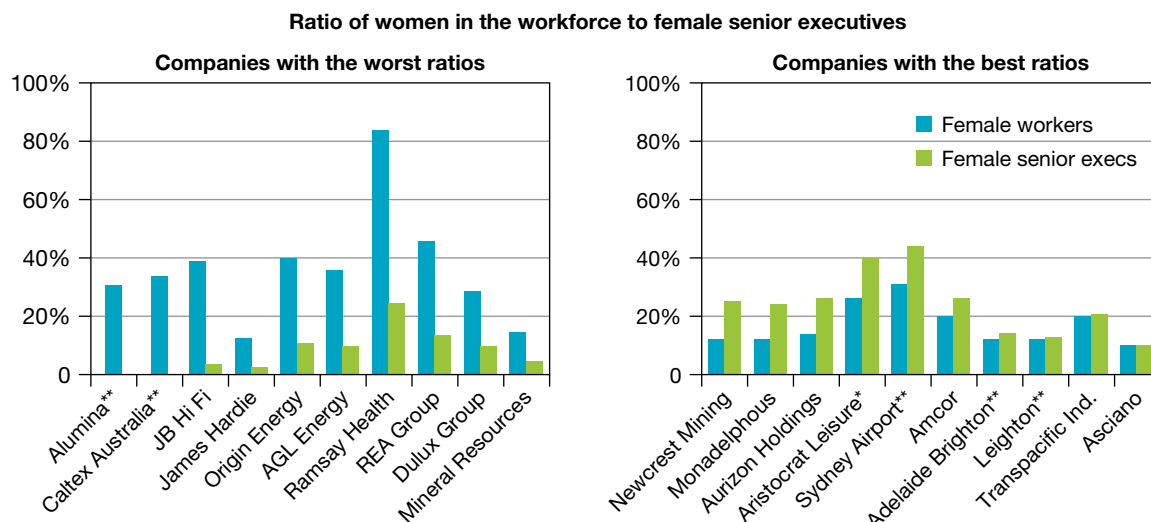
Source: Data derived from an article by Jacquelyn Smith, 'Study finds women are better managers than men — here's why', Business Insider, 6 April 2015, see www.businessinsider.com.au/why-women-are-better-managers-than-men-2015-4.

From an economic standpoint, common sense would tell us that to shut women out of the labour force, and especially out of high-level business management roles, is irrational and detrimental when they make up around 50 per cent of the population. In addition, some research suggests women are likely to be even better than their male counterparts in these roles. However, actual change towards gender equality in employment has been painfully slow. For instance, women represent just 12 per cent of executive positions among our top 200 companies. It is not about a lack of talent. Rather, it appears to be mostly about the obstacles in a male-dominated environment. In addition, there is often inequality in pay rates, with women receiving lower pay than males. This discourages participation in employment and lowers incomes.

Figure 1.28 shows that there is great variation in the ratio of female employees versus senior executives making up the workforce of different companies. For example, the worst performers are apparently firms such as Caltex and Alumina, which employ no women in senior management positions, compared with Aristocrat Leisure and Sydney Airport, in which women occupy about 40 per cent of these top positions. Nevertheless, some companies that have few female senior executives employ many female workers at a less senior level — over 80 per cent, in the case of Ramsay Health.

Given Australia's ageing population, it may only be a matter of time before even more businesses realise they have much to lose if they do not enthusiastically embrace gender equality in the workplace.

FIGURE 1.28 Gender inequality among Australian companies.



*To 30 September 2013 **To 31 December 2013

Source: Graphs copied directly from an article by Alana Schetzer, 'Women stall on reaching corporate Australia's highest rungs', *Sydney Morning Herald*, 1 November 2014, see <http://www.dailylife.com.au/life-and-love/work-and-money/women-stall-on-reaching-corporate-australias-highest-rungs-20141101-3jdcy.html>.

1.7.4 The effect of technology on business behaviour and the trade in goods and services

Technological progress has affected business decisions, not just the type of product and how it is made, but also how it is sold.

- Thinking about the *type* of product and the impact of technology, as an example, devices designed to play music come to mind. First, we had records (large black discs of recorded music) played on a gramophone. Then there was the invention of the compact music recording cassette and the tape player. The next big thing was the CD and of course new CD players, followed by streaming via iTunes and now Spotify on multiple electronic devices from computers, home entertainment units, smart phones, iPads and even smart watches. Those companies that were unable or unwilling to change and move with the times became extinct. For this reason, investment in R&D and innovation are essential for business survival and growth.

FIGURE 1.29 Technology has changed the way most businesses design, produce and market their products. It can help to increase speed in production, cut costs, improve product quality and attract customers. Increasingly, it is used in many areas including the health industry through improved diagnosis and treatment.



- Retail businesses used to only operate from an actual store or shop where people would come to look at and hopefully purchase merchandise. However, the boom in online shopping (24/7) during the last decade, via fast internet connections to anywhere in the world, has changed how people shop and multiplied their choices. Businesses have been forced to adapt and so we find that most major retailers now offer online services as well. The growth of Uber transport is another example of how technology has changed the face of a traditional industry (i.e. taxis) and added to service competition.

1.7.5 The nature and effectiveness of strategies businesses may use to increase their profitability

Under Australia's *capitalist* economic system, most businesses adopt strategies designed to promote their own self-interest and grow profits. While hundreds of strategies have been used, the most successful ones have tended to focus on the following:

- **Ensure operational excellence.** Firms must be efficient operators so that a high quality product or service can be produced and sold at an attractive price that is competitive at home and abroad. Keeping costs under control is essential for low consumer prices.
- **Know and develop good relations with customers.** Successful firms make it their business to find out what customers want and expect, and develop a good relationship with them. Quality and courteous customer service, including prompt delivery, are also essential for success.
- **Ensure product is technically superior.** To be a market leader, the product being sold needs to be superior in design and more technically advanced than that offered by rival firms. The idea of continuous product improvement, innovation and R&D must be part of the thinking of both managers and employees.
- **Use multiple branding.** Some firms try to increase their market share and profits by using multiple branding. Here, one company sells two or more similar or identical products (e.g. some washing machine detergents, toothpaste) under different brand names with the intention of leaving less space on the supermarket shelf for rival products, and capturing those consumers who like to try new lines.

At the end of the day, successful businesses are those that have growing sales, increased market share, expanding operations and healthy profits.

The Australian Competition and Consumer Act 2010

Competition among firms is generally seen as good thing for consumers. They get a better product and quality service, at a lower price. However, in order to *increase profits*, some Australian businesses have unfortunately tried to do this by limiting competition and colluding with rival firms.

Some firms collude with other firms to restrict competition, so that they can grow their market power and act like a monopoly. This allows them to charge higher prices and extract even better profits, actions that are detrimental for consumers.

Such collusion is designed to exploit consumers by charging them *higher prices*. For this reason, the Australian government has passed laws to promote stiffer competition between rival businesses. Here we think especially of the Australian *Competition and Consumer Act 2010*.

Under this legislation, some business activities are illegal (see table 1.2). If a company is found guilty of these offences, there are heavy fines up \$10 million for each incident, as well as possible jail sentences for directors.

FIGURE 1.30 Competition among firms is generally seen as a good thing for consumers.



TABLE 1.2 The Australian *Competition and Consumer Act 2010* makes certain business behaviour illegal in order to promote competition in the marketplace.

Some illegal business behaviour under the Competition and Consumer Act

Price fixing and misuse of market power	where firms in an industry collaborate to set prices or impose minimum resale prices
Price discrimination	occurs when, for exactly the same good or service, businesses charge different prices to different customers
Exclusive dealing	where companies refuse to supply their products or services to one or more firms
Collusive bidding	when, in submitting a tender or quote for the completion of works or to supply goods or services, supposedly competing firms meet secretly beforehand to agree whose tender should be most attractive, cheapest and likely to win the contract
Price leadership	where the dominant or leading firm sets prices that others follow
Predatory pricing	where the dominant firms conduct a price war involving big cuts in prices with the intention of driving rival firms bankrupt, and then later enjoying the market without competition
Market zoning	where competing firms in a region divide up the market into zones, areas or regions within which they agree not to compete with each other over prices
Interlocking directorships	where a person acting as a member of the board of directors for one company, is also on the board as a director of a supposed rival company
Unconscionable conduct	where a business crosses the line and treats its suppliers or customers very harshly

The Australian *Competition and Consumer Act 2010* is enforced by the **Australian Competition and Consumer Commission (ACCC)**. There are also rules about company mergers and takeovers to ensure that they do not reduce market competition and to ensure that they are in the ‘public interest’. In addition, the ACCC monitors pricing (prices surveillance) and other arrangements (e.g. false advertising claims), especially in industries where competition is weak including the utilities, aviation, airports, supermarkets, insurance, petrol, postal, rail, waterfront and communications. In the past few years to 2020, the ACCC has conducted high-profile investigations into petrol, liquor, packaging, banking, freight and supermarkets. For example, Coles was fined \$10 million by the ACCC for breaches involving its harsh and unethical treatment of some suppliers as a way of boosting profits. Other recent cases have involved companies like Ford, Apple, Flight Centre, Yazaki and Telstra. The idea here is that firms should make profits fairly and not by exploiting suppliers or consumers.



Resources



Weblinks The Corporation
The Profit: Artistic Stitch
Drive: The surprising truth about what motivates us

1.7 ACTIVITIES

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Check your understanding

1. What does the study of *business behaviour* involve?
2. Traditionally, what are the main factors driving the behaviour of most businesses?
3. Giving examples, what are *incentives* and how might businesses use and respond to these?
4. List and outline any *three* important recent developments that have affected the way businesses operate and sell goods and services.
5. What are the main methods or strategies used by successful business to increase their profits?

6. Giving examples, what are *restrictive trade practices* used by some businesses? Why have these been made illegal under the Australian *Competition and Consumer Act 2010*?

Applied economic exercises

1. What does a study of *business behaviour* involve? (2 marks)
2. Assume that you own a clothing business. Taking a *traditional view* of your business, what are your main aims or goals? (2 marks)
3. In order to reduce your retail prices to become more competitive with cheaper imported garments and still make a profit, you decide to try and find ways to cut your production costs. For example, high labour or wage costs are a real problem. One strategy is to use different types of *incentives*. What are incentives? Suggest how these might be used to help lower labour or wage costs. (3 marks)
4. Suppose that the government decided to use various incentives to help clothing manufacturers (of which you are one). Explain how the government might use incentives and how they might improve your profitability. (2 marks)
5. Identify and outline *two* important changes that have occurred in Australian industry (including the clothing industry) that have forced local firms to adapt and change in order to maintain or grow their profitability. (4 marks)

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1.8 Review

1.8.1 Summary

What is economics about?

- Economics is the study of how limited resources or productive inputs are used to help make individuals and society better off materially.
- Economics includes the study of macroeconomics and microeconomics.
 - *Macroeconomics* looks at the whole economy and the factors that affect the nation's general economic conditions.
 - *Microeconomics* examines the smaller bits that help to make up the overall economy. These include examining the operation of a particular firm, an individual market, a sector or a specific industry.
- As a study, economics is also divided into positive and normative economic investigations.
 - *Positive economics*. Most commonly, economics uses positive analysis of issues where the investigation is largely free of personal values, feelings or opinions, and is based on hard factual evidence about the situation as it exists in reality.
 - *Normative economics*. Sometimes, personal, value-based statements are also made by economists about what should be done, based on their personal opinions, likes and dislikes. This is called normative economics.

People's unlimited needs and wants

A starting point in the study of economics is that society's wants for goods and services (products) are virtually unlimited due to:

- population growth
- the reoccurrence of wants
- materialism
- advertising and planned obsolescence.

The limited supply of resources available for use in production

- *Resources* are the inputs needed to make goods and services. There are *three* types of resource:
 - natural resources (i.e. the gifts of nature)
 - labour resources (i.e. mental talents and the physical power of workers)
 - capital resources (i.e. physical plants and equipment that make other resources more efficient).
- What a country or individual can potentially produce is limited because the volume (quantity) and efficiency of resources is finite (limited).

The problem of relative scarcity

- *Relative scarcity* is simply the imbalance between people's unlimited wants and limited resources available to satisfy those wants.
- Due to the problem of scarcity, economic choices must be made and it is vital that resources are used or allocated efficiently to help maximise satisfaction.

The nature and purpose of economic activity and the influence on living standards

- *Economic activity* is a term used to describe the production process where firms use resources and convert them into the finished goods and services we need and want.
- The most common *measure* of the level of economic activity or the value of finished goods and services produced by a country in a year is called *gross domestic product* (abbreviated as GDP).
- Nations that have higher levels of production per person generally have higher average *material living standards* or wellbeing than countries with lower levels of GDP per head, because they have higher average incomes and consumption levels per person.
- *Non-material living standards* refer to the quality of our daily lives and mostly relate to influences not closely related to money or income such as freedom, happiness, crime rates and the environment.
- Economic activity or production may both help and harm aspects of overall living standards but, more often than not, there are trade-offs.

Choice and the concept of opportunity cost

- Given scarcity and the fact that we cannot have everything we want, countries (and individuals) are forced to choose between alternative uses of resources.
- A decision to have one thing results in the loss of another; that is, production in one area is forgone to gain the advantage of another area of production. This is called *opportunity cost*.
- The *production possibility diagram* illustrates these economic choices.
- The *production possibility frontier* maps out the production combinations or choices that are possible when a nation uses all resources as efficiently as technology currently permits. It shows the economy's productive potential, capacity or limit.
- The most efficient choice or allocation of resources is an output mix or combination located somewhere on the production possibility frontier. Here, the satisfaction of society's wants is at its maximum.
- A point outside the production possibility frontier is not currently possible due to the lack of resources available. Inside the frontier, there would probably be unemployment, poverty and lower living standards.
- A country can cause its production possibility frontier to grow if it increases the volume or efficiency of its resources.

The simple two sector circular flow model of an economy

- Economic systems are needed to help organise the national production and distribution of goods, services and incomes.
- Australia has a *market capitalist economy* where economic decisions largely depend on the operation of markets (a market system), and most businesses are privately owned by profit seekers (a capitalist system).

- Because of the basic economic problem of scarcity, there are *three* important economic questions or decisions that must be answered by Australia's market capitalist economy:
 - the 'what and how much to produce' question
 - the 'how to produce' question
 - the 'for whom to produce' question.
- Australia's economy is very complex with thousands of parts to it, so economists have constructed models, like the two sector circular flow model, to simplify how it works.
 - There are two main sectors — the household sector and the business sector.
 - There are four interconnecting flows between the two sectors showing the main relationships between these two sectors.
 - The four flows are equal in value and move interdependently.
 - The model can be used to explain why economic activity (national production or GDP) moves up (a period of expansion leading to a peak, perhaps a boom) and down (a period of contraction leading to a trough, perhaps a recession), largely in response to changes in household spending.
 - The model can also be used to predict the effects of ups and downs in economic activity (e.g. the effects on levels of inflation, unemployment, incomes).

Consumer behaviour

- Consumer behaviour looks at why, how, where and when consumers choose to purchase or not purchase a good or service, and draws on ideas from psychology, anthropology and economics.
- For years, economists have tried to explain *consumer behaviour*.
 - There are many different types of consumers.
 - The traditional view is that consumers are rational, with good information and ordered priorities. However, more recent studies indicate that this is not always the case.
 - Marginal utility is a concept that some believe has a great influence on consumer behaviour. *Marginal utility* is a term used to describe the extra satisfaction gained from consuming additional quantities of a good or service over a short period of time.
 - There are also other economic influences affecting what consumers purchase such as budget constraints, internal factors like personality type, and external factors like peer group feedback, incentives and technology.
 - Consumer behaviour is also affected by positive and negative, economic and non-economic incentives.

Business behaviour

- Business behaviour looks at what and how businesses produce goods and services, and what motivates them.
- The traditional view is that most businesses seek to minimise their production costs and maximise their sales and profits. They also respond to various positive and negative incentives by governments like subsidies and taxes on particular products.
- Businesses have been evolving and adapting to the changing economic, social and political conditions within which they operate. These factors include the influences of sustainability, community involvement, gender equality, innovation, technology and R&D.
- Successful businesses use various strategies to increase their profitability such as:
 - operational excellence
 - good customer relations
 - technically superior products
 - multiple branding.
- Businesses decisions are also affected by incentives — positive and negative, economic and non-economic.
- *Competition* among firms is generally seen as good because consumers generally get a better product at a lower price. However, in order to increase profits, some Australian businesses have tried to limit competition and collude with rival firms.

- The Australian *Competition and Consumer Act 2010* is designed to increase competition and make anti-competitive behaviour illegal (e.g. price fixing, collusive bidding).
- This act is enforced by the *Australian Competition and Consumer Commission* (ACCC). It monitors prices, and supervises company takeovers and mergers to ensure they are in the public's interest.

on Resources

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To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31526).

1.8.2 Key terms

Australian Competition and Consumer Commission (ACCC) is an institution set up to promote competition and enforce the *Australian Competition and Consumer Act 2010*.

Behavioural economics has sought to better explain consumer behaviour than the simplistic theories traditionally used. It has found that individuals making decisions are guided by bounded rationality where we take shortcuts such as adopting *herd behaviour* or applying the *status quo*. This occurs because we have, for example, limited time to complete research and inadequate brainpower to weigh up all the possibilities.

Bounded rationality is a modern notion that seeks to describe how consumers make economic decisions and challenges the traditional notion that consumers are always rational, calculating and self-interested. With limited knowledge, brainpower and time for research, consumers often take shortcuts when making decisions — by relying on the status quo and following herd behaviour, for example.

Business behaviour looks at the factors influencing the decisions of firms involving the production and sale of particular goods and services.

Business sector comprises all producers or suppliers of goods and services in an economy.

Capitalist economy is a feature of some nations' economic systems and involves private ownership of most businesses (e.g. farms, mines, banks, factories), where individuals generally seek to maximise their profits.

Capital resources (or capital equipment) involve manufactured or producer goods. This includes the physical plant and machinery (that may incorporate new technology) used by a firm to help make other finished goods and services.

Competition and Consumer Act 2010 involves laws or legislation that makes price and other forms of collusion and price fixing by firms illegal.

Consumer behaviour looks at why, how, where and when consumers choose to purchase or not purchase a good or service.

Contraction is where national production or GDP levels in the economy are falling.

Cost-benefit analysis is a matter of adding up the anticipated value all the direct and indirect costs of a particular decision (e.g. resource and monetary costs, time, opportunity costs) in both the short and long terms, and comparing these against the total value of the anticipated benefits.

Economic activity occurs when resources are used to produce goods and services by an economy. In the process, this also affects inflation and unemployment rates in an economy.

Economics is a study of human behaviour. It involves looking at the way individuals, families, businesses and governments make decisions or choices about how to use their limited resources in ways that best help to satisfy their basic needs and unlimited wants. In making these sorts of decisions, economics also studies issues related to the production, consumption and distribution of goods and services.

An **economic system** (or economy) helps to organise the production and distribution of goods, services and incomes.

Expansion is when production levels in the economy are rising.

Gross domestic product (GDP) is the most common measure of the level of economic activity and represents the total value of finished goods and services produced by a country in a year.

Household sector comprises all people in the country.

Incentives seek to change consumer or producer behaviour using rewards or punishments. These can be either financial or non-monetary.

Labour resources are the various intellectual talents, as well as the physical power, provided by the labour force.

Living standards is a concept used to describe how well off people are generally. These are affected by both material wellbeing and non-material aspects. *Material* living standards are dictated by our income level and the quantity of goods and services we can purchase or consume each year, while *non-material* living standards relate to the quality of life such as happiness, crime rates, religious and political freedom, and the environment.

Macroeconomics looks at the bigger picture and is concerned with levels of national spending, national production (measured by gross domestic product or GDP) and national incomes, as well as the country's overall unemployment and inflation rates.

Marginal utility refers to the increased satisfaction gained by individuals from the consumption of an extra unit of a product at a point in time.

Market capitalist economy as exists in Australia involves key economic decisions being made by the market system and most businesses being owned by profit-seeking individuals.

Market economy is a feature of some nations' economic systems where key economic decisions involving the what, how and for whom to produce questions are mostly answered through the system of price set by buyers and sellers in numerous markets. Changes in the relative price of one good against that for another affect relative profits for firms and thus help to indicate where resources are most wanted.

Microeconomics often looks at the factors that influence the small bits, units or various parts making up the overall Australian economy including the decisions made by individual consumers or single firms in a particular market or industry.

Natural resources are the productive inputs that occur in nature.

Needs are goods and services essential for life.

Normative economics involves statements about what *should* be done, based on personal opinion, values, likes and dislikes.

Nudge is a theory derived from behavioural economics that suggests that consumer decisions can be influenced in particular directions through various gentle reminders.

Opportunity cost relates to the value of production or consumption forgone (i.e. given up) in one area, when resources are allocated or diverted to their next best alternative use.

Planned obsolescence is a strategy used by some firms to try to boost sales and profits by deliberately making products that quickly become outdated or wear out, requiring replacement.

Positive economics is based on hard evidence about what *is* actually the case. In other words, positive economic analysis often involves basic statements such as 'If A occurs, then B is the result'. No values are involved.

Production possibility diagram (PPD) is used to illustrate the many production combinations for a country that is able to produce just two products and where all resources are used most efficiently. These combinations are illustrated as points on a production possibility frontier. It can also illustrate the concept of opportunity cost.

Production possibility frontier (PPF) shows a nation's productive capacity or physical limits to production when all resources are used to maximum efficiency.

Profit maximisation is a common aim of most businesses. It is where a firm tries to make the largest profit it can, by boosting sales, being efficient and keeping production costs low. Some firms seek to maximise short-term profits while others pursue this in the long term.

Relative prices compare the selling price of different goods and services that a business can produce, and consumers can consume.

Relative scarcity is the basic economic problem where the resources available for production are limited, relative to society's unlimited wants.

Resources are productive inputs including natural, labour and capital resources (also called factors of production), that are used by firms to make or supply goods and services.

Scarcity (also called relative scarcity) is the basic economic problem where the resources available for production are limited, relative to society's unlimited wants. Not all our wants can be satisfied. This forces society to make economic choices or decisions involving the three basic economic questions of what, how and for whom to produce.

Trade-off is an opportunity cost when to achieve one goal or outcome, another suffers.

Two sector circular flow model is a simple diagram that shows the two key parts making up an economy (the household and the business sectors) and the ways they interact with each other through four flows (i.e. flow 1 — resources, flow 2 — incomes, flow 3 — spending and flow 4 — production).

Wants are goods and services we would like to have that make life more enjoyable. However, they are not essential.

-  **Digital documents** Key terms glossary (doc-31525)
 Crossword (doc-31529)
 Wordsearch (doc-31530)
 Match-up definitions (doc-31531)

1.8 Review questions

To answer questions online and to receive **immediate feedback** and **sample responses** for every question go to your learnON title at www.jacplus.com.au.

1.8 Exercise 1: Multiple choice questions

- Concerning microeconomics and macroeconomics as areas of study, which statement is generally *false*?
 - Microeconomics often studies how particular firms, specific industries and individual markets operate.
 - Macroeconomics may study the operation of the circular flow model of the Australian economy and the role played by the level of aggregate demand.
 - The problem of Australia's car industry being uncompetitive against foreign car makers mostly involves macroeconomic issues.
 - The issue of waterfront or aviation reforms are good examples of microeconomic studies.
- In economics, the problems of *scarcity* and choice arise because:
 - wants are always limited.
 - resources are limited relative to wants, which are virtually unlimited.
 - resources and wants are unlimited.
 - we do not have enough money.
- Which of the following is *not* generally regarded by economists as a physical capital resource?
 - The artificial snow-making dam and extra snow-making capacity constructed at Mt Hotham
 - Power lines and generators owned by Powercor
 - Manufactured items used by firms to help produce other goods and services
 - A household washing machine
- If the country represented in table 1.3 were located on its production possibility frontier, the opportunity cost of increasing machine production from 0 to 30 million units per year would be:
 - 50 million units of food production.
 - 10 million units of machine production.
 - 60 million units of food production.
 - none of the above.

TABLE 1.3 Production possibility table for a country which can produce food and/or machines with only the resources at its disposal

Area of production	Maximum production combinations or possibilities				
	A	B	C	D	E
Annual production of food (million units)	0	50	80	100	110
Annual production of machines (million units)	40	30	20	10	0

5. Concerning the production possibility data in table 1.3, which statement is *true*?
 - A. Production of both products could be increased simultaneously if the nation was actually located on its production possibility frontier.
 - B. The opportunity cost of producing food decreases as more machines are produced.
 - C. There is no opportunity cost of producing more food.
 - D. Any combination of food and machines (points A, B, C, D and E) is regarded as an efficient allocation or use of resources since total output is at its maximum.
6. Concerning a production possibility diagram (PPD) and the production possibility frontier (PPF), which statement is *true* when a country has access to extra natural resources and labour productivity rises?
 - A. There would be no change in the position of the PPF.
 - B. The country would be located at a point outside the PPF.
 - C. The country would be located at a point inside the PPF.
 - D. The country's productive capacity and PPF would rise and shift outwards.
7. Concerning a production possibility diagram (PPD) and the production possibility frontier (PPF), which statement is *true* when a country has high levels of unemployment?
 - A. There would be an inward move in the position of the PPF and capacity would shrink.
 - B. The country would be located at a point outside the PPF.
 - C. The country would be located at a point inside the PPF.
 - D. The situation of unemployment cannot be shown on the PPD.
8. Concerning a country's production possibility diagram (PPD), which one of the following would have an effect on the production possibility frontier (PPF) that is *different* from the other three?
 - A. About 190 000 immigrants arrived during 2017–18.
 - B. There was foreign investment in a new copper mine in NT worth \$4.5 billion.
 - C. A severe drought affected eastern and northern Australia.
 - D. The National Broadband Network (NBN) was finally completed.
9. What is a likely trade-off in the long term that is commonly associated with growing the size of the economy and the PPF?

A. Increased CO ₂ pollution	B. Increased resource depletion
C. Accelerated climate change	D. All of the above
10. Which of the following *can* be easily shown on a production possibility diagram for a country?

A. Currently unattainable output combinations	B. Unemployment and incomes
C. Rises in productivity and economic growth	D. All of the above
11. Which statement about the simple two sector circular flow model is *incorrect*?
 - A. There are four flows or streams shown on the model.
 - B. One sector involves everyone in the country whereas the other sector involves only businesses.
 - C. The various flows making up the model are assumed to be equal in value and interdependent.
 - D. The model shows spending on foreign goods and services, and household savings.
12. Assume that the total value of spending by Australian households fell from \$60 billion to \$55 billion over a year. Using the two sector circular flow model, which of the following most logically predicts the correct *sequence* or order of the effects on our economy?
 - A. National production would be likely to decline by \$5 billion, incomes would fall, and unemployment of resources would fall.
 - B. National incomes would probably rise by \$5 billion, along with the purchase of resources and production.
 - C. National employment of resources would be likely to fall by \$5 billion, GDP would decline and incomes would decrease.
 - D. GDP would fall by \$5 billion, and so the demand for resources and hence incomes would also decline.

13. Thinking of the two sector circular flow model, which statement is *incorrect* following a rise in total spending on final goods and services by \$100 million?
 - A. There would be a period of expansion in GDP, possibly leading to a peak.
 - B. There is likely to be a slowdown associated with a rise in the unemployment of resources among the household sector.
 - C. There may be a rise in incomes received by the household sector.
 - D. The rate of inflation (a general rise in prices) may accelerate if spending rises too quickly.
14. Concerning the *traditional view* of consumer behaviour, which statement is *false*?
 - A. Consumers behave in rational ways when they make purchases of goods and services.
 - B. Consumers satisfy their more important needs and wants before their less important wants.
 - C. Consumers make buying decisions based on a sound knowledge of the associated advantages and disadvantages.
 - D. Consumers are quite unpredictable when they make purchases.
15. The concept of marginal utility is used to help predict consumer behaviour. Which statement is normally *incorrect*?
 - A. Consumers gain most satisfaction from eating their second apple of the day, if apples are their favourite fruit.
 - B. The concept of utility does not apply well to an addicted shopaholic making hundreds of purchases this Saturday morning.
 - C. On average, the purchase of your twentieth jumper in a week yields less utility than your fifteenth.
 - D. The consumption of your fifth chocolate milk this week will likely result in less utility than your first.
16. When buying your first car, which of the following would *not* normally be regarded as an internal factor affecting your behaviour as a consumer?
 - A. Feedback from your family
 - B. Type of personality
 - C. Values
 - D. Sense of what is cool
17. When buying a hamburger and fries, which of the following would *not* normally be regarded as an external factor affecting your decision as a consumer?
 - A. Advertising on *The Grand Tour*, the free-to-air TV show about cars
 - B. Your boyfriend or girlfriend
 - C. Your income level
 - D. Government laws about the fat and sugar content in takeaway foods
18. Traditionally, *business* behaviour is directed towards which of the following?
 - A. Minimising costs
 - B. Lifting efficiency
 - C. Maximising profits
 - D. All of the above
19. Regarding the use of incentives, which of the following is *least* correct?
 - A. Incentives can be used to encourage or discourage certain businesses behaviour, as well as that of individuals and even students.
 - B. Positive government incentives can lead to more production and higher consumption of socially desirable goods and services.
 - C. The use of negative incentives is often regarded as more powerful and effective than using positive incentives in changing the behaviour of individuals.
 - D. Incentives can be positive or negative, as well as monetary and non-monetary.
20. Regarding the use of incentives as an influence on behaviour, which of the following is *incorrect*?
 - A. The use of a tax on alcohol can be seen as a combination of a negative incentive and a monetary incentive to discourage production or consumption.
 - B. Laws that fine individuals for not wearing bike helmets are regarded as a negative monetary incentive.
 - C. The government's cash subsidy payments to households who installed solar panels are normally regarded as a negative monetary incentive.
 - D. Answers A and B above are both incorrect.

21. Gender equality can involve:

- A. equal access for women to positions of responsibility in business, such as membership of the board of directors or heads of department.
- B. equal pay for women doing the same work as their male counterparts.
- C. equal likelihood of success for females and males in gaining employment in a business.
- D. all of the above.



Resources



Digital documents Multiple choice answer grid (doc-31554)

Multiple choice answers (doc-31560)

1.8 Exercise 2: Extended response questions

1. The nature of economics as a study

- a. Explain the *differences* between the study of *microeconomics* and *macroeconomics*, giving two examples for each. (2 marks)
- b. What is the difference between *positive economics* and *normative economics*? (2 marks)
- c. What type of statement (positive or normative) would each of the following be likely to represent?
 - i. Lower interest rates charged on individuals borrowing bank credit will tend to push up house prices. (1 mark)
 - ii. The unemployment benefit is too low and should be raised by \$70 per week. (1 mark)

2. Choice and opportunity cost

In 1969, the USA successfully managed to put a man on the moon. The money cost of the project for the government and nation (in today's dollars) was estimated to be around US\$160 billion:

- a. Define the term *opportunity cost*. (1 mark)
- b. Identify and explain the likely and realistic *opportunity costs* of this space program (giving likely *examples* of opportunity costs in your answer). (3 marks)
- c. What are the potential benefits of the US government's decision to put a man on the moon? (2 marks)

3. The production possibility diagram

Economists use the *production possibility diagram* (PPD) to illustrate the consequences of making alternative production choices or economic decisions.

- a. Use table 1.4 to accurately draw and fully label a PPD showing a hypothetical PPF for North Korea in 2020. Assume North Korea can produce only two products: *rice* and *defence equipment*. Use graph paper and then start by selecting appropriate scales for each axis. (3 marks)
- b. Use table 1.4 to calculate the potential total level of national output (measured in millions of units) for each of the following production possibilities or choices: A, B, C and D. (1 mark)

TABLE 1.4 North Korea's hypothetical production possibilities, 2020

Production choice	Production possibilities			
	A	B	C	D
Production of rice per year (million units)	0	25	32.5	40
Production of defence equipment per year (million units)	5	4	3	0
Calculate the country's annual total output (million units)				

- c. Identify three possible *factors* that hypothetically might help to shift North Korea's PPF outward and to the *right*. How might this shift in the PPF affect living standards? (3 marks)

4. The two sector circular flow model
 - a. Neatly draw and fully label a diagram representing a simple *two sector circular flow model* of Australia's economy. (5 marks)
 - b. In some recent years, the rate of growth in the *total level of spending* by Australian households slowed down. Using the circular flow model that you have drawn, clearly and systematically explain (i.e. logically, step by step) the *macroeconomic effects* of this spending slowdown in the Australian economy. (4 marks)
5. The business cycle
 - a. Accurately define what is meant by the *business cycle*. (1 mark)
 - b. Neatly draw and fully label a typical *business cycle diagram* showing different levels of national economic activity. (4 marks)
 - c. In what important ways might a period of *boom* differ from a period of *recession*? (2 marks)
6. Consumer behaviour

You have just decided to purchase a new pair of jeans.

 - a. Identify and outline the key factors that economists *traditionally believed* would affect your decision (as a consumer) to buy this pair of jeans. (4 marks)
 - b. In contrast to traditional beliefs, modern *behavioural economics* today believe that your decision to buy this particular pair of jeans would reflect bounded rationality. Giving examples, explain what is meant by *bounded rationality*, suggesting reasons for this approach to decision making. (3 marks)
 - c. Identify and outline internal and external factors (including aspects of bounded rationality) that may affect your decision to buy these jeans. (2 marks)
 - d. Consumer behaviour is affected by various types of incentives. *Distinguish* between *positive incentives* and *negative incentives* that could be used by a teacher to encourage students to work harder. Provide one strong example of each type of incentive. (4 marks)
7. Business behaviour
 - a. BHP has been very successful and is one of Australia's biggest mining companies.
 - i. Identify and outline the three most important *factors* that BHP is likely to take into account when directors make key *business decisions* about the company's future. (3 marks)
 - ii. Outline the different types of *incentives* that could be used to:
 - encourage a mining company to be more environmentally concerned and responsible in its activities
 - encourage schools to improve the teaching practices used by their teachers. (2 marks)
 - b. Classify each of the following types of *incentives*, giving a brief explanation of your reasons:
 - i. Tobacco companies operating in Australia are required by law to use plain packaging. (1 mark)
 - ii. Businesses employing older Australians may be eligible for a government subsidy of up to \$10 000. (1 mark)
 - iii. Community award certificates are presented to those businesses involved in community work. (1 mark)
 - c. One of Australia's biggest supermarkets, Coles, was recently accused by the ACCC of *anti-competitive behaviour*.
 - i. Giving three specific examples, explain what anti-competitive business behaviour might involve. (3 marks)
 - ii. Why are some firms tempted to use such anti-competitive practices? (1 mark)
 - iii. Explain how the federal government attempts to discourage this type of business behaviour. (2 marks)

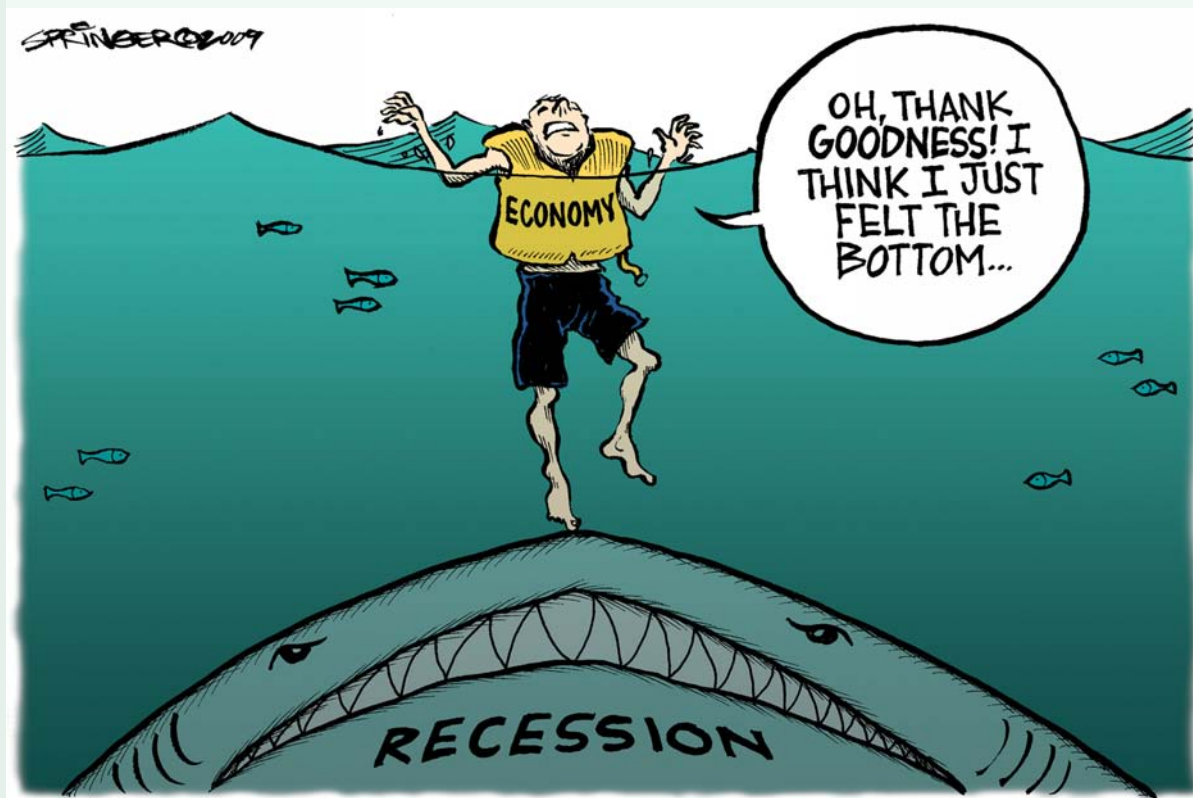
Fully worked solutions and sample responses are available in your digital formats.

1.8 Practice school-assessed tasks

ANALYSIS OF VISUAL EVIDENCE – A CARTOON

There are many cartoons that could be used to extend your understanding of economics. Use the following cartoon, or search the internet for a relevant cartoon, about one of the areas we have studied (e.g. scarcity, opportunity cost, consumer and business behaviour).

FIGURE 1.31 A recession represents a drop in economic activity with at least two negative quarters (i.e. over a period of at least six months) of GDP growth. Unfortunately, in this economic situation, most people suffer and their living standards fall due to rising unemployment, and a drop in average incomes and purchasing power. Without jobs, some individuals and families cannot afford to buy basic goods and services.



Answer the following questions to help you analyse the cartoon selected.

1. What is the economic concept being presented in the cartoon?
2. What is the main message of the cartoon?
3. What is your reaction to the cartoon? Do you agree with what it is saying?
4. Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer.

ANALYSIS OF STATISTICAL EVIDENCE – GENDER EQUALITY

A range of statistical evidence relating to the issue of gender equality in the workforce employed by business is presented in table 1.5 and figures 1.32 to 1.37. Your task is to review this statistical evidence and other data that can be researched online, and write a report about the following aspects of gender equality in the workplace.

Your report must address these questions:

1. Define *gender equality* in the workplace.
2. By analysing and quoting the statistical data, describe the degree of gender equality in Australian workplaces and businesses. Conclude whether or not Australian businesses have, or appear to be adopting, measures that promote improved gender equality in recent years.
3. Why should Australian businesses want to promote gender equality?
4. Suggest strategies and policies that might help improve gender equality in the workplace.

Statistical evidence for your gender equality report can be found below.

TABLE 1.5 Proportion of women in management by industry, from highest to lowest

Industry	2013–14	2014–15	2015–16	2016–17	2017–18
Healthcare and social assistance	69.3	70.3	70.2	70.3	70.2
Education and training	48.4	49.2	49.7	51.2	52.1
Retail trade	46.3	47.0	47.9	48.1	48.5
Administrative and support services	49.8	49.2	43.1	44.7	46.6
Accommodation and food services	47.7	44.4	44.3	45.0	44.5
Financial and insurance services	37.3	37.9	37.8	38.5	40.7
Other services	39.5	38.8	38.4	38.0	39.4
Arts and recreation services	32.2	33.5	33.8	35.1	36.7
Professional, scientific and technical services	30.9	31.6	32.5	33.3	34.1
Rental, hiring and real estate services	32.5	32.6	32.9	33.8	33.8
Information media and telecommunications	31.0	32.0	32.4	32.1	32.9
Transport, postal and warehousing	23.7	23.7	24.6	25.6	25.9
Wholesale trade	22.3	23.8	27.0	25.8	24.3
Manufacturing	21.2	21.4	22.5	23.0	23.5
Electricity, gas, water and waste services	19.8	21.5	22.2	22.2	22.9
Public administration and safety	16.9	16.8	16.7	19.2	20.3
Mining	14.0	14.6	15.3	16.3	17.2
Agriculture, forestry and fishing	16.7	17.0	17.7	17.0	16.9
Construction	10.8	10.9	10.9	12.0	12.1

FIGURE 1.32 Proportion of women employees and representation of women in management by industry.

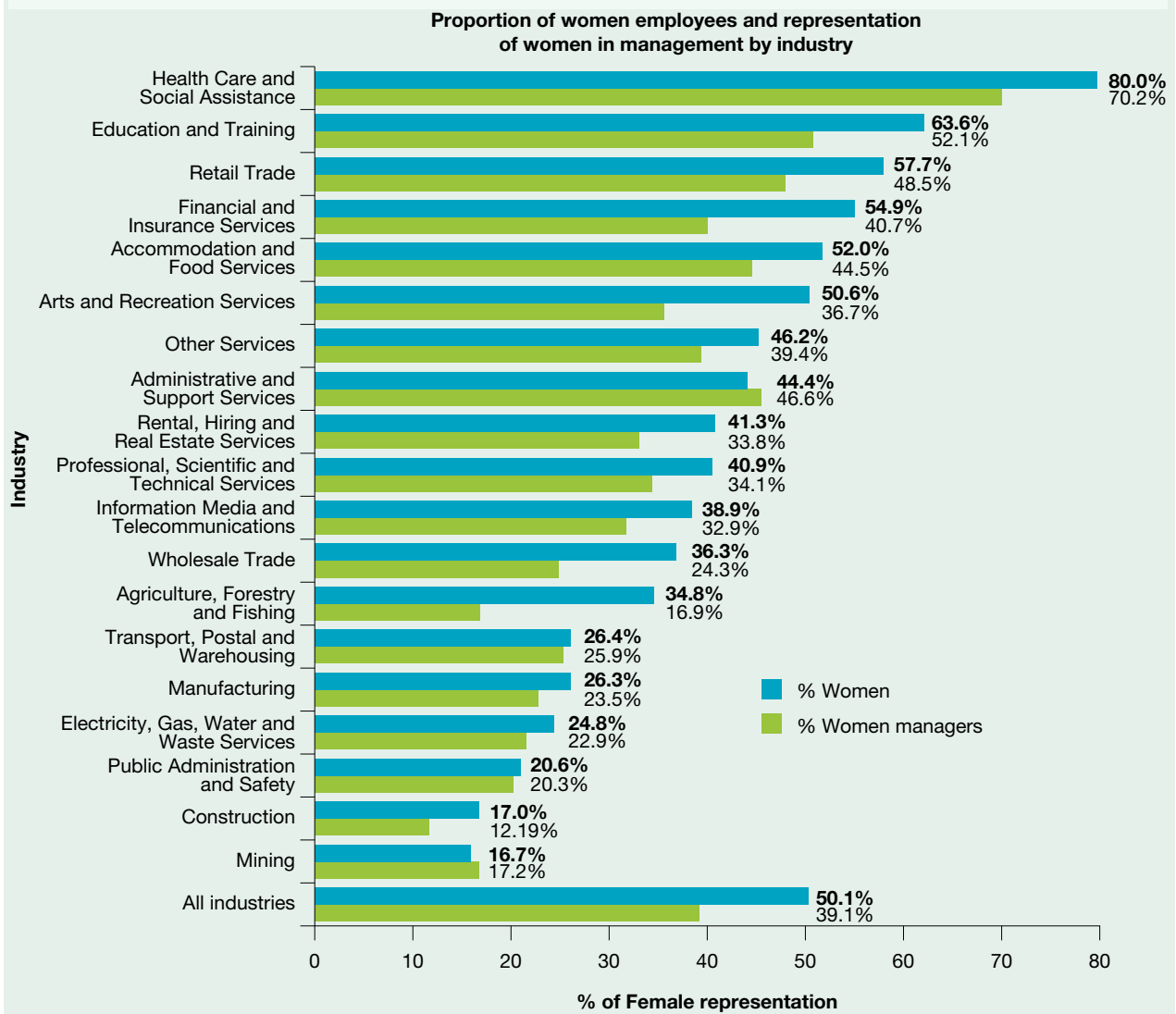
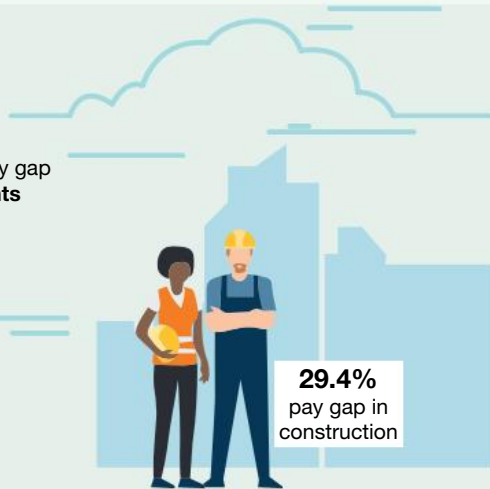


FIGURE 1.33 Gender pay gap.

Over \$25k gender pay gap

Largest single-year drop in the gender pay gap for five years (**down 1.1 percentage points to 21.3%**). Men still take home **\$25 717** a year more than women on average.



Construction pay gap increases

At 29.4%, Construction saw a **2.0pp increase in the gender pay gap**. Financial and Insurance Services still has the highest pay gap (30.3%) although it has declined steadily over the five-year dataset.

FIGURE 1.34 Gender equality at the board table.

Gender balance remains static at the top

Female CEOs increased slightly by 0.6pp to 17.1% and female representation on boards crept up by **0.9pp to 25.8%**



FIGURE 1.35 Employers act on pay equity.

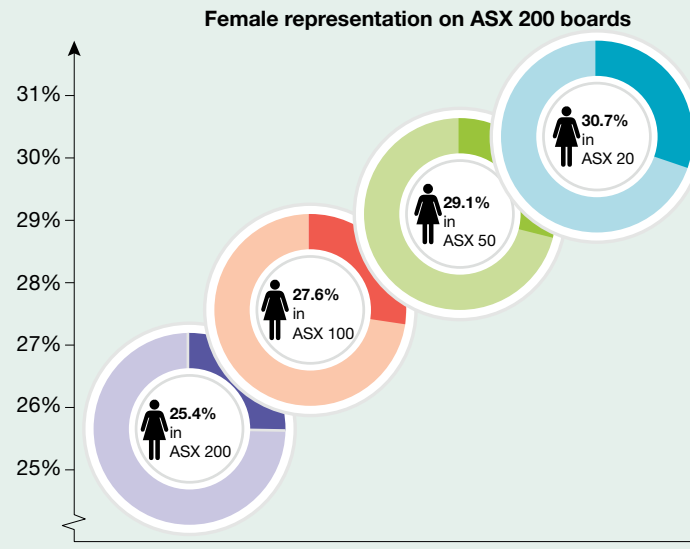


Pay equity analysis on the rise

There was a 4 percentage point increase in organisations analysing pay data (**up to 41.6%**). However, over 40% of those employers took action to close the gap.

Source: (table 1.5 and figures 1.32 to 1.35) Copied from Workplace Gender Equality Agency, *Australia's gender equality scorecard 2017–18* (reporting data November 2018), https://www.wgea.gov.au/sites/default/files/documents/WGEA_2017-18_Gender_Equality_Scorecard.pdf.

FIGURE 1.36 Female representation by percentage on the boards of Australian companies listed on the ASX and classified by company size from firms in the biggest 200 firms to the biggest 20 firms.



Source: Australian Institute of Company Directors: Gender diversity progress report, reproduced in an article by ABC News, see <https://www.abc.net.au/news/2017-08-17/why-boards-need-more-women-to-make-more-money/8809222>.

FIGURE 1.37 Ten numbers that reveal Australia's workplace gender equality challenge

84.6%	CEOs or heads of business that are men. While women make up nearly half the total workforce, their representation declines steadily with each step up the corporate ladder.
24.0%	Overall gender pay gap in favour of men based on total remuneration, which includes salary, superannuation and discretionary pay including bonuses. On average, men working full-time in Australia earn over \$27 000 a year more than women working full time.
35.0%	The gender pay gap in financial and insurance services, the largest pay gap of any industry. While the majority of employees in finance and insurance are women, the top jobs — with their big salaries and bonuses — are dominated by men.
75.1%	Percentage of part-time jobs are held by women, showing that women are much more likely than men to fit work around caring. While women struggle for equal opportunity and reward in the workplace, men struggle to be recognised as carers.
6.3%	Percentage of management roles that are part-time. While more than one in five (22.7%) of non-management roles are part-time, employers aren't embracing non-standard work hours in senior roles—excluding people with caring responsibilities from progressing their careers.
80.4%	Proportion of employees working in healthcare and social assistance that are women. Many Australian industries are dominated by employees of one gender, with 'blue-collar' industries remaining male-dominated and women concentrated in health, education and retail. Female-dominated industries traditionally offer lower pay.
88.3%	Proportion of technicians and tradespeople who are men. It's not just industries which are gender segregated, but occupations too, with three-quarters (74.6%) of clerical and administrative workers being women.
26.3%	Employers who conducted a gender pay gap analysis in 2014–15. This represents an increase since last year and growing awareness that unconscious bias could be affecting pay outcomes.
16.1%	Proportion of companies that have a gender target for their board. With women comprising fewer than one-quarter (23.6%) of directors and one-seventh of chairs (14.2%), targets are a way to help improve gender equality on the governing bodies of corporate Australia.
4 Million	Employees in Australia covered by the Agency's dataset (around 40% of employees in Australia). *Data is collected from non-public sector organisations with 100 or more employees.

Source: Data copied from Workplace Gender Equality Agency website, www.wgea.gov.au.

2 Decision making in markets

2.1 Overview

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2.1.1 Introduction

Australia has a **market-based capitalist economy**, or economic system. A nation's *economy* is simply an institution or organisation designed to coordinate the production and distribution of goods, services and incomes. In this system, the key economic decisions are made through the price or *market-based system* where buyers (consumers or households) and sellers (producers or businesses) negotiate the price for each type of good or service, rather than relying on government direction or planning. In this market system, there is *consumer sovereignty* where households determine the type and quantity of particular types of goods and services they want produced (i.e. they answer the 'what and how much to produce' question). Additionally, most businesses such as shops, farms, mines, factories and banks are privately owned, rather than owned by the government or state. In other words, we also have *private enterprise* or a *capitalist economy*.

Under *market capitalism*, rising or falling prices in thousands of different markets, both in Australia and overseas, provide *price signals* or instructions to the owners of resources. Based on these signals (i.e. positive or negative incentives), the profit-seeking private owners of resources can make important economic decisions (e.g. decide *how to produce* goods and services). The information is designed to help them maximise their profits and incomes. But before we get ahead of ourselves, we need to have a clearer picture in our minds about what markets looks like and how they operate. Essentially, this is the main focus of topic 2.

FIGURE 2.1 Traditionally, markets took place in a particular location where buyers and sellers would meet face to face and negotiate prices through a process of offer and counteroffer. Increasingly, markets are conducted online and may not involve direct contact between buyers and sellers.



2.1.2 What you will learn

KEY KNOWLEDGE

Use each of the following points from the VCE Economics Study Design as a heading in your summary notes.

- the assumptions of a perfectly competitive market system
- the law of demand and the demand curve
- the way non-price factors such as changes in disposable income, the prices of substitutes and complements, preferences and tastes, interest rates, changes in population, consumer sentiment and government intervention, affect demand and the position of the demand curve
- the distinction between a movement along the demand curve and a shift of the demand curve
- the law of supply and the supply curve
- the way non-price factors such as changes in the cost of production, technological change, productivity growth, climatic conditions and government intervention affect supply and the position of the supply curve
- the distinction between a movement along the supply curve and a shift of the supply curve
- effects of changes in demand and supply on equilibrium prices and quantities
- the role of relative prices in the allocation of resources in a market-based economy
- the degree of market power in different markets such as perfect competition, monopolistic competition, oligopoly and monopoly, and the effect on prices, resource allocation and living standards.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- acquire economic information from a range of sources
- construct graphs to represent and interpret economic information
- use economic tools and theories to analyse and predict economic outcomes
- research and synthesise information about a particular market
- apply economic knowledge, concepts and theories to predict the effect of changes in conditions on market outcomes.

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Resources



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2.2 The nature of perfectly competitive and other types of markets in an economy

KEY CONCEPTS

- the assumptions of a perfectly competitive market system
- the degree of market power in different markets such as perfect competition, monopolistic competition, oligopoly and monopoly, and the effect on prices, resource allocation and living standards.

Most countries including Australia have *market economies*. Here, there is heavy reliance on the operation of markets and the price system to make key economic decisions. There are literally thousands of individual *markets* scattered across the country and around the world. For instance, there are markets for property, beauty products, labour, shares, music, cars, money capital, education, health, international currencies or foreign exchange, fish, aviation, telecommunications, education, vegetables, sport and many more. Given the importance of *the market* in most countries like Australia, a closer examination is necessary.

2.2.1 What exactly is a market?

A **market** is simply an institution or organisation where buyers (who create a *demand* for the item) and sellers (who organise the production or *supply* of the item) of a particular good or service negotiate an agreeable or equilibrium price. Often this process involves some haggling or bargaining with offer and counteroffer. This is because buyers want to purchase at the lowest price and sellers want to receive the highest price. However, despite these common features of all markets, there are some differences. For example:

- There are open, legal or free markets, as well as black markets (e.g. for illegal production like non-prescription drugs).
- Some markets can involve face-to-face contact between consumers and producers at a particular location (e.g. the Queen Victoria Market in Melbourne). Increasingly, however, due to the rapid growth of the internet and improvements in telecommunications, individuals participating in a market may never see each other, may live in different countries and may even use different currencies.
- In some markets, the level of business competition or rivalry is strong with hundreds of sellers of a single product (i.e. perfect or pure competition), while in others it is very weak with only one seller (i.e. perfect or pure monopoly).

FIGURE 2.2 Markets are where buyers and sellers meet and negotiate prices through a process of offer and counteroffer for goods or services.



2.2.2 The nature of market power and market structure

As the name suggests, **market power** is basically the *ability of a business to set or control the market price at which it sells its good or service*. The degree of power varies between different market structures. Here, **market structure** is a term that is used to describe the type or nature of competition and power found in different markets.

As shown in figure 2.3, there are *four* main types of market structure found in Australia, each with unique features.

FIGURE 2.3 The four types of market structure reflect the level of competition, market power and other features.

MARKET STRUCTURES			
Stronger competition (little market power)			Weaker competition (much market power)
Pure or perfect competition - Many buyers and sellers in the industry (perhaps hundreds or thousands) - Strong competition - Firms are 'price takers' with little market power to set their prices - No brand names or brand advertising since the product is identical or homogeneous - Perfect knowledge of market conditions exists - Ease of entry and exit by firms because there are no barriers like high start-up costs or government regulation - Closest but not pure examples: some primary products or rural commodities, the share market and property markets	Monopolistic competition - A moderate number of sellers in the industry (possibly between 20 to 40, but cannot say exactly), each selling similar but not identical products to satisfy the same type of want - Quite strong competition - Product or brand name differentiation is important, as is advertising (e.g. style, design, colour, service and image) - Quite good knowledge of market conditions - Moderate ease of entry and exit by new firms because there are few barriers or restrictions - Good examples: clothing manufacturers, retail trade, furniture, and restaurants	Oligopoly - Relatively few but large sellers (usually up to around 8 or 10, but cannot say exactly) control the industry, with some potential for collusion and abuse of market power. Sellers often watch their rivals when setting prices. - Brand and product differentiation are quite important ways of selling, using advertising and development of a certain image - Fairly difficult entry and exit for firms due to high start-up costs and the barriers operated by already well-established companies. - Good examples: supermarkets, banks and oil companies	Pure or perfect monopoly - One seller controls the output of the industry and there is no close substitute product. - No competition in pure monopoly markets since there are no rival sellers - Product differentiation is unimportant - Entry and exit difficult due to high start-up costs and other barriers in the case of natural monopolies (not practical to have many firms selling the product) and well established companies - The firm is a 'price maker' and has a lot of market power given there are no close substitutes or rivals to undercut prices. - Closest, but not pure examples: water companies, electricity transmission, the NBN and airport operators

1. Perfect or pure competition

At one theoretical extreme, some markets are characterised by **perfect or pure competition**. Here, there is strong rivalry between perhaps hundreds or thousands of firms selling an identical product. Individual producers are unable to set their own prices and have little or no market power, and so are called **price takers**. This is common in the markets for agricultural commodities like beef, wheat and apples.

FIGURE 2.4 Business rivals compete to outdo each other and sell a better and more attractive product.



2. Perfect or pure monopoly

At the other theoretical extreme to perfect or pure competition, there are markets involving **perfect or pure monopolies**. Here, a single firm controls the output of an industry. These firms have much market power and are able to set or influence prices. They are called **price makers** and might include the markets for some utilities like water, the only general store in a small town or perhaps even your school canteen!

3. Monopolistic competition

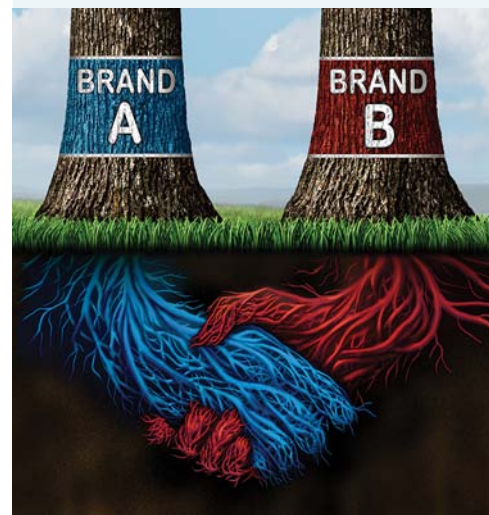
Monopolistic competition involves quite a few firms, perhaps 20, 40 or even more (it is hard to give an exact number), operating in a single industry. However, each firm uses its unique brand name and different product features to sell its items. An example might be the clothing industry or restaurants.

4. Oligopoly

An **oligopoly** exists where several large firms, possibly 5–10 (it is hard to give an exact number), control the output of an industry. Here, selling often depends on brand names and there is the potential for rival producers to secretly collude in an attempt to limit competition and fix prices (although this is illegal under the Australian *Competition and Consumer Act 2010*). Australian examples of oligopolistic markets might include the oil, banking, aviation or grocery markets.

However, of these four types of market structure, many economists argue that perfect or *pure competition* where there is little or no market power is the *ideal*. As we shall soon see in more detail, this is because strong competition can result in lower prices, better quality goods and superior service for consumers; greater *efficiency* in using or allocating our scarce resources; higher levels of production and national output (GDP); and generally better material living standards.

FIGURE 2.5 Sometimes rival companies secretly collude to push prices and profits up at the expense of consumers.



2.2.3 The assumptions of a perfectly competitive market

Given that a perfectly or *purely competitive market* is generally seen as a good thing, the question is ‘what are the *preconditions* that must be met for this type of market to exist?’

- **Strong competition**

There should be strong competition between sellers and buyers in the market, as is found among fruit and vegetable producers. Also, on the producers’ side, no individual supplier should be in a position to actually fix prices, and all producers must sell *identical* products without product differences. With perfect competition, firms are simply *price takers* in the market. Of course, in the real world, pure or *perfectly competitive* markets do not usually exist because all industries have some barriers to entry or there is some product differentiation. Examples like the wheat or share market are only approximate ones. At the other extreme, *perfect monopoly* type markets, where a single firm controls the whole output of an industry, are also rare. The closest examples here might include the NBN, Australia Post or Melbourne Water. More commonly we find *oligopolies* (e.g. cardboard packaging, oil, banking, supermarkets, aviation and power companies) and *monopolistic competition* (e.g. restaurants, retail, clothing manufacture).

- **Ease of entry**

There is limited competition in monopoly or oligopoly-type markets because there are significant *barriers to entry* that restrict the setting up of new competing businesses. A common reason for this is that existing firms are large and well established. New businesses would find start-up costs expensive. In addition, in some industries other barriers exist like government red tape, safety requirements, licensing and paperwork. By contrast, it is generally cheaper and easier for new firms to gain entry into perfectly competitive markets.

- **No product differentiation (homogeneous product)**

Competition is usually more intense when producers are selling identical products not distinguished by brand names, advertising, product appearance or special packaging. That is, the market is for a *homogeneous* product. Hence, the lack of differentiation in the wheat or wool markets more closely approximates perfect competition than is found in the market for products such as designer clothes, petrol or cars.

- **Consumer sovereignty exists**

Consumer sovereignty is where the particular types of goods and services produced (i.e. the ‘what to produce’ question) closely reflect what consumers purchase, rather than this decision being made through government control or the decisions of firms about what to supply.

- **Absence of government controls and restrictions**

The *price system* generally works best when there are no government regulations or restrictions affecting prices or limiting competition in an industry. To be competitive, markets must usually be *free* or *deregulated*.

- **Good or perfect knowledge of the market**

Clearly, the price system can work properly only when both buyers and sellers are fully informed and knowledgeable about current trends in market prices and the features of the products involved. This is because *price signals* coming from the market are used to transmit the decisions of consumers to sellers, who then produce or supply those goods and services that are wanted. A lack of good information by consumers results in poor decisions being made and resources being misallocated.

- **Firms use resources to try and maximise their profits**

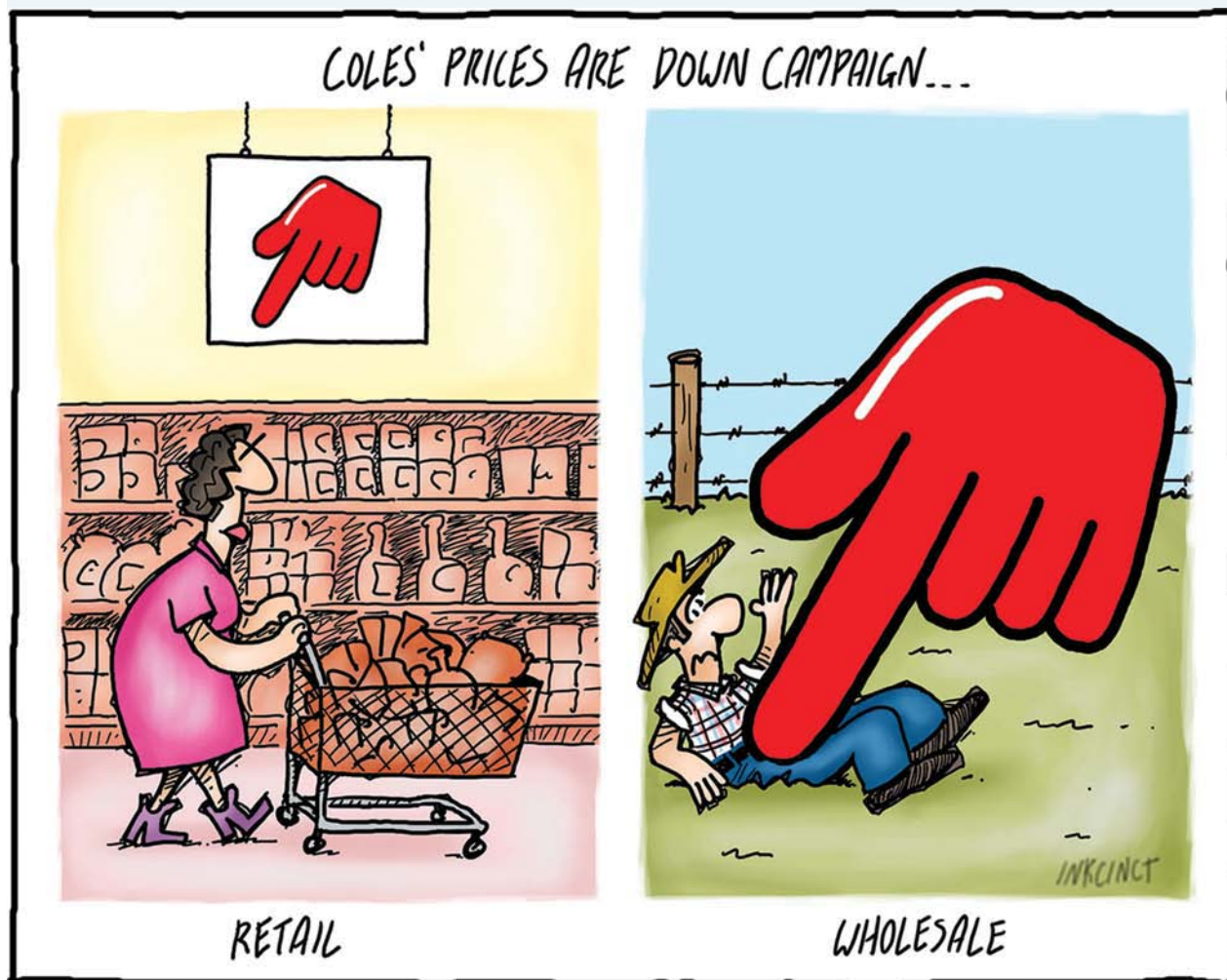
It is assumed that business decisions are mainly motivated by self-interest and a desire to maximise profits and incomes. Therefore, in perfectly competitive markets, the owners of resources should shift their resources from one use to another, in order to reflect changing prices and fortunes in different industries and changes in consumer demand. This requires that there be no major barriers to the entry or exit of firms into or out of an industry. In addition, resources need to be *mobile* so they can be redirected to areas of highest profitability.

- **Consumers behave rationally**

In a perfectly competitive market, it is believed that buyers will behave in a financially rational way to promote their own self-interest, by being attracted by low prices for finished products and discouraged by high prices.

In Australia, it is fairly obvious that most of our markets fail to fully satisfy all these preconditions required for perfect competition. Perhaps the best examples of *almost* perfect competition in Australia are the markets for fruit, vegetables and some rural products, shares and property. However, pure or perfect competition does not exist in markets involving steel, chemical, banking and finance, petroleum, shipping and transport, groceries, cardboard packaging, glass, the post, the broadband network and water supply. Here, *monopolies* and *oligopolies* are more common. Even the general store in isolated small country towns, or your own school canteen, can face little competition in their respective markets.

FIGURE 2.6 Coles supermarkets advertise to say that their retail prices are going down, down, down so the consumer supposedly gets a better deal as a result of competition between supermarkets. However, some people believe that Coles have also used their market power to put enormous pressure on their suppliers and local producers, including farmers, paying them lower prices. If this is the case, it may lead to lower profits for producers and, eventually, business closures for some supermarket suppliers.



2.2.4 The effects of market power and structure

Generally, strong levels of competition in markets are seen as beneficial for several reasons:

- **Competition means higher efficiency in allocating resources.**

Where competition is weak among firms selling in a market, there is often less need to use resources efficiently or keep production costs low in order to survive. By contrast, when there is strong rivalry, businesses are usually lean and are forced to cut their costs and organise production as efficiently as possible. An exception to this general rule is when having a monopoly or even oligopoly operating in a single market allows for mass production. Here, some variable costs per unit of output produced can be lower and spread over higher production volumes. Bigger firms can achieve higher efficiency and gain **economies of large-scale production**.

- **Competition results in lower prices and greater purchasing power of incomes.**

When there are monopolies and competition is weak in various markets, often prices are higher since there is little rivalry between businesses. In addition, firms in an oligopoly-type market are sometimes tempted to collude and use anti-competitive behaviour. This restricts competition, pushes up prices and rips off customers. In turn, higher prices reduce the **purchasing power** of our incomes and lower our

material living standards. In reverse, when there is strong competition between firms battling to survive by improving efficiency, consumers usually enjoy lower prices and improved purchasing power.

- **Competition means better quality goods and services.**

Strong competition in a market usually means that to survive, sellers are forced to ensure that the quality of their goods is equal to or better than those offered by competitors. By contrast, when there are monopolies and oligopolies, customers have little or no choice of products. They must purchase whatever is available and even put up with poor service and reduced consumer satisfaction. However, there may be an exception in a situation where a large monopoly producer uses its size and financial strength to put money into product research and development (R&D) that would otherwise be beyond the reach of small firms. In this case, customers may benefit from weaker competition.

- **Competition means greater output of particular goods and services.**

When competition is weak (and especially when there are monopolies and collusion among oligopoly-type firms with market power), the total supply of goods and services is lower than otherwise due to higher prices being charged. By contrast, strong competition or rivalry in a market (where firms battle to cut costs and be more efficient in their use of resources than their competitors) usually leads to a higher levels of GDP and hence less unemployment of resources.

- **Competition improves international competitiveness of local firms.**

Given that weak competition often leads to lower efficiency and higher prices, it is easy to see how this would undermine the **international competitiveness** of local firms selling their products both here and overseas. In turn, this would tend to decrease Australia's exports and, as a result, reduce our levels of national production and income. Strong competition usually has the opposite effect, improving competitiveness and therefore boosting exports, national production and income.

- **Competition often lifts material wellbeing and living standards.**

Sometimes it is true that limited competition found in oligopoly and monopoly-type markets, may allow firms to become more efficient and cut some costs by gaining better economies of large-scale production. This can allow them to sell their products profitably at a lower price, making them more competitive against foreign rivals, thus creating more jobs, higher incomes and better living standards. Despite this, economists generally believe that strong competition between firms tends to lift efficiency in resource allocation, and boost output, employment, incomes and **material living standards**.

Resources



Weblinks Market structures

Introduction to market structure

Market structures explained

2.2 ACTIVITIES

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Check your understanding

1. What is meant by a *market*?
2. Explain what is meant by the term *market structure*.
3. Identify and outline the main *features* of each of the following types of *market structure*:
 - (a) perfect or pure competition
 - (b) monopolistic competition
 - (c) oligopoly
 - (d) perfect or pure monopoly.

4. Identify and outline *three* important *economic effects* of each of the following types of market structure:
- perfect or pure competition
 - perfect or pure monopoly.

Applied economic exercises

- Define what is meant by an *economic system* or *economy*. (1 mark)
- What type of *economic system* do we have in Australia? Describe the *two* key features of this system. (3 marks)
- Define what is meant by the term a *market* and then name *three* different examples of individual markets found in most cities like Melbourne, Ballarat, Bendigo, Hamilton or Geelong. (3 marks)
- Complete table 2.1 by outlining *five* important differences between perfect or pure competition, monopolistic competition, oligopoly and perfect or pure monopoly, providing *one* example of each type of industry. (Note: Sometimes it is hard to be precise here.) (5 marks)

TABLE 2.1 Features of different market structures

Some features of a particular market	Perfect/pure competition e.g.....	Monopolistic competition e.g.....	Oligopoly e.g.....	Perfect/pure monopoly e.g.....
1. Level of competition or number of firms				
2. Level of product differentiation				
3. General level of efficiency				
4. Level of influence over prices				
5. Likely level of market prices paid by consumers				

- Contrast the terms *price maker* and *price taker*. (2 marks)
- Discuss the main advantages and disadvantages for buyers or sellers operating in markets where businesses have considerable *market power*. (4 marks)
- Look at the following list of single industries or markets found in Australia. Select (and if need be research) any *three* of these, and then describe the *four* most important distinguishing features of each market. (3 marks)

A. Apples at the farm gate	B. Banking	C. Beef cattle
D. Broadband network	E. Cinema	F. Container shipping
G. Labour	H. Lawyers	I. Medical treatment
J. Petrol	K. Rental property	L. Restaurants
M. Retail groceries	N. Shares	O. Telecommunications
P. Water	Q. Wheat	R. Your school's canteen
- Explain *one advantage* and *one disadvantage* that you believe are of particular importance for each of the following market structures, justifying your response:

Market structure	One advantage	One disadvantage
Perfect competition		
Perfect monopoly		

- The Australian aviation market is an oligopoly, with considerable barriers to entry by new rival firms limiting the level of competition. Entry is difficult. Explain what is meant by *barriers to entry* and give examples of the types of barriers applicable to the aviation industry. (8 marks)
- Australian clothing manufacturers operate in a monopolistically competitive market. What is meant by the term *monopolistic competition*? What is the significance of *product differentiation* in this industry and how might this be promoted by manufacturers of swimwear? (2 marks)
- (3 marks)

11. Canola producers attempt to use resources in ways that maximise their profits. Explain what is meant by the term *profit maximisation*. (1 mark)
12. It is possible to get products like snowboards and clothing cheaply using online markets such as eBay. This is partly due to strong competition among sellers. For these products, can you think of *one precondition* that is normally required for buyers in a perfectly competitive market that may *not* be fully met using eBay or other online markets? (2 marks)
13. In general, it is claimed that *strongly competitive markets* in an economy are most likely to help maximise society's material living standards. Explain why this may be the case. (3 marks)

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2.3 BACKGROUND KNOWLEDGE How markets make key economic decisions — the big picture

BACKGROUND KNOWLEDGE

- Overview and introduction to the operation of markets

2.3.1 Overview and introduction to the operation of markets

Australia has a contemporary *market-based capitalist economy* or *economic system*. Among other things, this means that businesses are mostly privately owned and that most important *economic decisions* are made through the free or unregulated interaction of individual buyers and sellers of goods and services in thousands of markets, rather than generally relying on government regulation as still occurs in a few countries like North Korea.

There are *three key economic decisions* or questions that are largely answered through the operation of the price system in our market-based economy:

1. **The ‘what and how much to produce’ question**

Consumers decide what types of goods (e.g. chocolate bars, tourist accommodation, butter, guns) or services (e.g. educational, health, financial, entertainment) will be produced by what they demand or purchase in various markets. As a general rule, firms respond to these instructions from the market or price system by only producing wanted and profitable things.

2. **The ‘how to produce’ question**

The market allows businesses to make key decisions about the specific production methods to be used (e.g. the combinations of labour and capital equipment) to make each good or service. Generally, businesses use the most efficient, lowest cost and most profitable methods to produce goods and services.

3. The ‘for whom to produce’ question

The market helps to make decisions about how the nation’s goods, services and incomes that have been produced will be shared or divided between members of society. Here, people’s incomes and their purchasing power largely depend on the value of their economic contribution, as valued by the market or price system.

FIGURE 2.7 Using robotics and technology is often cheaper for producers than using labour, especially in countries where wage levels are high.



Figure 2.8 illustrates how the market-based system operates to make these three key economic decisions.

FIGURE 2.8 How Australia’s price or market-based system makes key economic decisions and allocates resources between alternative uses

Step 1

Because of **scarcity**, people cannot have all the goods and services they would like. This forces them to choose between satisfying competing wants. In a **market-based economy**, these choices or decisions are made through the operation of the **price system** (also called the **market mechanism**) that involves the forces of **demand** and **supply**.

Step 2

Together, consumers or buyers (**demand**) and producers or sellers (**supply**) negotiate the equilibrium **market price** of each good or service, similar to what occurs in an auction. This establishes **relative prices** — the price level of one good or service compared with that of another. However, when the non-price **conditions affecting buyers** (i.e. demand) and/or non-price **conditions affecting sellers** (i.e. supply) change in the market so there is either a market glut or a market shortage, this causes the equilibrium market price to either rise or fall, creating **price signals**. That act as positive or negative incentives. These signals provide information or instructions to the owners of resources, helping them to make key economic decisions guided by self-interest and their desire to maximise profits.

Step 3

Profit-seeking owners of natural, capital and labour resources watch these **price signals** and use them to help **make key decisions** about how they should allocate resources. The signals help them to select the type and quantity of particular goods or services to produce (‘What and how much to produce?’). They also help them to decide the cheapest, lowest cost and most profitable production methods (‘How to produce?’), as well as deciding how the goods, services and incomes should be shared or distributed (‘For whom to produce?’).

- **If there is a rise in the market price** for a particular good or service, **relative** to the price of other items, the production of this product usually becomes **relatively more profitable**, a positive incentive thus attracting more resources into this type of production (assuming that firms’ production costs or the prices paid for resources have not changed, especially in an upwards direction). In turn, higher profits lead to higher levels of production and income for those in this industry.
- **If there is a fall in the final equilibrium market price** of a particular good or service, **relative** to that for producing other items (assuming there is no change in firms’ production costs or prices paid for resources, especially not downwards), the production of this item becomes **relatively less profitable** (a negative incentive). This tends to repel resources and cut production, along with the incomes of those connected with this industry.

With this general background in mind, we are ready to drill deeper into our study of microeconomics. *Microeconomics looks at how the smaller units like consumers, producers or firms, an individual market, and an industry making up our overall economy behave; what motivates their choices and what are the effects of their decisions.* Our study of microeconomics will involve a closer look at the following areas:

- buyers in a market and the law of demand (the demand curve)
- sellers in a market and the law of supply (the supply curve)

- how market equilibrium is reached
- how new non-price factors or conditions affecting the demand and supply curves alter the equilibrium price and affect the key economic decisions that are made
- changes in the way resources are allocated between different uses.

Economists often use **demand–supply diagrams** or models to better understand how a *competitive market* works, makes *key economic decisions* and *allocates resources efficiently* to help satisfy our many needs and wants. Each diagram represents a competitive market for a single good (e.g. sunglasses) or a specific service (e.g. live entertainment). These diagrams or graphs are especially useful when analysing the impact on market prices of price and non-price factors or conditions that affect the behaviour of buyers (i.e. demanders) and sellers (i.e. suppliers).

FIGURE 2.9 In Australia's market economy, demand and supply help determine prices that, in turn, signal to owners of resources how those productive inputs should be used.



on Resources



Weblinks The market economy
What is a market economy?

2.3 ACTIVITIES

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Check your understanding

1. Outline the main features of Australia's *market capitalist system*.
2. Identify and explain the *three* key economic questions or decisions that must be answered in any economy.
3. What tool do economists use to visually represent the competitive market of a single good?

Applied economic exercises

1. Classify which of the *three* basic economic questions each of the following decisions best represents:

Decision	To which of the three basic economic questions does this decision mostly relate? Briefly justify.
(a) How should a hospital produce its health services?	
(b) Should a farmer produce wheat or lamb?	
(c) How much should a well-known tennis player be paid?	
(d) Should a mining company produce iron ore or coal?	
(e) Should the government pay a subsidy or cash bonus to Tasmanian companies?	

(5 marks)

2. As we now know, the price or *market-based system* operates to decide how most resources are used or allocated in Australia's economy. Given the problem of relative scarcity, explain, step by step, how the market system determines relative prices and how it allocates resources efficiently among competing wants to areas of relatively highest profit or value. (3 marks)

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2.4 The law of demand and movements along the demand curve

KEY CONCEPT

- the law of demand and the demand curve

Buyers or consumers are a really important group in any market. **Demand** in a market occurs when consumers or buyers use their income to purchase a particular quantity of a good or service. They *demand* or want to purchase various goods and services. This group might include consumers like you or me, businesses or even governments. Perhaps the most important thing to note is that buyers in a market are more willing to purchase a good or service at a lower price rather than at a higher price. The price of a product is an important factor affecting how much consumers are prepared to buy. This observation is expressed in the **law of demand**.



2.4.1 The law of demand — how changes in price cause a movement along the demand curve

The *law of demand* simply states that the quantity of a particular good or service that buyers are prepared to purchase varies *inversely* (in the opposite direction) with the change in price, assuming other factors do not change. Hence:

- As the *price increases*, there is a *contraction* in the quantity demanded, causing a movement upwards along the demand line.
- As the *price decreases*, there is an *expansion* in the quantity demanded, causing a movement downwards along the demand line.

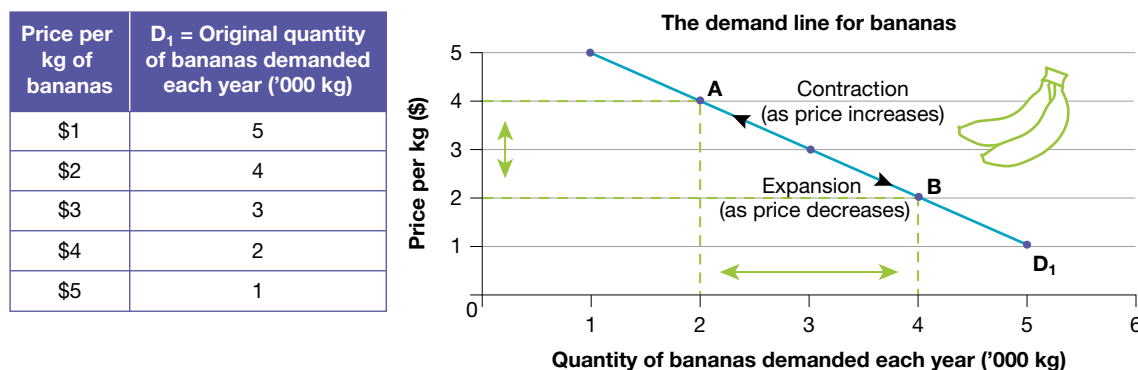
It is hardly surprising that consumers or buyers behave like this, causing the quantity demanded to *contract* or *expand* along the demand curve with a rise or fall in *price*. This is called a **movement along the demand line**. For example, demand contracts as the price rises because the good or service becomes less affordable for most of us and thus fewer people have the necessary money or desire to spend in this way.

By contrast, as the price decreases, demand expands because it is more affordable and tempting for more people.

So what would a demand curve (representing how consumers respond to price) look like if plotted on a graph or diagram where price is located on the vertical axis and quantity on the horizontal axis?

Imagine there was a competitive market for bananas. Using hypothetical data from the table, figure 2.10 graphically illustrates the relationship that exists between the *quantity of bananas demanded* and the *price*. For now, we will assume that the change in the price is the *only* factor affecting the quantity demanded. In other words, all *non-price influences* affecting demand remain constant.

FIGURE 2.10 The demand line showing the law of demand for bananas where the quantity demanded varies inversely with price



Notice that when we plot the quantity demanded at each possible price on a graph (see figure 2.10), the resulting *demand line* for bananas slopes down and to the right. Here it is worth remembering that, for simplicity, this basic demand line has been drawn *straight* rather than *curved* in shape, as might appear in reality. Either way, the line has a negative slope and visually illustrates the *law of demand*:

- A move downward along the demand line (or curve) from point A to point B is called an **expansion in demand**. This movement is only caused by a *fall in price*. In our example, demand *expands* from 2000 kg per year at the price of \$4 per kg (point A) to 4000 kg at the lower price of \$2 per kg (point B).
- In reverse, a move upwards along the demand line (or curve) from point B to point A is called a **contraction in demand** and is only caused by a *rise in price*. In our example, demand *contracts* from 4000 kg per year at a price of \$2 per kg (point B) to only 2000 kg per year at the higher price of \$4 per kg (point A).

It is really important to understand that these movements *along* the demand line (called an *expansion* or *contraction* in the *quantity demanded*) are caused solely by a change in *price*. As mentioned previously, we have assumed that all *non-price factors* have remained constant. We will look at these other factors



shortly. For simplicity, the demand line for bananas has been drawn as a straight line, even though in the real world it would usually be a concave curve (called a demand curve).

While our example here has been the demand for bananas, the same sort of buyer behaviour could be expected for any other good (such as grapes, hot dogs, soft drinks, mobiles, wheat or iron ore) or service (such as financial, medical, ski instruction, gardening or entertainment) in a fairly competitive market.



on Resources

 **Video eLesson** Movement along vs. a shift in the demand curve (eles-3504)

 **Interactivity** Movement along vs. a shift in the demand curve (int-7879)

2.4 ACTIVITIES

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Check your understanding

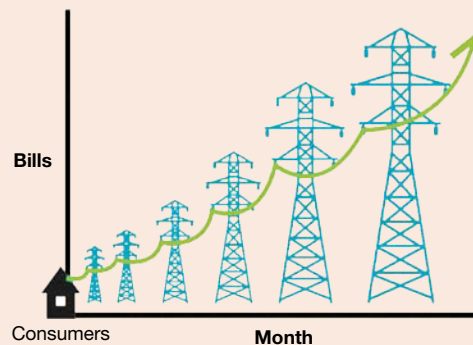
1. Explain each of the following terms.
 - (a) The law of demand
 - (b) A movement along the demand curve or line involving:
 - i. an *expansion* in demand
 - ii. a *contraction* in demand.

Applied economic exercises

Read this background information on Australia's electricity market and answer the questions that follow:

Background: Australia's electricity market

During the last five years or so, there has been much media comment and public discussion about the high cost and rising price of electricity in Australia (often measured in cents per kilowatt hour or kWh). Power prices in the electricity market are determined by the conditions of demand and supply. The demand for electricity comes from households (e.g. for lighting, heating and cooling) and business (e.g. for running equipment and other processes), while supply comes from firms who generate power through a mixture of coal and, increasingly for environmental reasons, through renewable sources such as solar, wind, hydro and geothermal. This has led to the closure of some coal-fired power stations. This market (along with other examples) will be the focus of several sets of applied exercises that are designed to help you develop an understanding of demand, supply, equilibrium and price changes over the next few sections of this topic.



1. The demand for electricity

Examine table 2.2 containing hypothetical data showing the original demand for electricity in the market at various prices.

TABLE 2.2 The original quantity of electricity demanded at various prices in the market

Possible price per kWh (\$)	Original quantity of electricity demanded per day (millions of kWh) at a given price (D_1)
\$0.10	35
\$0.15	30
\$0.20	25
\$0.25	20
\$0.30	15
\$0.35	10
\$0.40	5

- (a) Define what is meant by *the demand for electricity*. (1 mark)
- (b) Using table 2.2, accurately construct and fully label a graph showing the *demand* line or curve for electricity. (3 marks)
- (c) Explain the *law of demand for electricity*, illustrating your response with data drawn from the table. (2 marks)
- (d) Distinguish an *expansion* in demand for electricity from a *contraction* in demand. (2 marks)
- (e) If the price *rises* from \$0.20 to \$0.30 cents per kWh, describe what happens to the quantity of electricity *demand*ed using figures to illustrate your answer. Remember to use the *correct word* reserved for describing this shift *along* the demand curve. (2 marks)
- (f) If the price *falls* from \$0.20 to \$0.10 cents per kWh, describe what happens to the quantity of electricity *demand*ed using figures to illustrate your answer. Remember to use the *correct word* reserved for describing this shift *along* the demand curve. (2 marks)
- (g) Other things remaining unchanged (originally from the Latin, economists call this a *ceteris paribus* assumption; i.e. what happens to demand if nothing else changes other than the price), why does the *demand* for electricity *contract* as the price *rises*, causing a movement *along* the demand curve or line? (1 mark)

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2.5 The law of supply and movements along the supply curve

KEY CONCEPT

- the law of supply and the supply curve

Sellers or producers are also a really important group in any market. They **supply** or sell goods and services, and this group might include both small and large businesses. Perhaps the most important thing to note is that sellers in a market are more willing to supply a good or service at a higher price rather than at a lower price. The price of a product affects how much businesses are prepared to sell. This observation is expressed in the **law of supply**. For now, we will again assume that the change in the price is the *only* factor affecting the quantity supplied and that all *non-price influences* affecting supply remain constant.

2.5.1 The law of supply — how changes in price cause a movement along the supply curve

The *law of supply* simply states that the quantity of a particular good or service that sellers are prepared to supply varies *directly* (in the same direction) with the change in price, assuming other factors do not change. Hence:

- As the *price increases*, there is an *expansion* in the quantity supplied, causing a movement upwards along the supply line.
- As the *price decreases*, there is a *contraction* in the quantity supplied, causing a movement downwards along the supply line.

It is hardly surprising that businesses or suppliers behave like this when the quantity supplied contracts or expands *along* the line following a decrease or an increase in price. This is called a **movement along the supply line** and occurs because it becomes less profitable for producers to sell their product or service at a lower price, rather than selling it at a higher price.

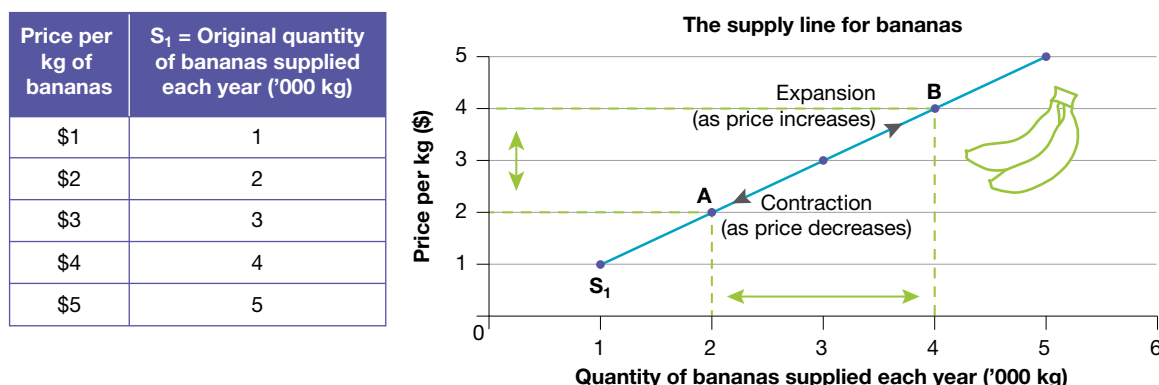
So what would a supply line (representing how sellers respond to price) look like if plotted on a graph where price is located on the vertical axis and quantity on the horizontal axis?

Again, imagine there was a competitive market for bananas. Using hypothetical data from the table, figure 2.11 graphically illustrates the relationship that exists between the *quantity of bananas supplied* and the *price*, remembering that we have assumed that all *non-price factors* that might also influence supply are held constant.

Notice that when we plot the quantity supplied at each possible price on a graph (see figure 2.11), the resulting *supply line* slopes up and to the right. Here it is again worth remembering that, for simplicity, this basic supply line has been drawn *straight* rather than *curved* in shape, as might appear in reality. Either way, the line has a positive slope and visually illustrates the *law of supply*.



FIGURE 2.11 The supply line showing the law of supply for bananas where the quantity supplied varies directly with price



- A move upward along the supply line (or curve) from point A to point B is called an **expansion in supply** and is only caused by a *rise in price*. In our example, the quantity supplied *expands* from 2000 kg per year at the price of \$2 per kg (point A) to 4000 kg at the higher price of \$4 per kg (point B).
- In reverse, a move downwards along the supply line (or curve) from point B to point A is called a **contraction in supply** and is only caused by a *fall in price*. In our example, supply *contracts* from 4000 kg per year at a price of \$4 per kg (point B) to only 2000 kg per year at the low price of \$2 per kg (point A).

Again, it is really important to understand that these movements *along* the supply line (called an *expansion* or *contraction* in the *quantity supplied*) are caused solely by a change in *price*. Again, we have assumed that all *non-price factors* that might influence supply have been held constant. We will look at these non-price factors shortly. For simplicity, the supply line for bananas (see figure 2.11) has been drawn as a straight line, even though in the real world it would usually be a concave curve (called a supply curve).

While our example here has been the supply of bananas, the same sort of seller behaviour could be expected for any other good (such as grapes, hot dogs, soft drinks, sun cream or deodorant) or service (such as financial, health, educational, gardening or entertainment) in a fairly competitive market.

on Resources

- Video eLesson** Movement along vs. a shift in the supply curve (eles-3505)
- Interactivity** Movement along vs. a shift in the supply curve (int-7880)

2.5 ACTIVITIES

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Check your understanding

1. What are *demand–supply diagrams*?
2. What is meant by *supply*?
3. Explain the *law of supply*.
4. Why do sellers behave like this?

Applied economic exercises

Refer again to the background information on Australia's electricity market in the applied economic exercises in subtopic 2.4 to answer these questions.

1. The supply of electricity

Examine table 2.3 containing hypothetical data showing the original supply of electricity in the market at various prices.

TABLE 2.3 The original quantity of electricity supplied at various prices in the market

Possible price per kWh (\$)	Original quantity of electricity supplied per day (millions of kWh) at a given price (\$ ₁)
\$0.10	5
\$0.15	10
\$0.20	15
\$0.25	20
\$0.30	25
\$0.35	30
\$0.40	35

- (a) Define what is meant by *the supply of electricity*. (1 mark)
- (b) Using table 2.3, accurately construct a graph showing the *supply* line or curve for electricity. (3 marks)
- (c) Explain the *law of supply for electricity*, illustrating your response with data drawn from the table. (2 marks)
- (d) Distinguish an *expansion* in the *supply* of electricity from a *contraction* in supply. (2 marks)
- (e) If the price *falls* from \$0.40 to \$0.30 cents per kWh, describe what happens to the quantity of electricity *supplied* using figures to illustrate your answer. Remember to use the *correct word* reserved for describing this shift *along* the supply curve. (2 marks)
- (f) If the price *falls* from \$0.30 to \$0.10 cents per kWh, describe what happens to the quantity of electricity *supplied* using figures to illustrate your answer. Remember to use the *correct word* reserved for describing this shift *along* the supply curve. (2 marks)
- (g) Other things remaining equal, *why* does the *supply* of electricity *expand* as the price *rises*, causing a movement *along* the supply curve or line? (2 marks)

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2.6 Determining the market equilibrium price and equilibrium quantity

KEY CONCEPT

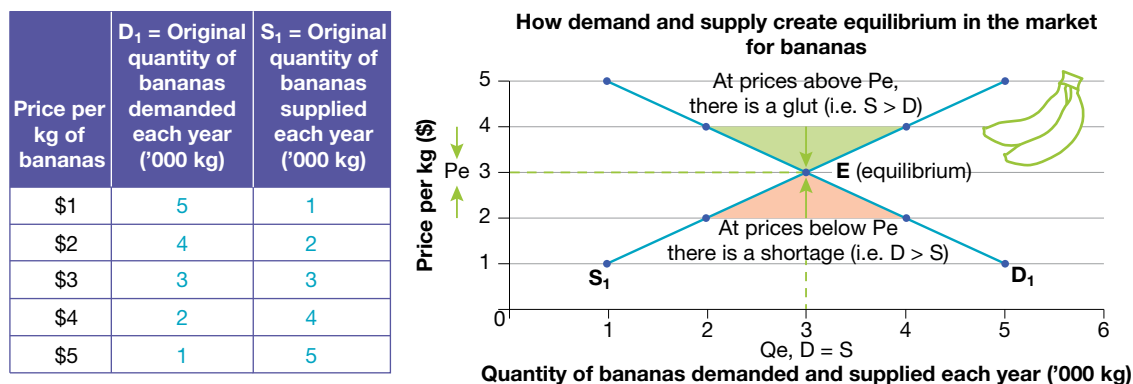
- At equilibrium, the quantity demanded exactly *equals* the quantity supplied and there is no force for further change.

As we have seen, buyers prefer to purchase at a relatively low price, while suppliers prefer to sell at a relatively high price. This apparent conflict of interest or disagreement is resolved by negotiation and haggling — offer and counteroffer — and the operation of a competitive market. Indeed, there is only one price on which both buyers and sellers agree and are reasonably satisfied. This is called the *equilibrium*

market price. At **equilibrium**, the quantity demanded exactly *equals* the quantity supplied and there is no force for further change. The market is currently stable.

As seen in the demand–supply (D–S) graph in figure 2.12, apart from the **equilibrium price** of \$3 per kg of bananas, there is no alternate market price where this compromise can occur. Only at this price are both the quantity demanded and the quantity supplied exactly *equal* — both demand and supply are equal to 3000 kg per year. At equilibrium, both buyers and sellers are happy with the deal and the market is *cleared* so there is neither a *shortage* nor a *surplus*.

FIGURE 2.12 A demand–supply (D–S) graph showing how the free operation of market forces determines the equilibrium price of bananas



The process of actually reaching market equilibrium in a free and competitive market is a simple one:

- **Prices below the equilibrium.** At a very low price for bananas of, say, \$2 per kg, equilibrium cannot occur simply because 4000 kg per year are demanded yet only 2000 kg are supplied. An exceedingly low price like this creates a **market shortage** of 2000 kg, making buyers very unhappy when they go away empty handed. In order for this shortage to be solved, the price of bananas needs to rise. As the price moves upwards, there is a *contraction along the demand line* for bananas, as well as an *expansion along the supply line* (the laws of demand and supply apply here) until this *market shortage* disappears and the market reaches the equilibrium point where the quantity demanded and supplied are exactly equal.
- **Prices above the equilibrium.** Equilibrium is also not possible at an exceedingly high price of, say, \$4 per kg of bananas. The problem here is a **market surplus** or **glut** of 2000 kg. This arises due to a demand of only 2000 kg, compared with the supply of 4000 kg at that price. Sellers would be most unhappy because they have unsold stock that would perish. In a free and competitive market, this problem would soon disappear as the market price falls. A *falling* price would cause an expansion along the demand line for bananas while at the same time there would be a contraction along the supply line causing the *market surplus* to gradually disappear. Market equilibrium would be restored so that the quantities demanded and supplied were again exactly *equal*.

In our analysis so far, we have seen that market forces involving demand and supply determine the actual *equilibrium price* for bananas. However, the same sort of explanation would also apply to the equilibrium price paid for any type of good or service in a competitive market. All competitive markets basically operate in the same way.

on Resources

Video eLesson Supply and demand equilibrium (eles-3500)

2.6 ACTIVITIES

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Check your understanding

1. What is meant by the term *equilibrium*?
2. When does a *market shortage* occur?
3. When does a *market surplus* occur?

Applied economic exercises

Refer again to the background information on Australia's electricity market in the applied economic exercises in subtopic 2.4 to answer these questions.

1. Equilibrium price and quantity in the electricity market
Examine table 2.4 containing hypothetical data showing both the original demand for and the original supply of electricity at various prices in the market.

TABLE 2.4 The original quantities of electricity demanded and supplied at various prices in the market

Possible price per kWh (\$)	Original quantity of electricity demanded per day (millions of kWh) at a given price (D_1)	Original quantity of electricity supplied per day (millions of kWh) at a given price (S_1)
\$0.10	35	5
\$0.15	30	10
\$0.20	25	15
\$0.25	20	20
\$0.30	15	25
\$0.35	10	30
\$0.40	5	35

- (a) Using table 2.4, accurately construct and fully label a combined D–S graph showing the *original demand* (D_1) and the *original supply* (S_1) curves or lines for the electricity market, along with the original *market equilibrium* (E_1). Your labelling must include an appropriate scale and units for each of the two axes (with both scales rising by regular intervals from zero), along with D_1 , S_1 , E_1 , P_1 and Q_1 . **(4 marks)**
- (b) What is meant by *equilibrium* (E_1) in the electricity market? **(1 mark)**
- (c) What is the *equilibrium price* (P_1) for electricity in this market? **(1 mark)**
- (d) What is the *equilibrium quantity* (Q_1) for electricity in this market? **(1 mark)**
- (e) Explain why the price of \$0.10 per kWh is *not* the actual equilibrium market price for electricity. Quote figures from the table to illustrate your response. **(2 marks)**
- (f) Explain why the price of \$0.40 per kWh is also *not* the actual equilibrium market price for electricity. Quote figures from the table to illustrate your response. **(2 marks)**
- (g) At equilibrium, *why* will the price be steady where it neither wants to rise or fall (assuming all other things remain equal or constant)? **(3 marks)**

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2.7 The effects of non-price factors on demand and supply — shifting the D–S curves and changing the equilibrium

KEY CONCEPTS

- effects of changes in demand and supply on equilibrium prices and quantities
- the role of relative prices in the allocation of resources in a market-based economy

Looking around us, we notice that the prices of most goods and services, including bananas, are always changing up and down from week to week and day to day. This is the result of changes in the level of demand and level of supply for each good or service, as buyers and/or sellers react to changing circumstances due to changes in new *non-price* microeconomic *factors* or *conditions* that also affect their economic decisions and the quantity they are prepared to buy or sell at any given price.

- **New non-price demand-side factors or conditions** can cause buyers to purchase a greater or smaller quantity of a particular good or service at all possible prices. This will either shift the position or location of the whole demand line on a diagram horizontally to the right of the original line (showing an *increase in the quantity demanded at all possible prices*), or to the left (showing a *decrease in the quantity demanded at all possible prices*).
- **New non-price supply-side factors or conditions** can cause sellers to produce a greater or smaller quantity of a particular good or service at all possible prices. This will either shift the position of the whole supply line on a diagram horizontally to the right of the original line (showing an *increase in the quantity supplied at all possible prices*), or to the left (showing a *decrease in the quantity supplied at all possible prices*).

By altering the position of the demand line and/or the position of the supply line, changes in *non-price* microeconomic *factors* or *conditions* of demand or supply will bring about a change in **relative prices** (i.e. the price level of one particular good or service relative to that of another). This change in relative price also has a knock-on effect and alters the **relative profits** of producing a particular good or service. A higher equilibrium price that makes it relatively more profitable (a positive incentive) will normally attract more resources to be allocated to the production of this product, while a fall in the equilibrium price will usually cause fewer resources to be allocated to the production of this item due to relatively lower profits (a negative incentive). In so doing, it causes scarce resources to be *reallocated* among competing uses by their profit-seeking owners.

2.7.1 How changes in non-price factors can shift the position of the whole demand curve

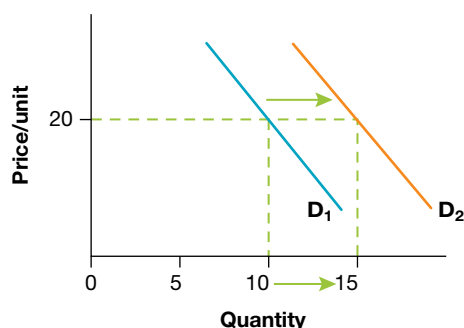
Changes in non-price factors can shift the position of the whole demand curve, affecting both the equilibrium price and quantity. Figure 2.13 reveals that there are a number of common *non-price* microeconomic **factors** or **conditions of demand** that might either *increase* or *decrease* the quantity of a particular good or service that buyers are prepared to demand *at a given price*. On a demand–supply diagram, these factors or conditions cause a **shift in the position of the demand line** for a good or service horizontally to the right or to the left of the original line.

New non-price factors can increase the quantity demanded (D_1 to D_2) at a given price:

- When non-price conditions of demand *strengthen*, increasing the quantity of a particular good or service that buyers are willing to purchase at any given price (e.g. an increase in demand at \$3 per kg for bananas), the whole demand line for the market will shift *outwards horizontally and to the right* of the original line (a shift from D_1 to D_2).

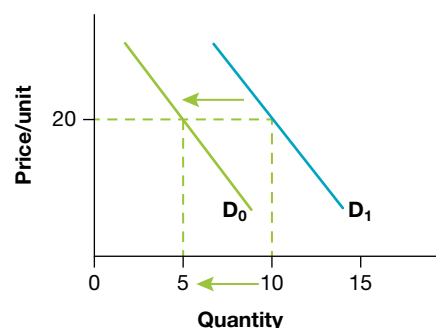
FIGURE 2.13 Non-price microeconomic factors or conditions that cause the quantity of a good or service demanded at a given price to increase or decrease, shifting the position of the whole demand line

Non-price conditions can *increase* the quantity demanded at a given price (shifting the whole line from D_1 to D_2).



This diagram shows an increase in the quantity demanded (D_1 to D_2) at a price of \$20, from 10 units to 15 units.

Non-price conditions can *decrease* the quantity demanded at a given price (shifting the whole line from D_1 to D_0).



This diagram shows a decrease in the quantity demanded (D_1 to D_0) at a price of \$20, from 10 units to 5 units.

A rise in disposable income (income available for spending after receiving welfare and paying income tax) usually increases the quantity of a good or service demanded at a given price.

A fall in disposable income. A fall in disposable income usually decreases the quantity of a good or service demanded at a given price.

An increase in population size. Generally, a rise in population, perhaps due to immigration or higher birth rates, will increase the quantity of most goods or services demanded at a given price.

A decrease in population size. Generally, a decline in population, perhaps due to the ageing of the population, might decrease the quantity of some goods or services demanded at a given price (e.g. pop music).

More fashionable and trendy. Over time, some goods and services become more fashionable, perhaps as a result of new technology and slick advertising (e.g. the latest iPhone). This increases the quantity of most goods or services demanded at a given price.

Less fashionable. Over time, some goods and services become less fashionable. The quantity demanded by consumers at a given price declines (e.g. DVD players).

A drop in interest rates paid on borrowed credit. Some people and businesses need to borrow credit from banks and pay interest rates, in order to purchase expensive goods or services. When interest rates are lower and borrowing is cheaper, the quantity of most goods or services demanded at a given price increases (e.g. a house, car or electrical appliances, and holidays).

Higher interest rates paid on borrowed credit. Generally, higher interest rates will lower the quantity of most goods or services demanded at a given price.

A substitute becomes dearer. Substitutes are a particular good or service that can be easily replaced by another (e.g. margarine is a substitute for butter and cotton for wool) so the price of one affects the demand for the other. For instance, when the price of margarine becomes dearer, the demand for butter is likely to increase.

A substitute becomes cheaper. When the price of a substitute product like cotton becomes cheaper, the demand at any given price for the other product like wool decreases, as people switch between products.

A complementary good or service becomes cheaper. Complementary goods and services are those used or bought at the same time as another item (e.g. cars and fuel). Hence, when the price of one complement falls, the demand for the other complementary good is likely to rise (e.g. a fall in petrol prices leads to a rise in the demand for larger 4WD vehicles).

A complementary good or service becomes dearer. When the price of one complementary good or service rises, there is usually a decrease in the demand for the other complementary product (e.g. the price of coffee rises and the demand for sugar decreases) at a given price.

Higher levels of consumer or business confidence.

Confidence levels relate to how households and businesses feel about their future economic situations. For instance, when households are feeling more confident or optimistic, they often purchase a greater quantity of some types of goods and services at a given price (e.g. luxury cars and holidays).

Lower levels of consumer or business confidence.

Consumer or business pessimism about the future is often reflected in a decrease in the demand for some types of goods (e.g. appliances and beauty products) or services (e.g. entertainment and restaurants) at any given price.

The onset of summer or winter. In summer, the demand for some products at a given price increases (e.g. ice cream, surfboards and air conditioners). Furthermore, the onset of winter might see a rise in the demand for other types of goods or services at a given price (e.g. snow skis, cough medicine, doctors, electric blankets, footballs and woollen jumpers).

The onset of summer or winter. The onset of winter might see a decrease in the demand for some goods or services at a given price (e.g. air conditioners). Additionally in summer, the demand for other goods and services at a given price might decrease (e.g. beach towels and insect repellent).

New government policies. Sometimes, new government policies can lead to a rise in the demand for particular goods or services. For instance, a rise in government transport spending might bring about an increase in the demand for building and road making materials. Sometimes, too, the government uses cash subsidies or payments to encourage households to increase their demand for socially beneficial items (e.g. solar panels and rainwater tanks).

New government policies. Sometimes, new government policies can lead to a decrease in the demand for a socially harmful good or service at a given price (e.g. laws making it illegal for young people to purchase alcohol).

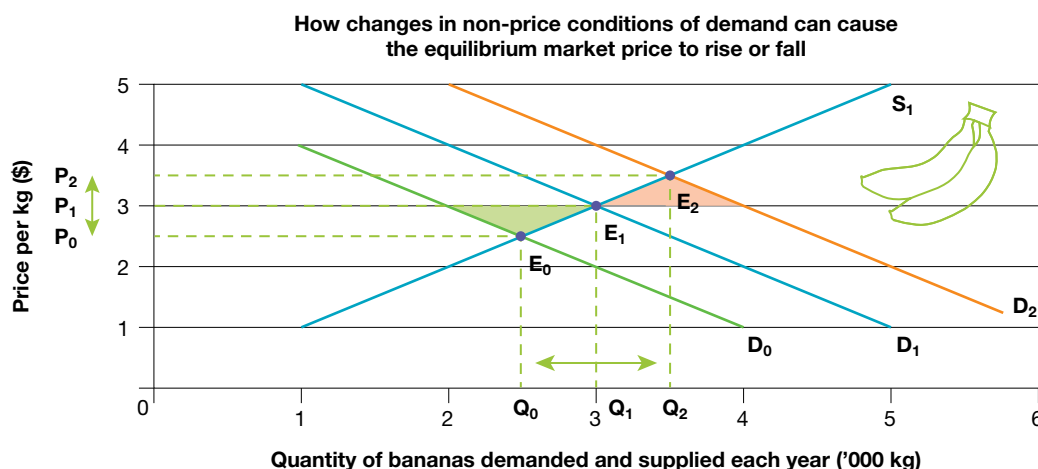
- Let us return to the example of the banana market as shown in figure 2.13. When the demand for bananas at a given price *increases* due to new stronger conditions (perhaps due to more consumers wanting a healthy snack; an increase in disposable income; population growth; or successful advertising by banana growers), this shifts the position of the whole demand line horizontally to the right of the original line, from D_1 to D_2 . As a result, there is a rise in the equilibrium price of bananas from \$3 (at P_1) to \$3.50 a kg (at P_2). This rise in the equilibrium price is necessary to clear the *market shortage* (see the triangular area shaded red, where the quantity demanded exceeds the quantity supplied) that would otherwise exist if the price had remained at \$3. As the price rises towards \$3.50, demand *contracts* while supply *expands* (the normal operation of the laws of demand and supply) until the new higher equilibrium price (P_2) is reached where demand again equals supply. Notice also that there is a rise in the equilibrium quantity from 3000 (at Q_1) to 3500 kg a year (at Q_2). These new equilibria will prevail in the market unless non-price conditions of demand again change.

New non-price factors can also decrease the quantity demanded (D_1 to D_0) at a given price:

- When non-price conditions of demand *weaken*, decreasing the quantity of a particular good or service that buyers are willing to purchase at any given price (e.g. a decrease in demand at \$3 per kg for bananas), the whole demand line for the market will shift *inwards horizontally and to the left* of the original line (a shift from D_1 to D_0).
- Returning to the banana market and figure 2.13, when the demand *decreases* due to new weaker conditions (perhaps due to the onset of winter; advertising by pineapple growers; a drop in income; or poorer quality fruit), this shifts the position of the whole demand line left, from D_1 to D_0 . As a result, there is a fall in the equilibrium price of bananas from \$3 (at P_1) to just \$2.50 a kg (at P_0). This fall in the equilibrium price is necessary to clear the *market glut* or surplus (see the triangular area shaded green, where the quantity supplied exceeds the quantity demanded) that would otherwise exist if the price had remained at \$3. As the price drops towards \$2.50, demand *expands* while supply *contracts* (the normal operation of the laws of demand and supply) until the new lower equilibrium price (P_0) is reached where the quantity demanded again equals the quantity supplied. Notice also that there is a fall in the equilibrium quantity from 3000 (at Q_1) to 2500 kg a year (at Q_0). These new equilibria will prevail in the market unless non-price conditions of demand again change.

FIGURE 2.14 How changes in microeconomic non-price conditions of *demand* can increase or decrease the quantity demanded at any given price, shifting the whole demand line horizontally and causing the equilibrium market price to either rise or fall

Price per kg	D ₁ = Original quantity of bananas demanded each year ('000 kg)	D ₂ = New increased quantity of bananas demanded each year ('000 kg)	D ₀ = New decreased quantity of bananas demanded each year ('000 kg)	S ₁ = Original quantity of bananas supplied each year ('000 kg)
\$0				
\$1	5	6	4	1
\$2	4	5	3	2
\$3	3	4	2	3
\$4	2	3	1	4
\$5	1	2		5



2.7.2 How changes in non-price factors can shift the position of the whole supply curve

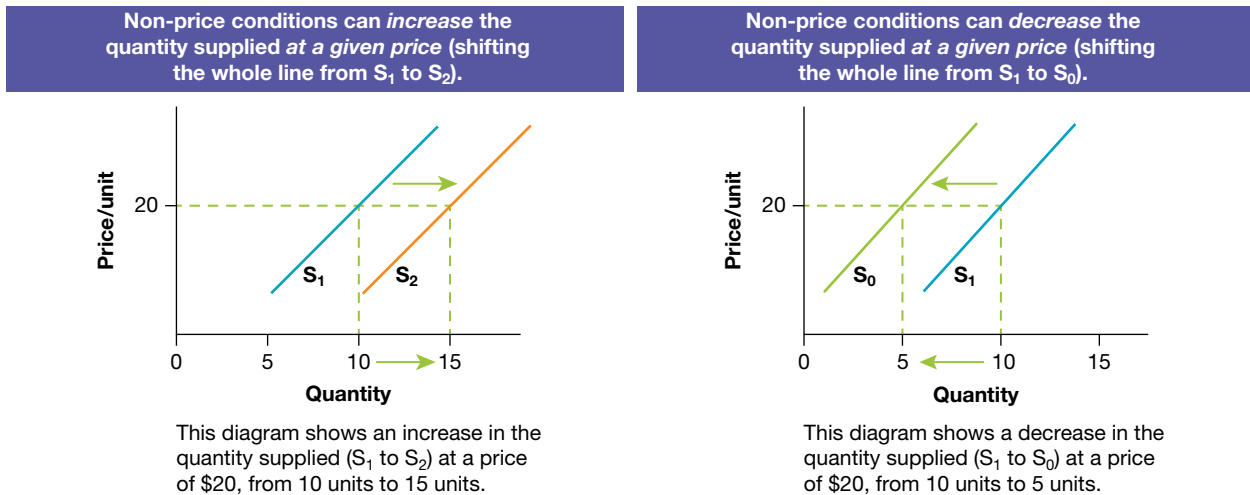
In the same way as buyers react to changing circumstances, sellers also respond to variations in *non-price* microeconomic **factors** or **conditions of supply**. These might either increase or decrease the quantity of a particular good or service that sellers are prepared to supply *at a given price*. On a demand–supply diagram, these new non-price conditions cause a **shift in the position of the supply line** horizontally to the right or to the left of the original line. Figure 2.15 shows that there are a number of common *non-price supply-side conditions*.

New non-price factors can *increase the quantity supplied* (S_1 to S_2) at a given price:

- When non-price conditions of supply *strengthen or become more favourable*, there is an increase in supply or the quantity of a particular good or service that sellers are willing to produce at a given price (e.g. an increase in supply at \$3 per kg for bananas). The whole supply line for the market will shift *outwards horizontally and to the right* of the original line (a shift from S_1 to S_2).
- Let us return again to the example of the banana market as shown in figure 2.16. When the supply of bananas *increases* due to new, more favourable conditions (perhaps reflecting the effects of ideal growing conditions for farmers, or lower costs and better profits), this shifts the position of the whole supply line outwards horizontally and to the right, from S_1 to S_2 . As a result, there is a fall in the equilibrium price of bananas from \$3 (at P_1) to just \$2.50 a kg (at P_2). This fall in the equilibrium price is necessary to clear the *market glut* or surplus (see the triangular area shaded green, where the quantity supplied exceeds the quantity demanded) that would otherwise exist if the price had remained at \$3. As the price falls towards \$2.50, supply *contracts* and demand *expands* (the normal operation of the laws of demand and supply) until the market comes to rest at the lower *equilibrium price* (P_2). In

addition, the *equilibrium quantity* rises from 3000 kg (at Q_1) to 3500 kg a year (at Q_2). These new equilibria will continue to exist unless non-price conditions of supply again change.

FIGURE 2.15 Non-price microeconomic factors or conditions that cause the quantity of a good or service supplied at a given price to increase or decrease, shifting the position of the whole supply line



Resources used by businesses become cheaper.

Businesses need to purchase natural, labour and capital resources in order to make goods and services. These represent production costs. When costs are cheaper, this makes production more favourable and profitable for businesses. It often causes firms to increase their quantity of a good or service supplied at any given price.

Resources used by businesses become dearer.

When production costs become dearer for businesses, this is less favourable and profitable for firms, causing them to decrease their quantity supplied at any given price.

Increased efficiency. The use of improved technology like automated warehouses, robotics on an assembly line and online trading in an industry, often lifts efficiency, cutting unit production costs. This usually makes firms more willing and able to increase their supply at any given price.

Decreased efficiency. A drop in the efficiency of workers in an industry, or in the productivity of other resources used, will often lead to higher business costs. This is likely to decrease the supply of a particular good or service at any given price.

More favourable climatic conditions. Climatic conditions affect farmers supplying crops. Favourable weather conditions means that more output per hectare can be produced, at lower unit costs. This increases the quantity of some rural commodities supplied (e.g. wheat, beef, barley, fruit and vegetables) at any given price.

Unfavourable climatic conditions. Severe weather events, such as cyclones, floods and drought, tend to reduce efficiency and the supply of some fruit, vegetables and other crops. Floods can also hamper mining extraction operations and destroy infrastructure needed to transport minerals to terminals. This can decrease the quantity supplied at a given price.

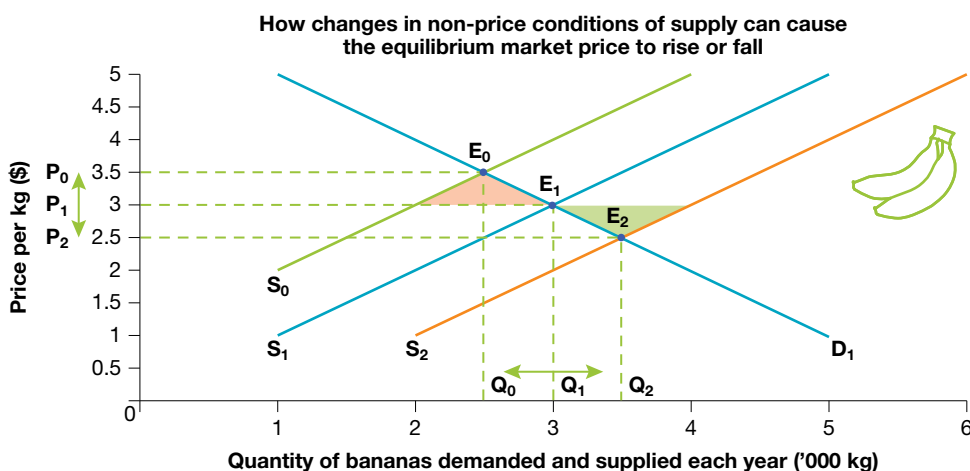
New non-price factors can also decrease the quantity supplied (S_1 to S_0) at a given price:

- When non-price conditions of supply *weaken or become less favourable*, this decreases the quantity of a particular good or service that sellers are willing to produce at a given price (e.g. a decrease in supply at the price of \$3 per kg for bananas). This causes the whole supply line for the market to shift *inwards horizontally and to the left* of the original line (a shift from S_1 to S_0).
- Let us return yet again to the example of the banana market shown in figure 2.16. When the supply of bananas *decreases* at a given price due to new, less favourable conditions (perhaps reflecting the effects of severe drought; the effect of a cyclone; or higher production costs for farmers), this shifts the position of the whole supply line horizontally to the left, from S_1 to S_0 . As a result, there is a rise in the equilibrium price of bananas from \$3 (at P_1) to \$3.50 a kg (at P_0). This rise in price is necessary to

clear the *market shortage* (see the triangular area shaded red, where the quantity demanded exceeds the quantity supplied) that would otherwise exist if the price had remained at \$3. As the price rises towards \$3.50, supply *expands* and demand *contracts* (the normal operation of the laws of demand and supply) until the market comes to rest at the higher *equilibrium price* (P_0). In addition, the *equilibrium quantity* falls from 3000 kg (at Q_1) to 2500 kg a year (at Q_0). These new equilibria will continue to exist unless non-price conditions of supply again change.

FIGURE 2.16 How changes in microeconomic non-price conditions of *supply* can increase or decrease the quantity supplied at any given price, shifting the whole supply line and causing the equilibrium market price to either rise or fall

Price per kg	S_1 = Original quantity of bananas supplied each year ('000 kg)	S_2 = New increased quantity of bananas supplied each year ('000 kg)	S_0 = New decreased quantity of bananas supplied each year ('000 kg)	D_1 = Original quantity of bananas demanded each year ('000 kg)
\$0				
\$1	1	2	0	5
\$2	2	3	1	4
\$3	3	4	2	3
\$4	4	4	3	2
\$5	5	6	4	1



on Resources

Video eLesson Using supply and demand curves to predict price changes (eles-3503)

2.7 ACTIVITIES

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Check your understanding

1. What are non-price microeconomic *conditions of demand*?
2. What are non-price microeconomic *conditions of supply*?
3. How might changes in non-price microeconomic conditions affect demand and supply, and the *equilibrium market price and quantity*?

Applied economic exercises

Refer again to the background information on Australia's electricity market in the applied economic exercises in subtopic 2.4 to answer these questions.

1. Changes in non-price conditions of demand and/or supply in the electricity market:

Market theory suggests that the sharp rise in electricity prices in recent times reflects the effects of new non-price microeconomic conditions that have increased the quantity demanded relative to the quantity supplied or available.

Examine table 2.5 containing hypothetical data showing both the original demand (D_1) for and the original supply (S_1) of electricity at various prices in the market. The table also includes another set of data showing an *increase* in the quantity of electricity demanded at various prices, reflecting new stronger *non-price microeconomic conditions of demand* (called D_2). These will shift the position of the original demand curve or line (from D_1 to D_2).

TABLE 2.5 The original quantities of electricity demanded and supplied, plus the new increased quantity demanded, at various prices in the market

Possible price per kWh	Original quantity of electricity demanded per day (millions of kWh) at a given price (D_1)	Original quantity of electricity supplied per day (millions of kWh) at a given price (S_1)	New increased quantity of electricity demanded per day (millions of kWh) at a given price (D_2)
\$0.10	35	5	40
\$0.15	30	10	35
\$0.20	25	15	30
\$0.25	20	20	25
\$0.30	15	25	20
\$0.35	10	30	15
\$0.40	5	35	10

- (a) Using table 2.5, accurately construct and fully label a combined D–S graph showing the *original demand* (D_1) and the *original supply* (S_1) curves or lines for the electricity market, along with the original *market equilibrium* (E_1). Your labelling must include an appropriate scale and units for each of the two axes (with both scales rising by regular intervals from zero), along with D_1 , S_1 , E_1 , P_1 and Q_1 .

On the same graph, plot and label a second demand curve or line (called D_2), the new equilibrium price (called P_2) and the new equilibrium quantity (called Q_2). Notice how the *new non-price demand conditions* that increased the quantity demanded at a given price have shifted the whole demand line horizontally to the *right* of the original line (from D_1 to D_2).

(5 marks)

- (b) Explain what is meant by an *increase in the demand for electricity*. (1 mark)
- (c) List and outline *three* hypothetical non-price microeconomic events or factors that could increase, or have actually increased, the quantity of electricity demanded in Australia at all possible prices from D_1 to D_2 . (3 marks)
- (d) Quoting figures from your diagram, what happened to the *equilibrium price* and *equilibrium quantity* of electricity in this market following the increase in demand from D_1 to D_2 ? (2 marks)
- (e) Referring to relevant parts of your diagram, clearly describe the main *steps* whereby there was a move in equilibrium from E_1 to E_2 . For instance, why did the equilibrium price of electricity change from P_1 to P_2 ? (4 marks)

Examine table 2.6 containing hypothetical data showing both the original quantities of electricity demanded and supplied at various prices in the market, with another set of data showing the effects of new and weaker non-price conditions that *decrease* the quantity supplied at any given price.

TABLE 2.6 The original quantities of electricity demanded and supplied, plus the new decreased quantity supplied, at any given price in the market

Possible price per kWh	Original quantity of electricity demanded per day (millions of kWh) at a given price (D_1)	Original quantity of electricity supplied per day (millions of kWh) at a given price (S_1)	New decreased quantity of electricity supplied per day (millions of kWh) at a given price (S_0)
\$0.10	35	5	0
\$0.15	30	10	5

TABLE 2.6 (continued)

Possible price per kWh	Original quantity of electricity demanded per day (millions of kWh) at a given price (D_1)	Original quantity of electricity supplied per day (millions of kWh) at a given price (S_1)	New decreased quantity of electricity supplied per day (millions of kWh) at a given price (S_0)
\$0.20	25	15	10
\$0.25	20	20	15
\$0.30	15	25	20
\$0.35	10	30	25
\$0.40	5	35	30

- (f) Using table 2.6, accurately construct and fully label a combined D–S graph showing the *original demand* (D_1) and the *original supply* (S_1) curves or lines for the electricity market, along with the original market equilibrium (E_1). Your labelling must include an appropriate scale and units for each of the two axes (with both scales rising by regular intervals from zero), along with D_1 , S_1 , E_1 , P_1 and Q_1 .

On the same graph, plot and label a second supply curve or line (called S_0) to show the effects of a reduced supply of electricity on the new equilibrium price (called P_0) and equilibrium quantity (called Q_0). Notice how the *new non-price supply conditions* that decreased the quantity supplied at a given price have shifted the whole supply line to the *left* of the original line (from S_1 to S_0).

(5 marks)

- (g) Explain what is meant by decrease in the supply of electricity.

(1 mark)

- (h) List and outline two hypothetical non-price microeconomic events or factors that could decrease, or have actually decreased, the quantity of electricity supplied in Australia at all possible prices from S_1 to S_0 .

(2 marks)

- (i) Quoting figures from your diagram, what happened to the equilibrium price and equilibrium quantity of electricity in this market following the decrease in supply from S_1 to S_0 ?

(2 marks)

- (j) Referring to relevant parts of your diagram, clearly describe the main steps whereby there was a move in equilibrium from E_1 to E_0 . For instance, why did the equilibrium price of electricity change from P_1 to P_0 ?

(4 marks)

2. Non-price conditions or factors can affect the quantity of a particular good or service demanded or supplied at a given price.

- (a) For each of the following markets, list the *two* most important non-price factors or conditions that could *change the quantity demanded at any given price*, shifting the position of the demand line and therefore causing either a rise or fall in the market equilibrium price:

Market	Non-price factors or conditions that change the quantity demanded at a given price, horizontally shifting the whole demand line
i. Property	
ii. Hospitals	
iii. Surfboards	
iv. Wool	
v. Travel	

Market	Non-price factors or conditions that change the quantity demanded at a given price, horizontally shifting the whole demand line
vi. Labour	
vii. Electricity	
viii. Butter	
ix. Milk	
x. Smart phones	

(20 marks)

- (b) For each of the following markets, list the *two* most likely non-price factors or conditions that could *change the quantity supplied at any given price*, shifting the position of the supply line and therefore causing either a rise or fall in the market equilibrium price:

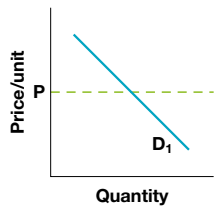
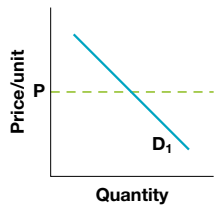
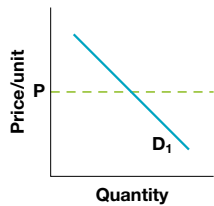
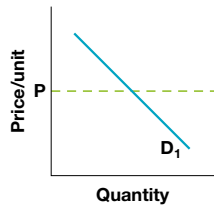
Market	Non-price factors or conditions that change the quantity supplied at a given price, horizontally shifting the whole supply line
i. Canola	
ii. Doctors	
iii. Iron ore	
iv. Bananas	
v. Workers	
vi. Cars	
vii. Houses	
viii. Televisions	

(16 marks)



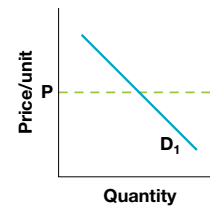
3. The quantity of a particular good or service demanded at a given price is affected by changing prices in the market for a substitute product or in the market for a *complementary* good or service. In other words, markets for *substitutes* or those for complements are linked to that of the original product or service.
- (a) Explain what is meant by a *substitute* product. (1 mark)
- (b) Explain what is meant by a *complementary* good or service. (1 mark)
4. For each pair of markets shown in table 2.7:
- (a) Indicate whether the two products are *substitutes* or *complements*.
- (b) Complete each small demand diagram to show the effect of a new non-price factor on the original demand line for a substitute or a complement. (10 marks)

TABLE 2.7 The impact on the quantity demanded at a given price of events affecting substitutes and complements

a. Substitutes or complements?	b. Effect on the demand for the substitute or complement
i. Butter and margarine are called -----	Effect of a rise in the price of butter on the demand for margarine: 
ii. Coffee and sugar are called -----	Effect of a rise in the price of coffee on the demand for sugar: 
iii. Petrol and cars are called -----	Effect of a fall in the price of petrol on the demand for cars: 
iv. Beef and chicken are called -----	Effect of a fall in the price of chicken on the demand for beef: 

v. Coal-fired and solar power are called

Effect of a government subsidy for households installing solar panels on the price of coal-fired electricity:

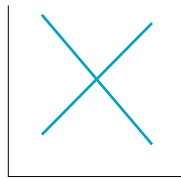


5. Download the D–S diagrams as a digital document from the Resources tab and use this to complete the question. Complete and fully label the D–S diagrams in figure 2.17, each representing a single competitive market, to show the hypothetical effects of an event that alters the non-price conditions of demand and/or conditions of supply, thereby changing the equilibrium price and quantity. In most cases, you will need to add a second D line (D_2) or a second S line (S_2), along with a new equilibrium price (P_2) and quantity (Q_2).

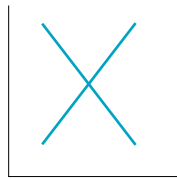
(18 marks)

FIGURE 2.17 The impact of new non-price factors in single markets on demand–supply diagrams

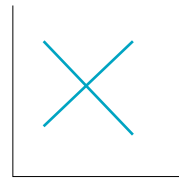
The effect on the market for raspberries of the ending of the growing season



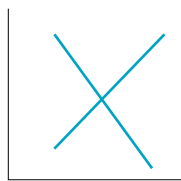
The effect on the market for plastic swimming pools of a heatwave



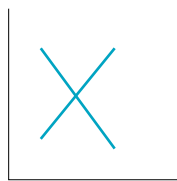
The effect on the market for caged eggs of a successful advertising campaign by the RSPCA



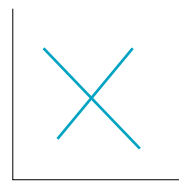
The effect on the market for coal of a slowdown in global economic growth



The effect on the market for synthetic fibres (like polyester used in clothing) of a fall in oil prices



The effect on the market for hotel rooms here and overseas of a rise in consumer confidence



The effect on the market for alcohol of an increase in the government excise tax on sellers



The effect on the market for health care of a rise in the birth rate



The effect on the market for solar panels of an increase in the government subsidy to sellers



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on Resources

 **Digital document** D–S diagrams (doc-32817)

2.8 How changes in relative market prices and profits can affect Australia's resource allocation

KEY CONCEPTS

- effects of changes in demand and supply on equilibrium prices and quantities
- the role of relative prices in the allocation of resources in a market-based economy

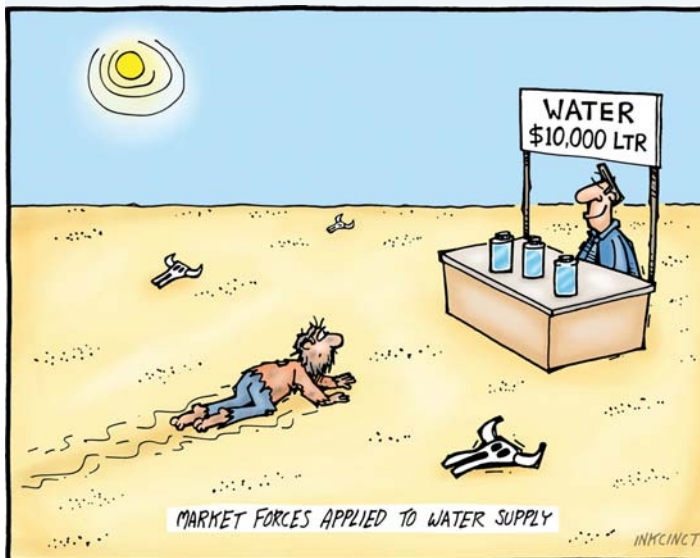
In this section we continue our examination of the operation of the price system by again making the connection between a change in the *relative price* of one good or service against another, and how this affects the *economic decisions* affecting Australia's *allocation of scarce resources* between alternative uses.

You may recall that all economies face the basic economic problem of relative scarcity. Because not all wants can be satisfied, we must make choices and answer *three* important economic questions:

- *What type and quantity* of goods and services should be produced?
- *How* should these goods and services be produced?
- *For whom* should these goods and services be produced?

As we previously pointed out, in Australia's *market-based capitalist system*, profit-seeking owners of resources rely mainly on the operation of the price or market system to guide their decisions and allocate resources between various types of goods and services. Here market forces involving demand and supply operate to determine the relative price, at equilibrium, of one good or service against another. Over a period of time, the relative prices of each good or service change due to new *non-price conditions* affecting the level of demand and/or level of supply. In turn, changes in relative prices cause price signals that act as incentives for decision makers. These affect the *relative profitability* of each area of production, thereby influencing the way the three basic economic questions are answered.

FIGURE 2.18 Market forces involve the operation of demand by buyers and supply by sellers. Together, these forces determine the relative market price as an indicator of the relative scarcity of each good or service, such as bananas or bottled water. In a competitive market, strong demand and/or limited supply would cause the product to be scarcer and this would be reflected in a higher price in the market.



2.8.1 How the price system answers the ‘what and how much to produce’ question

Only some wants can be satisfied, so owners of resources naturally opt to satisfy those that are *relatively most profitable* and wanted by consumers.

- **A relatively higher market price**

Imagine that the equilibrium market price of ice cream *increased* relative to that for yoghurt due to an increase in consumer demand for ice cream at all possible prices (perhaps reflecting the operation of non-price factors like successful advertising, population growth or a rise in disposable income) while the demand for yoghurt fell (perhaps due to a non-price condition like a health scare). Here, it is quite likely that ice cream would become relatively more profitable than yoghurt

(assuming no other changes occurred). Higher profits in ice cream would act as a positive incentive, attracting extra resources into this area of production, perhaps pulling resources out of yoghurt.

- **A relatively lower market price**

Alternatively, what would happen if the equilibrium market price of ice cream *fell*, perhaps because there was an increase in the supply of ice cream at all possible prices (perhaps due to lower costs such as milk or transport) relative to its demand? In this case, it is likely that ice cream producers would face relatively lower profits against those for yoghurt. This negative incentive would tend to repel resources from ice cream production while encouraging more to move into yoghurt.

In deciding what to produce — whether it be ice cream or yoghurt, rice or wheat, cars or computers, wool or coal, or childcare or education — the market can usually provide the price signals, incentives or information to help owners of resources make the right production decisions that give consumers the types of goods and services they most want.

One weakness of this system, or *market failure*, is that there are situations where socially undesirable yet profitable goods and services (e.g. illegal drugs, pollution, guns and prostitution) may be overproduced, while low priced, unprofitable or socially desirable goods and services (e.g. affordable healthcare, education and housing) are underproduced. In these instances of market failure, there is a strong case for government intervention in or regulation of some markets using taxes to discourage, or government subsidies to encourage, some types of production. This can alter the allocation of resources.



2.8.2 How the price system answers the ‘how to produce’ question

In order to maximise profits, private owners of resources usually seek to minimise their production costs and maximise efficiency.

So, for example, if it is cheaper to produce a pair of jeans using mostly labour resources rather than capital equipment like laser-operated machines, then this would normally be the preferred method of manufacture. Again, the market-based system involving demand and supply would provide the necessary price information as to which production method is the cheapest to use. One possible reason why labour might be cheaper in this case could be that its supply is high relative to demand. This would cause wage costs (the market price of labour) to be relatively lower (against the cost or market price of machinery).

Sometimes, however, the cheap production methods used by firms could risk the wellbeing, health and safety of workers and the general community. For instance, some firms may want to cut their costs by having dangerous working conditions or releasing pollution, because these methods are relatively cheaper. Again, there may be a justification for having some government regulation of production methods (e.g. occupational health and safety standards) in cases where the *market fails* to make good decisions.

2.8.3 How the price system answers the ‘for whom to produce’ question

The matter of how incomes (and hence goods and services) should be shared or divided is also largely answered by the operation of market forces involving demand and supply and the price system.

Individuals who earn higher incomes by selling their *scarcer* resources can purchase more goods and services than those on lower incomes. For instance, high wages and incomes are earned by skilled surgeons, successful entrepreneurs and well-known pop stars and sportspersons, who can sell scarce resources where there is a shortage and their supply is low relative to demand. By contrast, those with lesser skills or no reputation will usually earn lower wages and income, and be unable to purchase as many goods and services. Again the market allocates scarce resources between alternative uses.

One problem faced by the free market system when answering the question about how to distribute incomes and goods is extreme *income inequality* and poverty, lowering average living standards. Again, when the *market fails* to produce fair or equitable outcomes, the government may choose to narrow the income gap between the rich and poor using heavier progressive taxes (i.e. when tax rates rise with income) on the rich, the payment of welfare benefits to the neediest and the provision of free or cheap community services.

FIGURE 2.19 The distribution of incomes and goods can be a concern in the free market system.



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Weblinks Market prologue
Demand
Change in demand vs change in quantity demanded
Supply
Market equilibrium
Demand and supply explained
Demand and supply explained 2
Shifting demand and supply
What do prices ‘know’ that you don’t?

Law of demand
Demand and supply
Basic concepts of supply and demand
Demand and supply (EconMovies 4: Indiana Jones)
Price signals
Markets link the world
The power of the market (featuring Milton Friedman)
Fruit shop economics

2.8 ACTIVITIES

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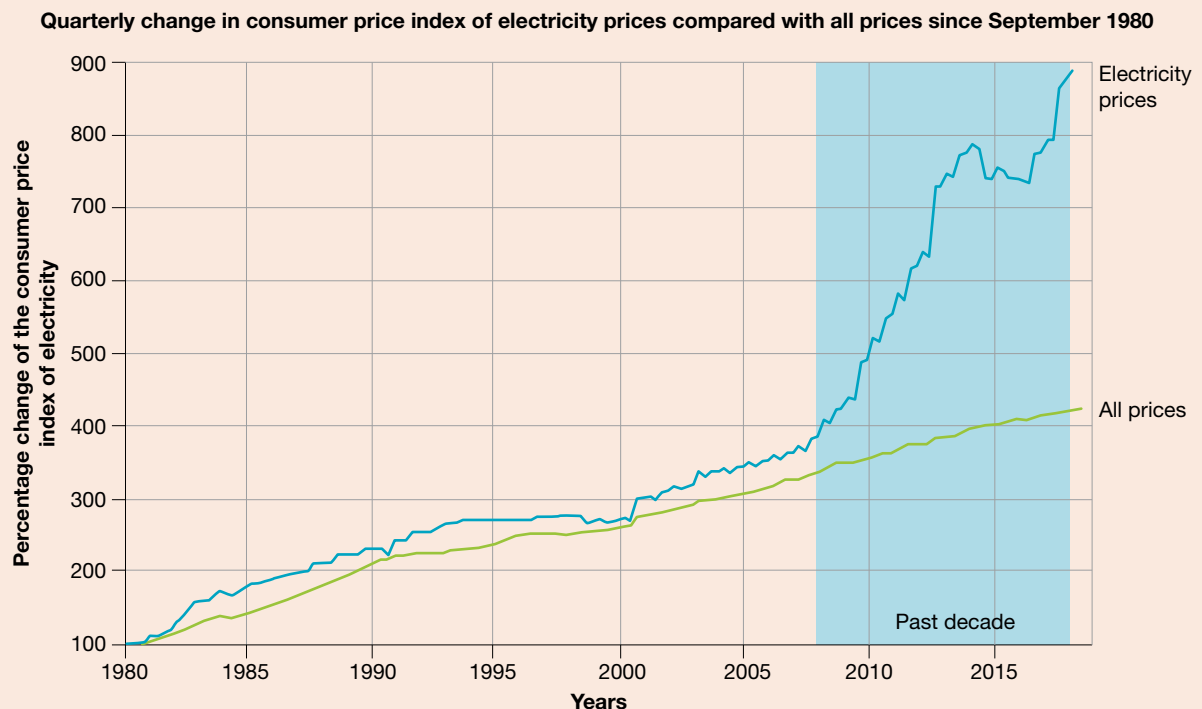
Check your understanding

1. Explain each of the *three* basic economic questions involving decisions or choices faced by all economies.
2. Explain how, in general, the *market* or *price system* works to answer the three basic economic questions faced by all economies.

Applied economic exercises

1. Figure 2.20 shows that consumer electricity prices have recently increased much faster than all prices generally.

FIGURE 2.20 Changes in the electricity price index against all prices, Australia



Prices at 1980 Q3 are indexed to 100. Chart shows percentage change per quarter of each price group.

Source: Graph copied from ABC News, Chart of the Day: Something has gone terribly wrong with electricity prices, see <https://www.abc.net.au/news/2018-07-18/electricity-price-rises-chart-of-the-day/9985300>.

Previously, it was suggested that the rise in Australian power prices was partly due to the demand for electricity increasing faster than the supply. Electricity prices affect both production costs for businesses using electricity, as well as household living costs.

- (a) Using the information in figure 2.20, describe the rise in electricity prices as measured by the consumer price index (where 100 points was the level of consumer prices in 1980). **(3 marks)**
- (b) The rise in the price of electricity relative to other consumer prices has many impacts on how the three basic economic questions are answered and the way our resources are used or allocated. How would the rise in the *relative price of electricity* affect the following, assuming other things remaining equal or unchanged?
 - i. The level of profits made by power companies and their allocation of resources into power generation including renewable energy **(1 mark)**
 - ii. The costs for businesses using electricity as an input to make other goods (e.g. aluminium) and services, as well as their level of profits **(1 mark)**
 - iii. The allocation of resources, production and employment levels for companies using electricity as an input **(2 marks)**
 - iv. The relative profitability of producing goods and services that do not require electricity as a resource or input **(1 mark)**

To help counteract rising electricity prices for households and to reduce the environmental effects of coal-fired power generation, some governments have given financial assistance such as cash subsidies to households installing solar panels.

(c) Draw and fully label a D–S diagram (use hypothetical data) to show the likely effects of this policy on the *market for solar panels*. Show the D and S conditions both *before* and *after* the introduction of subsidies paid to buyers. Briefly explain the key changes shown on your diagram. **(3 marks)**

(d) Draw and fully label a D–S diagram (use hypothetical data) to show the likely effects of this policy on the *market for electricity* that is drawn from the national power grid. Show the D and S conditions both *before* and *after* the introduction of subsidies. Briefly explain the key changes shown on your diagram. **(3 marks)**

2. Assume the skateboard market is a fairly competitive one.

(a) Use the data in table 2.8 to accurately draw and fully label a demand–supply diagram for skateboards. **(2 marks)**

TABLE 2.8 Demand–supply data for skateboards

Price per skateboard	Original demand at a given price (D_1)	Original supply at a given price (S_1)	New increased demand at a given price (D_2)	New decreased supply at a given price (S_0)
\$20	100	20	115	10
\$40	80	40	95	20
\$60	60	60	75	30
\$80	40	80	55	40
\$100	20	100	35	50

(b) What is the original *equilibrium price* for skateboards resulting from the impact of non-price conditions on D_1 and S_1 ? **(1 mark)**

(c) What is the original *equilibrium quantity* for skateboards resulting from the impact of non-price conditions on D_1 and S_1 ? **(1 mark)**

(d) Suggest two non-price microeconomic conditions or factors that might cause the *increase in the quantity of skateboards demanded* at a given price, shifting the demand line from D_1 to D_2 . **(2 marks)**

(e) Following the *increase in the demand for skateboards* (from D_1 to D_2), there was a shift in the equilibrium. Clearly explain *how* there was a shift in the equilibrium (from E_1 to E_2), referring to points on your diagram. **(3 marks)**

(f) Suggest two non-price conditions or factors that might cause the *decrease in the quantity of skateboards supplied* at a given price from S_1 to S_0 . **(2 marks)**

(g) Following the *decrease in the supply of skateboards* (from S_1 to S_0), there was a shift in the equilibrium. Clearly explain *how* there was a shift in the equilibrium (from E_1 to E_0), referring to points on your diagram. **(3 marks)**

(h) Events that change the relative price (either up or down) for a particular good or service alter the relative profit, and hence the way resources are allocated or used. If the relative price of skateboards *rises*, explain (giving reasons) how this would be *likely* to affect each of the following:

- the level of relative profits from producing skateboards
- the quantity of resources allocated to producing skateboards and skateboard-related clothing, skate parks and other gear
- the quantity of resources allocated to other goods and services that had become relatively less profitable than skateboards.

(3 marks)

3. Changes in *relative prices* in various markets send out signals (incentives) to producers and the profit-seeking owners of resources — indicating the type and quantity of each good or service consumers want to see produced.

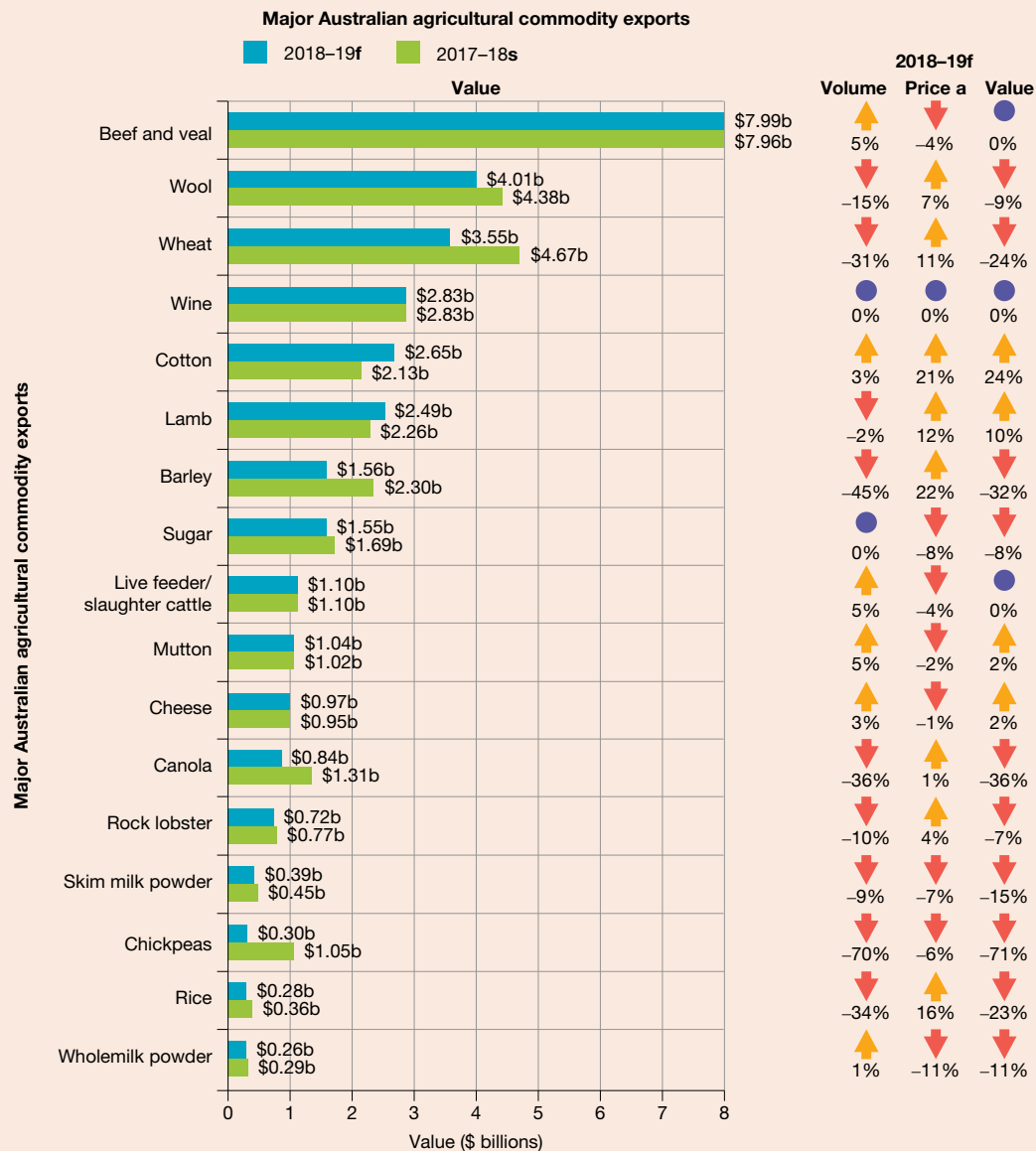
(a) Explain what is meant by the term *relative prices*, giving an example. **(2 marks)**

(b) For each of the following, *explain* (giving reasons) how producers may change their use or allocation of resources and their level of output, assuming that production costs are unchanged:

- Canola prices rose to from \$520 to \$595 per tonne, but wheat prices fell.

- ii. Average weekly wages for unskilled labour rose 2 per cent, compared with a 25 per cent rise for computer technicians.
- iii. Increasing awareness about the health benefits of avocados have seen a steady increase in the price of avocados, while health concerns about soy-based products have had the opposite effect on the selling price of rice. (3 marks)
- (c) Figure 2.21 shows the predicted change in relative international prices to be received by farmers for various crops during 2018–19.

FIGURE 2.21 Predicted changes in the relative prices received by farmers for various crops during 2018–19



^a All commodity prices are expressed as export unit returns in A\$. Export unit returns are obtained by dividing the value and quantity of the commodity exported.

^f ABARES forecast.

^s ABARES estimate.

Source: Graph copied from ABARES 2018, *Agricultural commodities: December quarter 2018*, <https://doi.org/10.25814/5c07aed43fec2>.

Assume you are a farmer and are able to use your resources to produce any of these crops.

- Based on this price information alone, select two crops you *would* produce and two crops you *would not* produce. Justify your choices. **(2 marks)**
- Suggest two likely non-price conditions or factors that might have caused the relative prices of these crops to change up or down. **(2 marks)**

4. Farmers use resources to produce various agricultural products including crops. These resources are purchased in markets for resources (e.g. seed, water, pesticides, fuel, fertiliser, farm labour, tractors, fencing wire) or factors of production. The production of various crops may involve some differences in the cost or price of the resources used. The production costs, or prices, involved in the production of three alternative crops (called crops A, B and C) per hectare of land are shown in table 2.9.

TABLE 2.9 Production costs for three alternative crops

Crop	Total cost or price of resources needed for producing the crop (per hectare)
A	\$356
B	\$490
C	\$339

Explain how this cost or price information may influence your choice of crop and your answer to the 'what and how much to produce' question. **(3 marks)**

5. The price or *market-based system* decides how most resources are used or allocated in Australia. This question looks at the operation of demand and supply in a hypothetical competitive market for chocolate bars using the information in table 2.10.

TABLE 2.10 Demand and supply data for the chocolate bar market

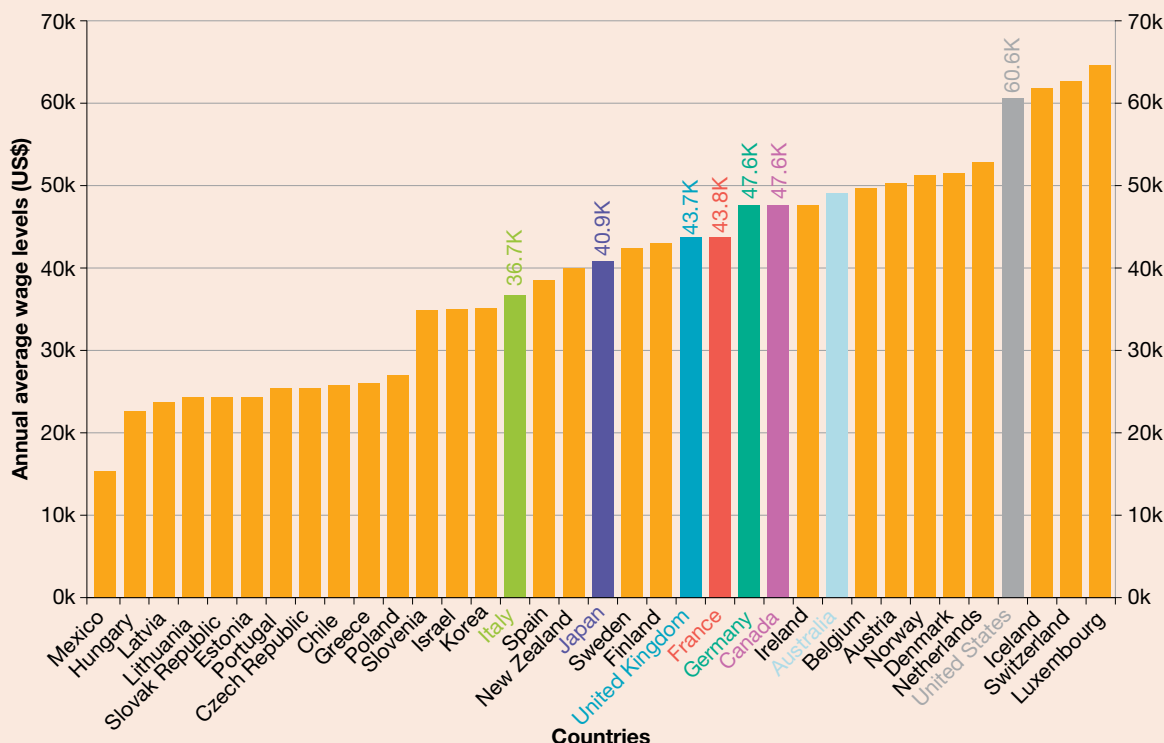
Price per chocolate bar	Quantity of bars demanded per year at a given price (D_1)	Quantity of bars supplied per year at a given price (S_1)
\$0.50	600	200
\$1.00	500	300
\$1.50	400	400
\$2.00	300	500
\$2.50	200	500

- Buyers and sellers both respond to changes in prices. Table 2.10 shows the original quantity of chocolate bars demanded and supplied. Use this table to neatly plot a fully labelled graph showing only the *demand* line for chocolate bars (D_1). Assume that non-price factors remain fixed. **(2 marks)**
- According to the *law of demand* for chocolate bars, how does a *rise* in price affect the quantity of chocolate bars demanded? Illustrate your answers by quoting figures from the table. **(2 marks)**
- According to the law of demand, how does a *fall* in price affect the quantity demanded? Illustrate your answers by quoting figures from the table. **(2 marks)**
- Using table 2.10, neatly plot a second fully labelled graph showing only the supply line for chocolate bars (S_1). Assume that non-price factors remain fixed.
 - According to the law of supply for chocolate bars, how does a rise in price affect the quantity of chocolate bars supplied? Illustrate your answers by quoting figures from the table. **(2 marks)**
 - According to the law of supply, how does a fall in price affect the quantity supplied? Illustrate your answers by quoting figures from the table. **(2 marks)**

- (e) Using table 2.10, plot a third graph showing both a demand line (D_1) and a supply line (S_1) to represent the market for chocolate bars. Ensure that you label the following features — the graph's title, names and scales for each axis, D_1 , S_1 , and points E_1 , Pe_1 and Qe_1 . Assume that non-price factors remain fixed.
- Define *equilibrium price*. From your diagram, what is the equilibrium price level of chocolate bars (Pe_1) in this free or competitive market? Explain how you arrived at your answer. **(2 marks)**
 - From your diagram, what is the *equilibrium quantity* of chocolate bars (Qe_1) if there is a free or competitive market? **(1 mark)**
- (f) One day, the government decided to *regulate* the price of chocolate bars. Explain what problems would occur in the market in each of the following instances:
- The government passed a law fixing the maximum and minimum price of chocolate bars at a low \$1 each. There was no longer a free market. **(1 mark)**
 - The government fixed the price of chocolate bars at a high \$2.50 each. **(1 mark)**
- (g) In the two cases in part f, how would the problems be solved if there were a return to a free or unregulated market for chocolate bars? **(2 marks)**
- (h) In free markets, the equilibrium price may rise and fall if new non-price conditions cause the *demand* line to increase or decrease.
- On a fully labelled D–S graph, show the effect of an *increase in the demand for chocolate bars* at every possible price by *100 bars per year* (i.e. demand increases from D_1 to D_2). Assume no change in the conditions of supply (i.e. the original supply line, S_1 , remains unchanged). Your new graph should label the title, axes, D_1 , S_1 , Pe_1 , Qe_1 , D_2 , Pe_2 and Qe_2 . **(3 marks)**
 - Use your diagram to estimate the new equilibrium market price (P_2 in dollars), and new equilibrium market quantity (Qe_2 in hundreds), following the increase in the demand line from D_1 to D_2 . **(2 marks)**
 - List *three* hypothetical but likely non-price conditions or factors that could *increase* the quantity of chocolate bars demanded at each possible price by 100 bars per year, shifting the demand line from D_1 to D_2 . **(3 marks)**
- (i) In free markets, the equilibrium price may also rise and fall if new non-price conditions cause the *supply* line to increase or decrease.
- On a fully labelled D–S graph, show the effect of a *decrease in the quantity of chocolate bars supplied* at every possible price by *100 bars per year*, shifting the supply line from S_1 to S_2 . This time, assume no change in the conditions of demand (i.e. the original demand line, D_1 , remains unchanged). Your new graph should label the title, axes, D_1 , S_1 , Pe_1 , Qe_1 , S_2 , Pe_2 and Qe_2 . **(4 marks)**
 - Use your diagram to estimate the new equilibrium market price (P_2 in dollars), and new equilibrium market quantity (Qe_2 in hundreds), following the increase in the supply line from S_1 to S_2 . **(2 marks)**
 - List *three* hypothetical but likely non-price developments or factors that could *increase* the quantity of chocolate bars supplied at each possible price by 100 bars per year, shifting the supply line from S_1 to S_2 . **(3 marks)**
- (j) Assume that the actual retail price of chocolate bars increased by 10 per cent. However, at the same time, the production cost of making chocolate bars (i.e. for resources including wages, cocoa beans, silver foil, wrappers and machinery) rose by 50 per cent.
- Explain what would probably happen to the quantity of resources allocated to the production of chocolate bars. (In your answer, consider the effects of price and cost changes on the profitability and incomes of producers, and the number of firms remaining in the industry.) **(4 marks)**
 - Suggest what might happen to the resources that were previously used for making chocolate bars. **(1 mark)**

6. Wages represent the *market price of labour*. Examine figure 2.22 showing approximate hourly wage rates in different countries. Assume that *labour markets* in the following countries are reasonably free or competitive affairs.

FIGURE 2.22 Annual average wage levels (US\$) in selected countries



Source: Graph copied from OECD 2018, Employment and Labour Market Statistics: Average Annual Wages, see <https://data.oecd.org/earnwage/average-wages.htm>.

- Explain what is meant by a country's *labour market*. (1 mark)
 - In terms of basic *demand–supply theory* (as applied to deciding wage levels in the labour markets for these countries), identify and explain the likely general reasons why wage rates for workers in some countries are higher than in others. Using the graph, give two examples of countries with relatively *low* annual wages and two of countries with *high* wages, quoting statistics. (2 marks)
 - Try to draw a *demand–supply diagram* which shows, hypothetically, the main reason for low annual wages in some countries, relative to high wages in others. (*Hint:* On a single demand–supply diagram, you may find it useful to have one set of demand–supply lines or conditions for your selected low-wage country and a second set for a selected high-wage country, making four lines in total on your D–S graph.) (3 marks)
 - Given the wage differences illustrated in figure 2.22, what types of goods and services would *not* be made competitively in a high-wage country like Luxembourg as opposed to Mexico? (1 mark)
 - If the government of Mexico set a minimum income of \$20 000 per year to lift wages and protect low-income earners from exploitation by profit-hungry firms, outline the likely economic effects (good or bad) on businesses, workers, labour markets, production methods (the 'how to produce' question) and the general economy of Mexico. (4 marks)
7. Assume that the federal government decided to *provide* special financial assistance like a *cash subsidy* to all businesses producing or supplying swimwear to help them compete and survive. You are a local manufacturer in this moderately competitive market involving other business rivals.
- Draw a hypothetical *demand–supply diagram* representing the swimwear market *before* the government paid the subsidy. Label all data on this diagram (show D_1 , S_1 , Pe_1 , Qe_1 , the names and units of the axes, and an appropriate title). On this D–S diagram, show the likely effects on the location of the supply line *after* the government gave this financial assistance. Again, ensure that all new data on this diagram are labelled (show S_2 , Pe_2 , Qe_2). (4 marks)

- (b) Explain why you shifted the location of the supply line in the way you did (i.e. from S_1 to S_2). (1 mark)
- (c) Carefully explain the main steps whereby the equilibrium price would be likely to *fall* from P_1 to P_2 . (3 marks)
- (d) Explain how the government's new subsidy would be likely to affect the quantity of resources (i.e. the quantity of labour, capital and natural resources) allocated to the production of swimwear. (2 marks)

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2.9 Researching Australian and global markets

KEY CONCEPT AND SKILL

- Research and investigate, using relevant models, the nature and operation of one or more markets.

The market is a living, exciting and rapidly changing institution that operates around the clock. It is of enormous importance to our daily lives. As we know, Australia basically has a *market-based economy* (with a limited amount of government guidance in some areas).

The current VCE *Economics study design* covering 2017–21 requires you to select one or more of the following contemporary markets for a case study investigation of the nature, and operation of a market as a decision maker:

- agricultural markets such as wool, wheat and beef
- other commodity markets such as minerals and energy
- community markets
- the finance market
- the share market
- the labour market
- the property/housing market
- online markets

It is intended that this research or investigation should allow you to connect theory and appropriate demand–supply models and terminology to different markets, both here in Australian and overseas. You should also be able to analyse, illustrate and predict the impact of various non-price factors or events on your chosen market, and how these might affect relative prices, profits and resource allocation.

This section of the text provides a general outline of each market, along with some questions to guide your internet research outside of this text. Use the **Case study research task** digital document in the Resources tab to download a detailed outline on how to approach this investigation.



Resources



Digital document Case study research task (doc-31548)

Figure 2.23 contains examples of how you might hypothetically use the D–S model or diagram for the coal market in 2019 and 2020 to show the impacts of possible changes in non-price factors that affect demand and supply. As an analytical tool, these diagrams could be adapted to the market of your choice.

FIGURE 2.23 Using the demand–supply diagram or model to predict the impact of new events following changes in non-price conditions

Diagram 1 — How the equilibrium market price of coal in 2019 was hypothetically determined in a fairly competitive market by demand and supply

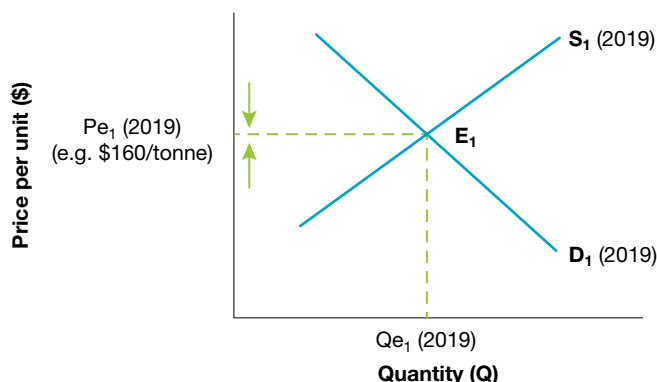


Diagram 2 — Why the equilibrium market price of coal might fall due to new weaker non-price conditions affecting *demand* in 2020, against levels in 2019

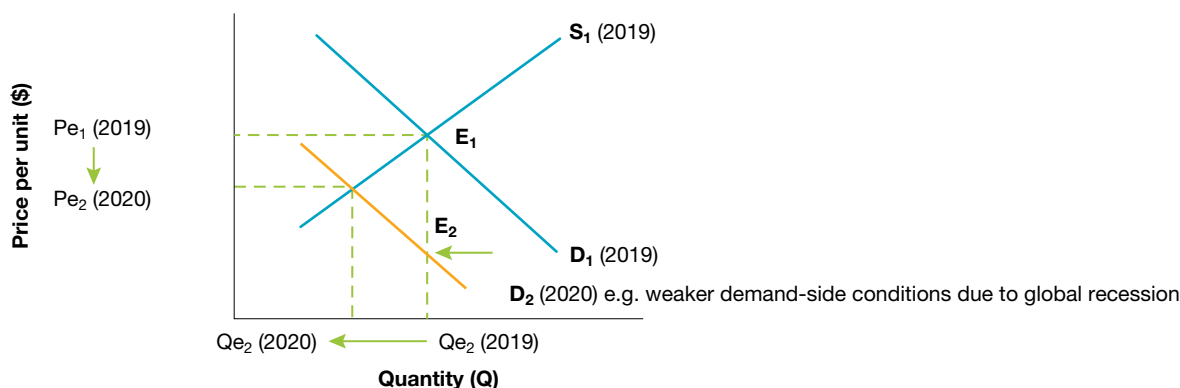
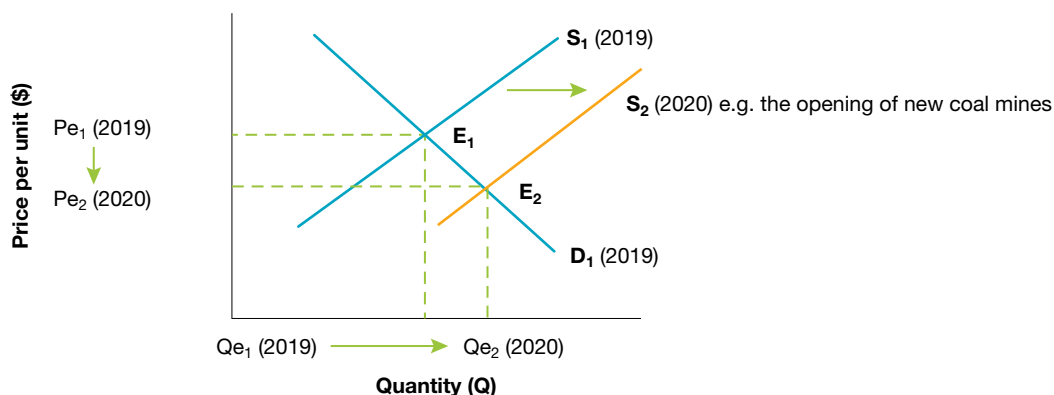


Diagram 3 — Why the equilibrium market price of coal might fall due to new stronger and more favourable non-price conditions affecting *supply* in 2020 against levels in 2019



AGRICULTURAL OR RURAL COMMODITY MARKETS

Nature

Australian farmers sell their wheat, barley, wool, canola, beef, lamb, eggs, fruits and vegetables to wholesalers and retailers in **rural or agricultural commodity markets** both here and overseas. The price negotiated by buyers (D) and sellers (S) will reflect the relative scarcity of each rural commodity. Sometimes international selling is done by representative organisations. Again, the prices of agricultural commodities are determined at market

equilibrium by the interaction of sellers and buyers. The prices of agricultural commodities change to reflect new non-price conditions of demand and supply. Especially on the supply side, conditions can change as a result of both favourable and less favourable growing conditions (e.g. droughts and severe weather events).

FIGURE 2.24 Conditions of demand and especially supply can affect the market price of agricultural commodities. For example, severe weather events like cyclones and droughts can decrease supply relative to demand and cause a rise in the relative market price.



Structure for your case study research into a selected agricultural commodity market

You might like to use the following questions to guide your research into a selected agricultural commodity market.

- What are the *general features* of your selected agricultural commodity market? What type of *market structure* is common in this industry and do farmers have market power?
- Who are the *demanders*, buyers or consumers of your selected agricultural commodity and what factors affect their decisions? How have non-price *demand conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price and quantity.
- Who are the *suppliers* or sellers of your selected agricultural commodity and what affects their decisions? How have non-price *supply conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity.
- Because of changes in demand and supply conditions, relative market prices have moved up or down. Use the internet to locate and copy a *price graph* for your selected commodity over recent years, and then describe the *changes* in market prices in both the short and long term.
- What are the likely *effects of changes in the relative market price* of your selected agricultural commodity on the economic decisions (including resource allocation) made by Australian and international producers? Predict how this might affect economic conditions and living standards.

By way of example, figure 2.25 uses five graphs to show price changes to 2018–19 in a selection of agricultural commodity markets (usually measured in US dollars). You might like to start your agricultural commodity research by following the weblinks in the Resources tab.

FIGURE 2.25 Price changes for a selection of agricultural commodity prices (actual and forecast)

Graph 1 — Index of changes in the world's relative prices of natural and synthetic fibres

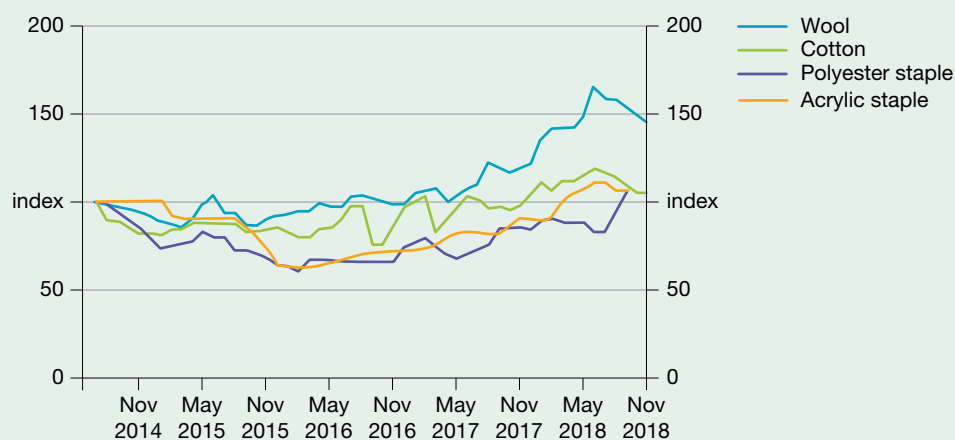
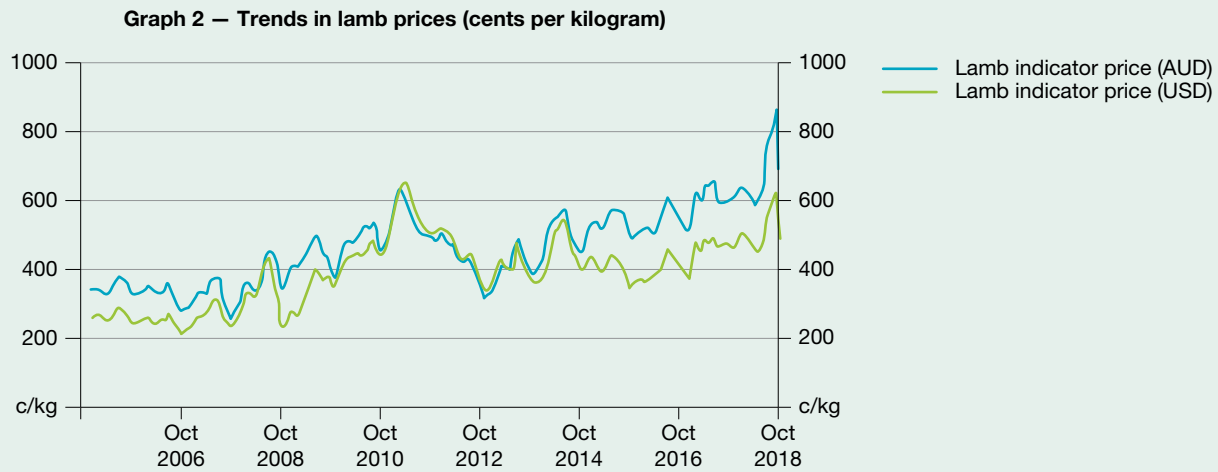
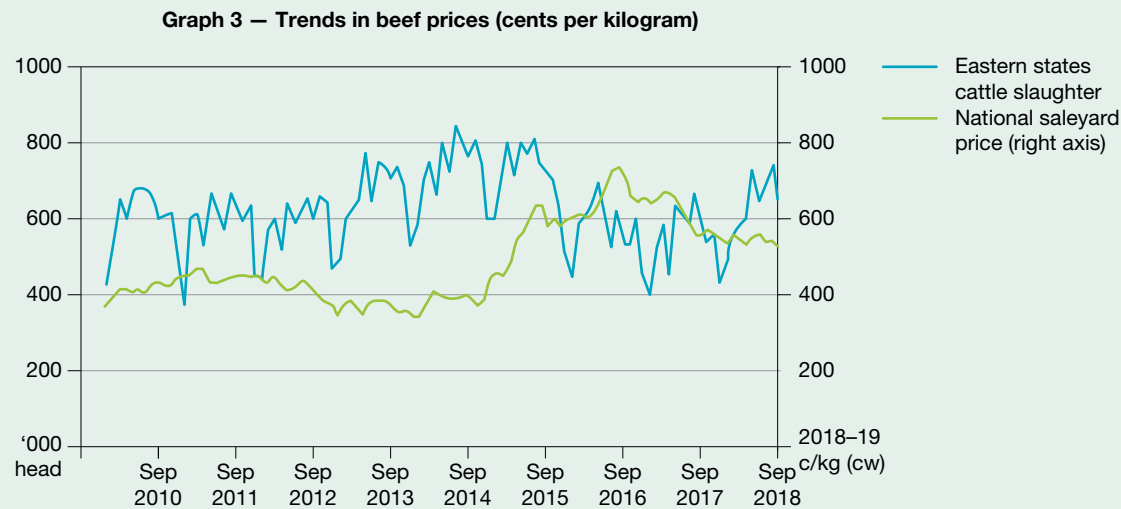


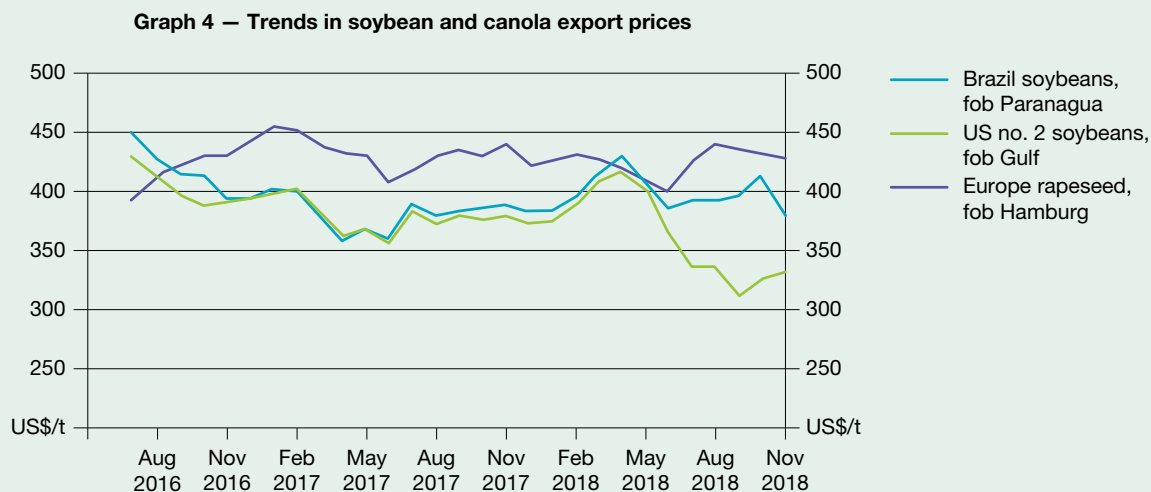
FIGURE 2.25 (continued)



Source: Australian Bureau of Statistics, Meat & Livestock Australia

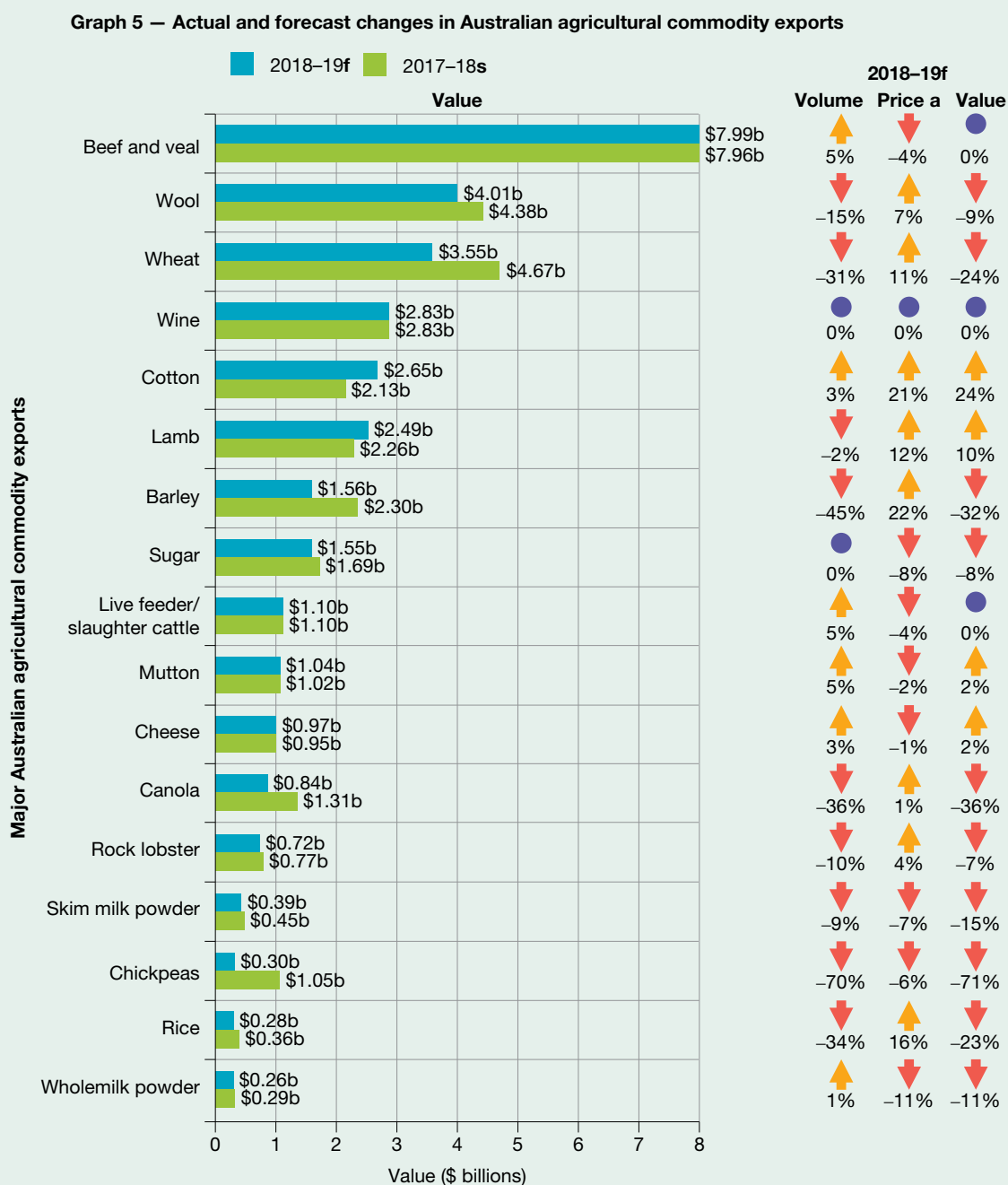


Note: Eastern states includes New South Wales, Queensland and Victoria.
Sources: ABARES; Australian Bureau of Statistics; Meat & Livestock Australia



Source: International Grains Council

FIGURE 2.25 (continued)



^a All commodity prices are expressed as export unit returns in A\$. Export unit returns are obtained by dividing the value and quantity of the commodity exported.

^f ABARES forecast.

^s ABARES estimate.

Source: All graphs copied from ABARES 2018, *Agricultural commodities: December quarter*, see <https://doi.org/10.25814/5c07aed43fec2>.



Resources



Weblinks Australian Bureau of Agricultural and Resource Economics (ABARES)
YQ Matrix graphs

MINERAL COMMODITY MARKETS

Nature

Non-rural commodity markets involve the selling (S) and buying (D) of raw materials and energy at a negotiated price that will reflect their relative scarcity. Firms producing or supplying commodities sell to other firms who need these materials for making finished products that are sold to customers or buyers. Important internationally traded raw materials include oil, gold, iron, zinc, nickel, timber, diamonds and natural gas. With great emphasis on mining, it is hardly surprising that the value of Australia's exports is greatly affected by trends in commodity prices. Indeed, the A\$ is often referred to as a commodity-driven currency.

FIGURE 2.26 Iron ore mines and offshore oil and gas platforms extract the raw materials and energy that form part of the non-rural commodity markets.



Structure for your case study research into a selected mineral or energy commodity market

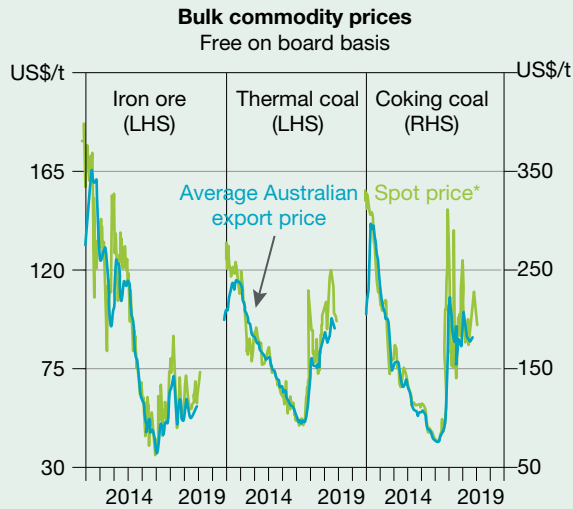
You might like to use the following questions to guide your research into a selected mineral commodity market.

- What are the *general features* of your selected mineral commodity market? What type of *market structure* is common in this market or industry?
- Who are the *demanders*, buyers or consumers of your selected mineral commodity and what factors affect their decisions? How have non-price *demand conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price and quantity.
- Who are the *suppliers* or sellers of your selected mineral commodity and what affects their decisions? How have non-price *supply conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity.
- Because of changes in non-price demand and supply conditions, relative market prices of mineral commodities have moved up or down. Use the internet to locate and copy a *price graph* for your selected mineral commodity over recent years, and then describe the *changes* in market prices in both the short and long term.
- What are the likely *effects of changes in the relative market price* of your selected mineral commodity on the economic decisions (including resource allocation) made by Australian and international producers? Predict how this might affect economic conditions and living standards.

By way of example, figure 2.27 contains two graphs that show recent price changes in markets for a selection of mineral and energy commodities over the years to 2018–19. They include mineral commodities such as bulk minerals (used for manufacturing metal products, expressed in US\$ per tonne) and Brent oil (liquid petroleum that comes out of the ground before being refined, commonly used to fuel cars and aeroplanes and the like, usually expressed in US\$ per barrel).

FIGURE 2.27 Price changes for a selection of mineral commodity prices (actual and forecast)

Graph 1— Trends in bulk mineral commodity prices (US\$ per tonne)

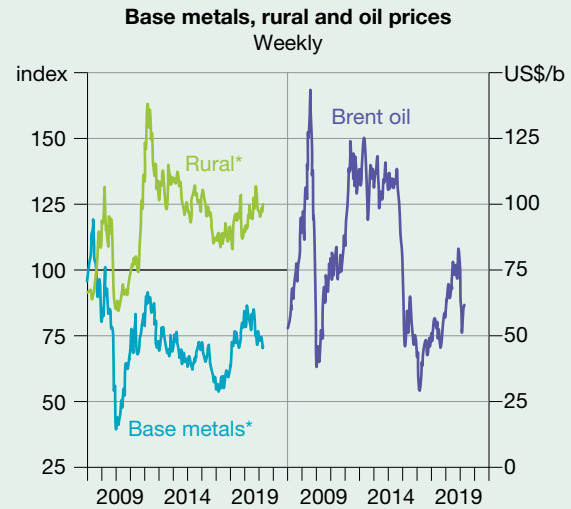


* Iron ore fines; Newcastle thermal coal and premium hard coking coal

Source: ABS; Bloomberg; IHS; RBA

Source: Graphs copied from RBA Chart Pack, see <https://www.rba.gov.au/chart-pack/commodity-prices.html>.

Graph 2 — Changes in base metal, rural and oil commodity prices



* RBA Index of Commodity Prices sub-indices; SDR terms; 2007 average = 100

Source: Bloomberg; RBA

Notice the spectacular fall in mineral commodity prices and oil prices between 2013 and 2016, before a recovery in 2018–19. You can follow the weblinks in the Resources tab to research these and other price graphs.

on Resources

- 🔗 Weblinks**
- Energy Information Administration
 - InfoMine.com
 - International Energy Agency
 - OPEC
 - RBA Chart Pack — mineral commodities
 - World Gold Council
 - YQ Matrix graphs

COMMUNITY MARKETS

Nature

Community markets involve the selling (S) and buying (D) of edible products (e.g. cheeses, breads, cakes, vegetables, chutneys, jams and sweets) and home crafts (e.g. jewellery, leather goods, pottery, art, plants, clothing), along with plants, antiques and collectables. These markets typically occur in suburbs like Fitzroy or Kingsbury Drive in Melbourne, in cities like Geelong and Ballarat, and in small towns like Torquay. Sometimes they run infrequently like once a month, or perhaps every week. Usually sellers produce on a small scale and their products are often unique. This can make them an attraction for buyers and, as is usually the case, prices reflect conditions of demand and supply.



Your case study of a community market might involve research and even an excursion to one of these markets. Here you may have an opportunity to chat with sellers and buyers. To find out what markets are running, follow the **White Hat Guide to Sunday Markets** weblink in the Resources tab.

Structure for your case study research into a selected community market

You might like to use the following questions to guide your research into a selected community market.

- What are the *general features* of your selected community market? What type of *market structure* is common in this area?
- Who are the *demanders*, buyers or consumers of the selected goods and services in your community market, and what factors affect their decisions? How have non-price *demand conditions* changed recently? Try to illustrate their effects hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price and quantity.
- Who are the *suppliers* or sellers of the selected goods and services in your community market, and what affects their decisions? How have non-price *supply conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity.
- As a result of recent changes in demand and supply conditions, try to describe some of the *trends* in market prices for the selected goods and services in your community market.
- What are the likely *effects of changes in the relative market price* paid for the selected goods and services in your community market on the economic decisions (including resource allocation) made by producers or the owners of resources? Predict how this might affect economic conditions and living standards.

on Resources

 **Weblink** White Hat Guide to Sunday Markets

THE STOCK MARKET

Nature

The **stock market** allows shares (a part ownership of a business) in companies listed on the stock exchange to be bought (D) and sold (S) at a price that reflects relative scarcity and the ever-changing non-price conditions of demand and supply for each stock. Often, speculative buyers will try to purchase shares at a low price and then resell them at a higher price later, in the hope of making a profit or capital gain. Sometimes shares are simply seen as an income-earning investment where shareholders receive dividends or a proportion of the profits made by the company. When companies are floated or first listed on the stock exchange (in Australia called the Australian Securities Exchange or ASX), they issue or sell shares to raise finance for their business expansion. Later, however, these shares change hands, depending on whether the original buyers want to keep them or sell them. On occasion, volatile changes in the conditions of demand and supply by investors can cause share prices to change dramatically.

FIGURE 2.28 Prices of shares in the stock market are nowadays displayed electronically, and can change unexpectedly up or down due to changes in the conditions of demand for and/or supply of shares. In turn, price changes affect the economic decisions of investors and the allocation of resources.



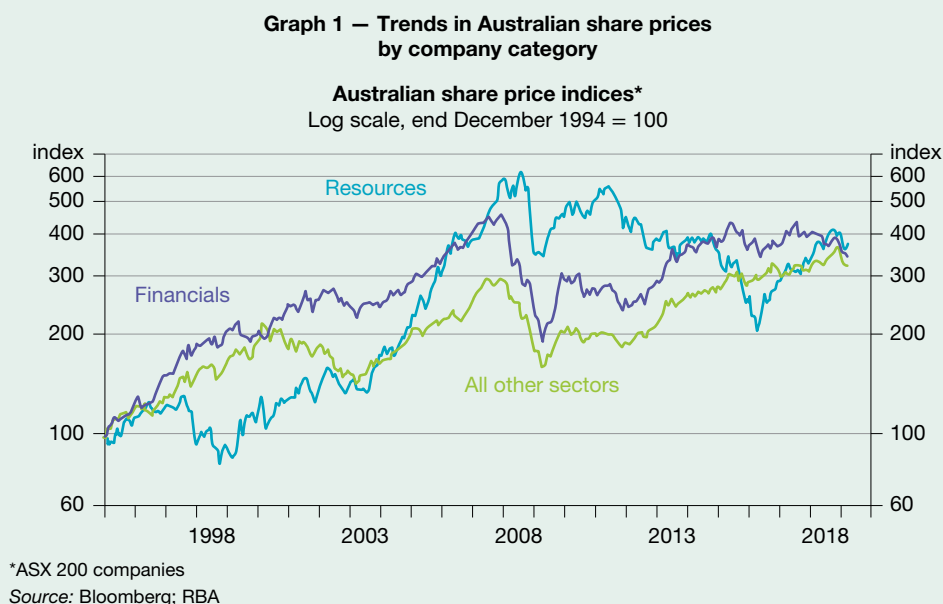
Structure for the case study research into the stock market

You might like to use the following questions to guide your research into the stock market.

- What are the *general features* of the stock market or Australian Securities Exchange (ASX)? What is the type of *market structure* and level of competition in the ASX or stock market?
- Who are the *demanders* or buyers of company stock, shares and equities listed on the ASX, and what factors affect their decisions (either focus on one listed company or cover shares in general)? Try to illustrate hypothetically the recent effect of these factors, using a D–S diagram to show the *before* and *after* situations on market demand, and the equilibrium price and quantity.
- Who are the *suppliers* or sellers of company stock, shares and equities listed on the ASX, and what factors affect their decisions (either focus on one listed company or cover shares in general)? Try to illustrate hypothetically the recent effect of these factors, using a D–S diagram to show the *before* and *after* situations on market supply, and the equilibrium price and quantity.
- Because of changes in demand and supply conditions, share prices have moved up or down. Use the internet to locate and copy a *price graph* for your selected company or for shares generally, and then describe the *changes* in market prices in both the short and long term (see price trends more generally using the ASX 200 or S&P 500, or take the price of a particular company's share and study that).
- What are the likely *effects of changes in share prices* (perhaps for different company shares or relative to the attractiveness of other investments like housing, both here and overseas) on the economic decisions (including resource allocation) made by investors? Predict how this might affect economic conditions and living standards.

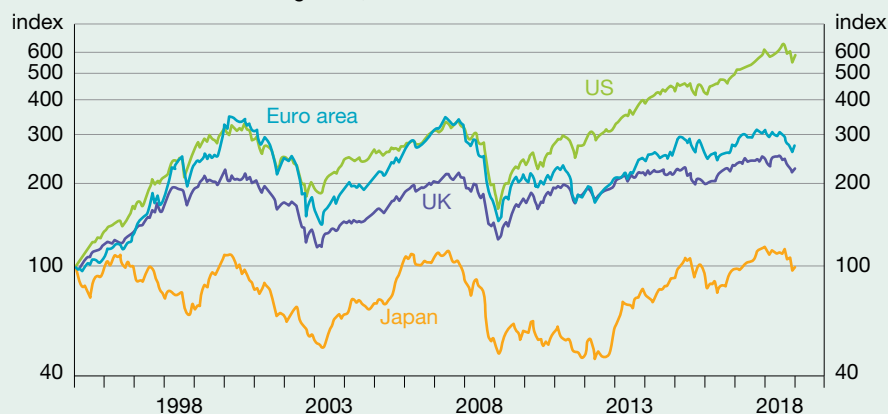
By way of example, figure 2.29 contains two graphs. One graph shows how the share price has changed for various types of companies in different sectors of industry in Australia. Notice how share prices peaked around 2002, 2008, 2014 and 2018. The other graph shows general trends in prices of international shares. Here, share prices peaked around 2000, 2007 and 2018. The global financial crisis (GFC) of 2008–09 and ensuing slowdown inflicted much pain on investors, especially retirees. Despite some recovery to early 2019 in share prices (more so internationally than in Australia), uncertainty remains, reflecting overseas and local concerns.

FIGURE 2.29 Graph 1 shows trends in Australian share prices by company category, while graph 2 compares changes in indices that measure the prices of international shares.



Graph 2 — Changes in indices measuring the prices of shares in selected countries

Advanced economies' share price indices
Log scale, end December 1994 = 100



Source: Bloomberg; RBA

Source: Graphs copied from RBA Chart Pack, see <https://www.rba.gov.au/chart-pack/share-markets.html>.

You can research these and other share price graphs by following the weblinks in the Resources tab.

on Resources

- Weblinks**
- RBA Chart Pack — share prices
 - ASX home page
 - ASX School's Share Market Game
 - Department of Agriculture, Fisheries and Forestry
 - National Council of Wool Selling Brokers of Australia
 - AUSTRADE
 - Food and Agriculture Organization of the United Nations

THE FINANCE MARKET

Nature

The **finance market** involves financial institutions (e.g. banks, credit unions, superannuation funds). Here, borrowers (demanders, D) and lenders (suppliers, S) of credit negotiate the *rate of interest* — the price or annual cost of credit that is paid. Interest rates largely reflect the relative scarcity of credit and the conditions of demand and supply, even though the Reserve Bank of Australia (RBA) uses special policy measures to influence rates or the price of credit. Households, businesses and governments often need to borrow (demand) money to finance their purchases of goods and services, including capital equipment, property and consumer goods. However, savers of money, including some households who do not spend all their current income, lend money to financial institutions and are rewarded by receiving interest.



Structure for the case study research into the finance market

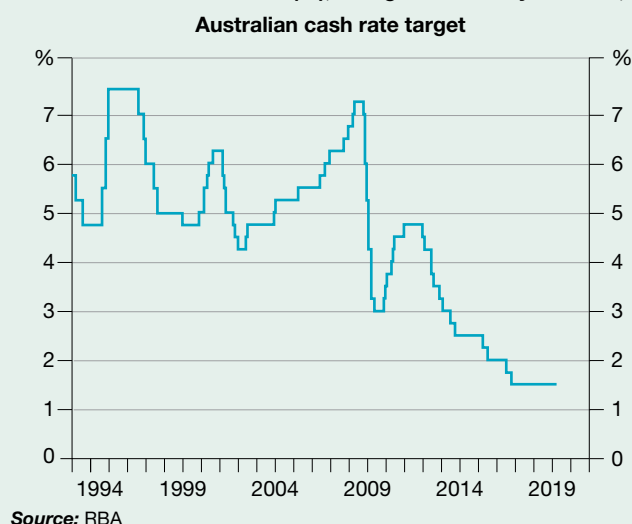
You might like to use the following questions to guide your research into the finance market.

- What are the *general features* of the finance market? What type of *market structure* commonly exists?
- Who are the *demanders* or borrowers of finance, and what affects their decisions? How have *demand conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price and quantity.
- Who are the *suppliers*, sellers or lenders of finance, and what affects their decisions? How have *supply conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity.
- Use the internet to locate and copy a graph showing changes in key Australian interest rates (the price of borrowing credit or the reward for lending credit) over the last decade to the current year. Using this graph, describe the *trends* in interest rates in both the short and long term.
- What are the likely *effects of changes in interest rates* on the finance market, and on the economic decisions (including resource allocation) made by Australian households and businesses? Predict how this might affect economic conditions and living standards.

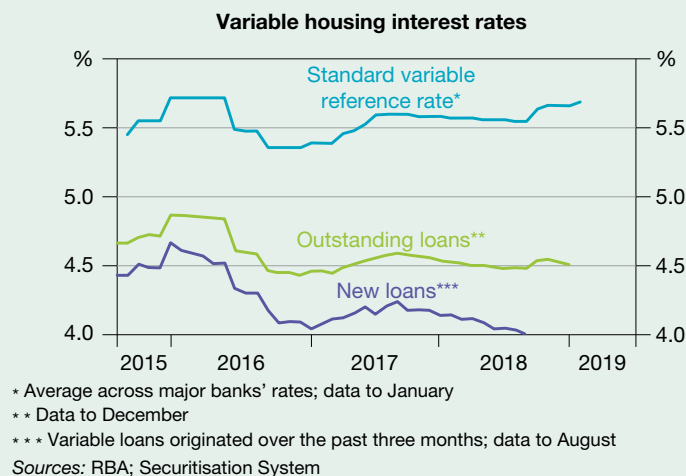
By way of example, figure 2.30 contains three graphs showing recent changes in Australian interest rates or the price of credit. Notice the peak in interest rates in 2007–08, followed by a sharp fall. After another rise, most recently between 2010 and 2012, interest rates have declined overall to record low levels.

FIGURE 2.30 Changes in selected interest rates in Australia's financial market

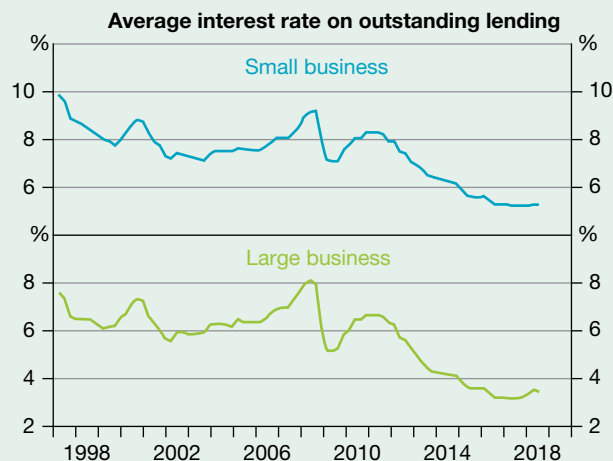
Graph 1 — The cash rate of interest (%), a target rate set by the RBA, 1994–2019



Graph 2 — Australian housing lending rates of interest charged by banks



Graph 3 — Australian business lending rates of interest charged by banks



* RBA estimates

Sources: APRA; RBA

Sources: Graphs copied from RBA Chart Pack, www.rba.gov.au/chart-pack/interest-rates.html.

You might like to start your research into the finance market by following the weblinks in the Resources tab.

on Resources

-  **Weblinks** RBA Chart Pack — interest rates
Trading Economics — interest rates

THE FOREIGN EXCHANGE MARKET

Nature

International financial transactions involve exports and imports of goods and services, and investment flows between countries. During this process, payments between countries must be made in the currency appropriate for each nation. For instance, Australian exporters generally want to be paid in our currency, not yen or pounds sterling. For this to occur, international currencies (e.g. the A\$, US\$, pound sterling, euro, rupee and yen) need to be swapped in the FOREX or **foreign exchange market**. The exchange rate is simply the price of one currency in terms of units of another (e.g. A\$1 may be worth US\$0.70). As occurs in all competitive markets, the price (in this case the exchange rate) is determined by the number of buyers (D) versus the number of sellers (S).



The exchange rate changes with the level of relative scarcity of each currency. In Australia's case, sellers of our currency are often local households or firms wanting to convert our dollar into some other currency to make payments abroad. These actions would increase the supply (S) of the A\$, causing the exchange rate to *depreciate* (fall). Sometimes, too, speculators want to sell off the currency, especially if they feel it is soon going to fall. However, buyers of our currency are mostly foreigners wanting to pay someone in Australia, or currency speculators who purchase the A\$ thinking it will rise sometime in the future enabling them to make gains. This action would tend to increase the demand (D) for the A\$, causing the exchange rate to *appreciate* (rise).

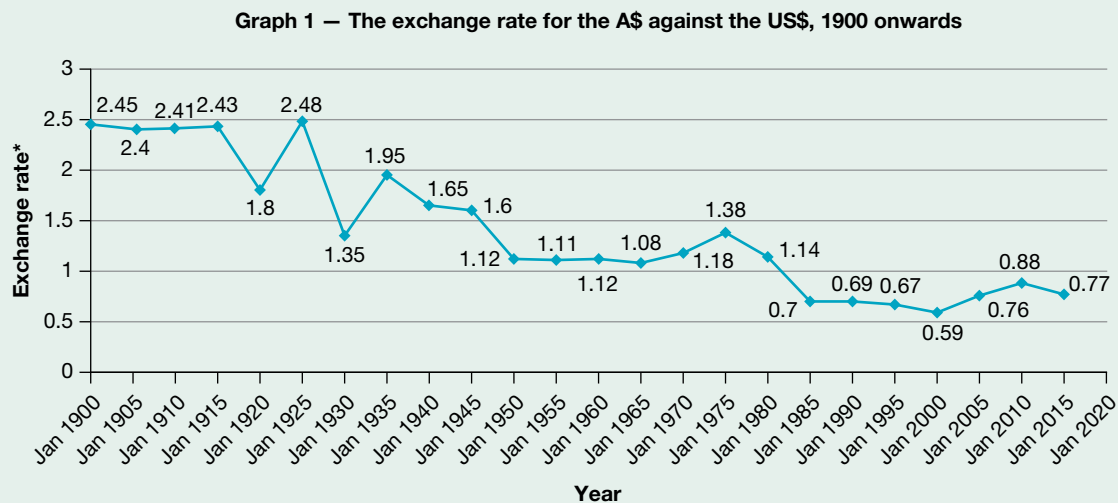
Structure for the case study research into the foreign exchange market

You might like to use the following questions to guide your research into the foreign exchange market.

- What are the *general features* of the foreign exchange market for the A\$? What type of *market structure* commonly exists?
- Who are the *demanders* or buyers of foreign exchange and the A\$, and what factors affect their decisions? How have *demand conditions* for the A\$ changed recently? Try to illustrate their impact hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price and quantity of the A\$.
- Who are the *suppliers* or sellers of foreign exchange and the A\$, and what factors affect their decisions? How have *supply conditions* for the A\$ changed recently? Try to illustrate their impact hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity of the A\$.
- Use the internet to locate and copy a graph showing changes in Australia's exchange rate over the last decade to the current year, against one or more other key currencies. Using this graph, describe the *trends* in the exchange rate for the A\$ in both the short and long term.
- What are the likely *effects of changes in the exchange rate for the A\$* on the economic decisions (including resource allocation) made by Australian businesses and households? Predict how this might affect economic conditions and living standards.

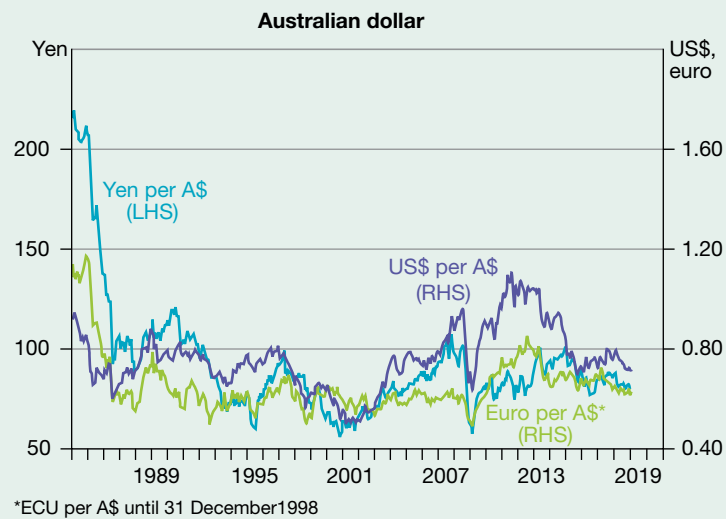
By way of example, figure 2.31 contains two graphs. The first shows the value of the Australian dollar against the US dollar plotted every five years from 1900. Notice that the price or value of the A\$ has fallen considerably overall during the last 119 years, despite some occasional rises in the shorter term. The second graph covers a smaller time period of 34 years and compares the Australian dollar against the euro, yen and US dollar.

FIGURE 2.31 Despite some rises, overall there has been over a century of decline in the exchange rate for the A\$ against the US\$ and some other currencies



*Note: *What A\$1 buys in terms of the US\$.

Graph 2 — Changes in the exchange rate for the A\$ against three other important currencies



Source: Bloomberg

Sources: Data for graph 1 derived from ABS Yearbooks (various); RBA Statistics, Occasional Paper 8A; and <http://www.rba.gov.au/statistics/historical-data.html#exchange-rates>. Graph 2 copied from RBA Chart Pack, see <https://www.rba.gov.au/chart-pack/exchange-rates.html>.

You might like to start your research into the foreign exchange market by following the weblinks in the Resources tab.

on Resources

-  **Weblinks** RBA Chart Pack — exchange rates
- Trading Economics — indicators
- Westpac exchange rate converter

THE PROPERTY AND HOUSING MARKETS (LOCAL OR OVERSEAS)

Nature

Residential properties and businesses in Australia are regularly bought (D) and sold (S) in the **property market**. A related market is that for rental properties, where tenants and landlords negotiate the price or cost of rent. Often these markets operate at the local level, but increasingly in capital cities the property market involves national and international customers. Due to changes in a range of non-price conditions of demand and supply, the period between 1995 to mid-2018 saw a remarkable overall growth in rental costs and housing and land prices. This was fuelled by very rapid population growth from natural increase, especially immigration; record low interest rates; and a buying frenzy by speculators, particularly in Sydney and Melbourne. More recently during late 2018 and early 2019, the peak in prices was followed by a downward market correction.



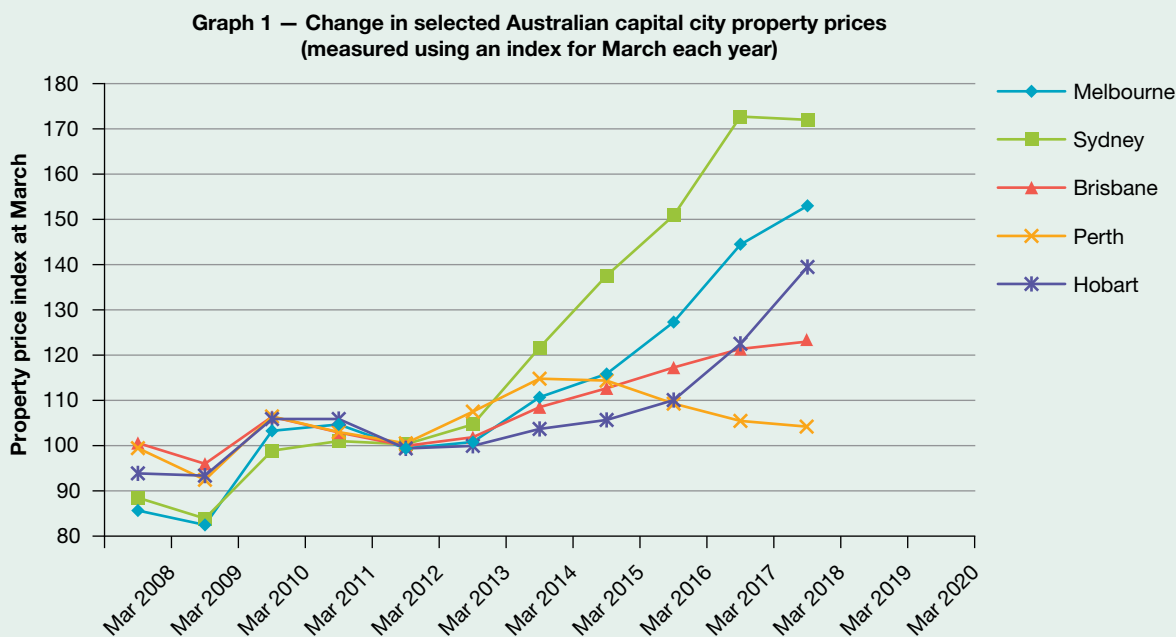
Structure for the case study research into property markets

You might like to use the following questions to guide your research into the property market.

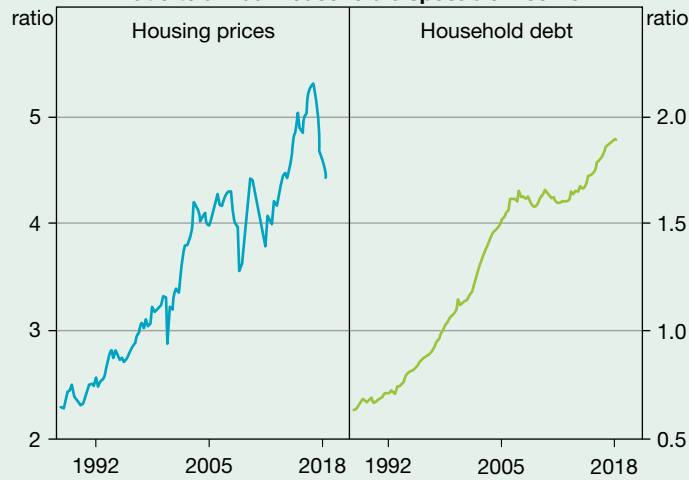
- What are the *general features* of local and/or national property markets? What type of *market structure* commonly exists?
- Who are the *demanders*, buyers, consumers or renters of property, and what factors affect their decisions? How have *demand conditions* for property changed recently? Try to illustrate their impact hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price and quantity of property.
- Who are the *suppliers* or sellers of property, and what factors affect their decisions? How have *supply conditions* for property changed recently? Try to illustrate their impact hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity of property.
- Use the internet to locate and copy a graph showing changes in average property prices over the last decade to the current year. Using this graph, describe the *changes* in property prices (for renters or buyers) in both the short and long term.
- What are the likely *effects of changes in the market prices of property* (paid by buyers and/or renters) on the economic decisions (including resource allocation) made by Australian households and businesses? Predict how this might affect economic conditions and living standards.

By way of example, figure 2.32 contains three graphs. The trends in median property prices (measured by an index with a base year price of 100 points for comparison) across selected Australian capital cities are shown in graph 1. Some other indicators from the property market are shown in the remaining two graphs. Again, price changes reflect the level of relative scarcity of properties, and this is determined by the conditions of demand (D) and supply (S).

FIGURE 2.32 Trends in the index measuring changes in house prices in selected Australian capital cities along with other indicators from the property market.



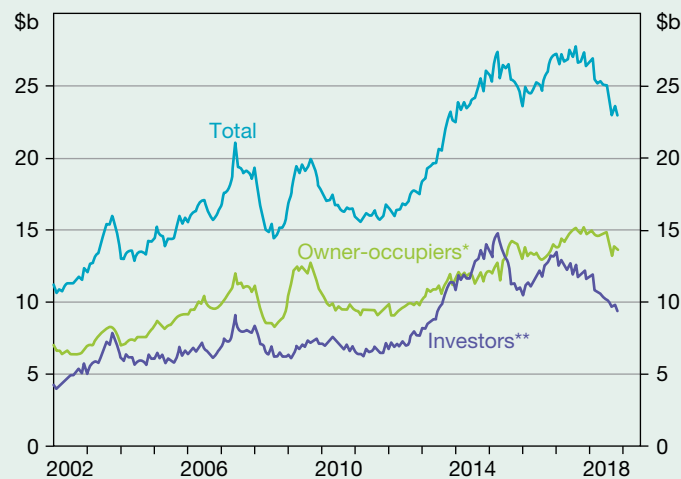
Graph 2 — Housing prices and household debt*
Ratio to annual household disposable income



* Household disposable income is after tax, before the deduction of interest payments, and includes income of unincorporated enterprises

Sources: ABS; CoreLogic; RBA

Graph 3 — Housing loan approvals



* Excludes refinancing

** Includes refinancing

Sources: ABS; RBA

Sources: Data for graph 1 is derived from ABS, 6416.0, Table 1. Graphs 2 and 3 are copied from RBA Chart Pack, see <https://www.rba.gov.au/chart-pack/household-sector.html>.

You might like to start your research into the property market by following the weblinks in the Resources tab.

on Resources

 **Weblinks** RBA Chart Pack — household sector
Real Estate Institute of Victoria (REIV)

THE LABOUR MARKET

Nature

Australia's **labour market** is an institution where labour resources (the physical power and mental talents of different types of workers) are bought and sold at various prices or wages that reflect the relative scarcity of each type of worker. The sellers or suppliers of labour (S) come from the household sector and consist of around 13 million Australians aged 15 years and over who are able and willing to work (classified as members of the labour force). The buyers or demanders of labour (D) are firms wanting staff to fill their job positions.

Structure for the case study research about the labour market

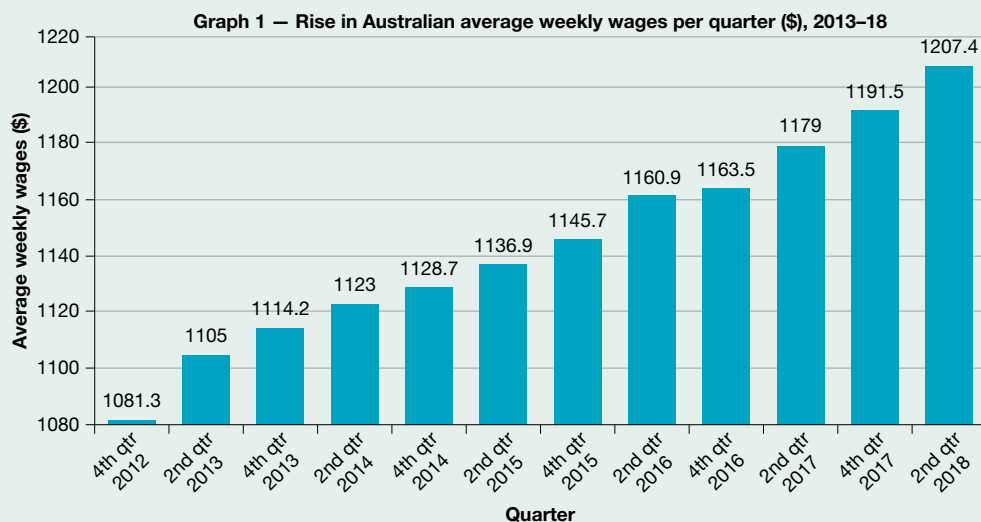
You might like to use the following questions to guide your research into the labour market.

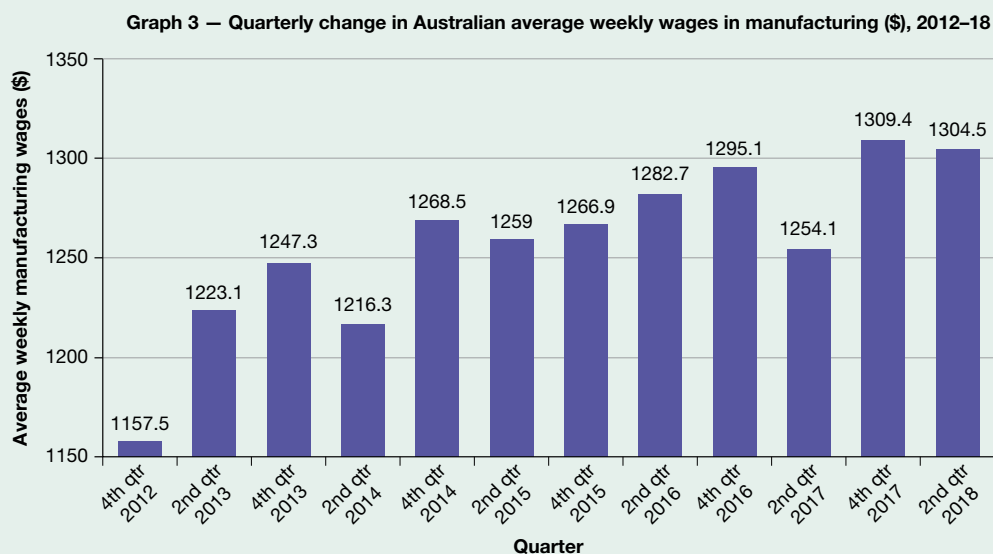
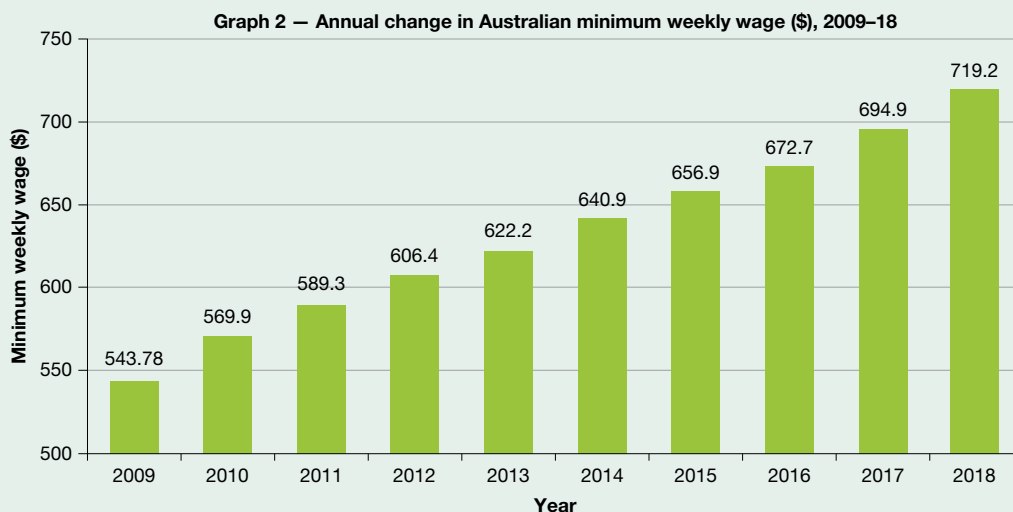
- What are the *general features* of Australia's labour market? What type of *market structure* is common in this market?
- Who are the *demanders* or buyers of labour and what factors affect their decisions? How have *demand conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market demand, and the equilibrium price (wage) and quantity.
- Who are the *suppliers* or sellers of labour and what factors affect their decisions? How have *supply conditions* changed recently? Try to illustrate these hypothetically, using a D–S diagram showing the *before* and *after* effects on market supply, and the equilibrium price and quantity.
- Because of changes in demand and supply conditions, wages or the prices paid for labour have changed. Use the internet to locate and copy a *wage–price graph*, and then describe the *changes* in market wages in both the short and long term.
- What are the *likely effects of changes in labour prices or costs* on the economic decisions (including resource allocation) made by Australian households and especially businesses? Predict how this might affect economic conditions and living standards.

By way of example, figure 2.33 uses three graphs to show how average and minimum weekly wages (as the price of labour) in Australia have changed in recent years. In addition, Australian Bureau of Statistics (ABS) data is available for wages in different states, occupations, genders and educational attainment.



FIGURE 2.33 Changes in average and minimum Australian weekly wages in the labour market





Source: Graphs copied from Trading Economics, January 2018, see <http://www.tradingeconomics.com/australia/>, <http://www.tradingeconomics.com/australia/minimum-wages>, <http://www.tradingeconomics.com/australia/-in-manufacturing>.

You might like to start your research into the labour market by following the weblinks in the Resources tab.

on Resources



Weblinks

Australian Bureau of Statistics
 Australian Council of Trade Unions (ACTU)
 Australian Council of Trade Unions (ACTU schools site)
 Centrelink
 Fair Work Commission
 Commodities crash explained in 90 seconds
 Speculation and manipulation of food and commodities
 Commodities supercycle's end is nigh
 How the stock exchange works

How the stock market works
 The minimum wage
 Foreign exchange (FOREX)
 Wall Street warriors
 Peak oil and possible outcome
 Commodities general introduction
 Oil prices: What's going on?
 Why 2016 could be a turning point in the energy revolution
 \$20 oil could be a reality if this happens

2.9 ACTIVITIES

To answer questions online and to receive **immediate feedback** and **sample responses** for every question go to your learnON title at www.jacplus.com.au.

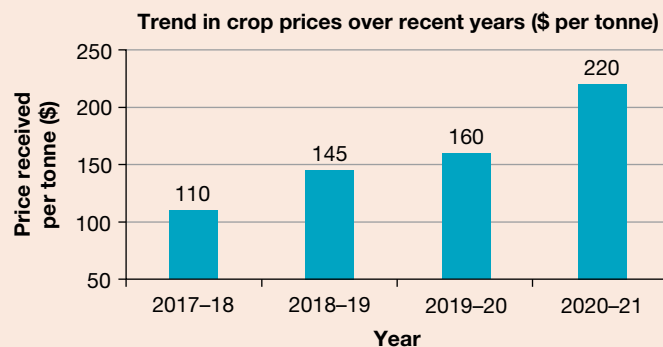
Check your understanding

1. Accurately define any *one* of the following markets:
 - (a) the canola market
 - (b) the market for iron ore
 - (c) the market for property
 - (d) the share market
 - (e) the finance market
 - (f) the labour market.
2. Taking the market you chose in question 1, construct a hypothetical D–S diagram showing how the equilibrium market price and equilibrium quantity would be determined.
3. List *two* non-price factors that could cause an *increase in demand* within this chosen market. Construct and fully label a D–S diagram to illustrate the situation in this market *before* and *after* the impact of these factors.
4. List *two* non-price factors that could cause an *increase in supply* within this chosen market. Construct and fully label a D–S diagram to illustrate the situation in this market *before* and *after* the impact of these factors.

Applied economic exercises

1. In preparation for a major research task about the nature and operation of a particular market that you will choose towards the end of this topic, please attempt the following exercises. These will help get your mind around this task and help you to answer the six main sections that make up the research case study:
 - (a) **The name:** *I am an institution where buyers and sellers of a major crop negotiate a price.* Identify the type of market this is likely to be. (1 mark)
 - (b) **The key features of this market:** *The market for this crop has around 30 000 producers or sellers in Australia.* Classify the market structure and the degree of market power. Outline typical features found in this type of market. (4 marks)
 - (c) **Recent changes in market prices:** Examine the graph in figure 2.34 showing hypothetically the trends in crop prices in this market over recent years. Describe the trend in crop prices shown. Given this trend, predict the direction of prices in 2021–22, justifying your forecast. (3 marks)
 - (d) **Demand by buyers:** Who are the likely buyers (D) of this crop? What *two* non-price *demand* factors might have contributed to the trend in crop prices shown on the graph? Construct and label a D–S diagram to illustrate the effects of these changed non-price demand factors, showing hypothetically the situation *before* and *after* the impact of these factors. (6 marks)
 - (e) **Supply by sellers:** Who are the likely sellers (S) of this crop? What *two* non-price *supply* factors might have contributed to the trend in crop prices shown on the graph? Construct and label a D–S diagram to illustrate the effects of these changed non-price supply conditions, showing hypothetically the situation *before* and *after* the impact of these factors. (6 marks)

FIGURE 2.34 Trend in crop prices over recent years



- (f) **The microeconomic and macroeconomic effects of changes in relative prices:** If the price of other crops has *fallen*, what has happened to *relative prices* at the *microeconomic* level? What effect would this change be likely to have on *relative profits* and income gained from this crop versus other crops? How might this tend to affect employment in this area, the allocation of resources in the short to medium term, and the material living standards of these farmers?

At the *macroeconomic* level, assuming other things remained stable, how might these microeconomic developments tend to affect the nation's overall macroeconomic conditions related to GDP, unemployment, national incomes and average material living standards?

(5 marks)

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Fully worked solutions and sample responses are available in your digital formats.

2.10 Review

2.10.1 Summary

Distinctive features of Australia's economic system

- Australia has a *market-based capitalist economy*. This involves the dominance of the market or price system in decision making, and a system dominated by private enterprise and ownership of assets.
- *Ownership of resources and businesses*. Our capitalist ownership system relies mostly on private enterprise or ownership of resources, businesses or the means of production. Private owners normally make economic decisions so that they maximise their profits. Nevertheless, there are still some small areas of government enterprise, despite privatisation.
- *Decision making*. Our system of decision making relies on the price or *market-based system*, which reflects consumer sovereignty rather than government sovereignty. This is summarised in figure 2.35. Here, relative market prices move up and down due to new conditions of demand by buyers or supply by sellers. Changes in relative prices create signals for profit-seeking owners of resources to indicate which particular types of goods or services are wanted or have been under- or overproduced. Owners of resources will follow these price signals, since they want to maximise their profits and incomes. As a decision maker, the market works as shown in figure 2.35.

FIGURE 2.35 Summary — the operation of the price system as a decision maker in a market economy

- In economics, we all face the problem of *relative scarcity*.
- We cannot have all the goods and services that we want.
- Decision or *choices* have to be made about how limited resources are to be used or allocated (i.e. answer the 'what, how and for whom to produce' questions).



- Australia has a *market-based capitalist* economic system.
- The *market* is an institution that involves buyers and sellers who negotiate relative prices at equilibrium for each good or service.
- With *capitalism*, most resources and businesses are owned by private individuals who make key economic decisions based on their desire to maximise their profits and incomes.
- Generally, only the most *profitable* types of goods and services are produced, using the cheapest or most efficient production methods.



- Over time, *relative prices change* as a result of new non-price conditions of demand and supply.
- A change in relative prices alters the *relative profitability* of one good or service against another.
- Profit-seeking owners of resources respond to these *price signals*, by changing the type and quantity of goods and services they produce, how they produce them, and for whom they are produced.

The nature of markets in Australia

Markets make up the main decision-making institution in the Australian economy and, hence, we have a *market-based system*. There are thousands of markets scattered around the country. They allocate around 80 per cent of our resources.

- *Markets* bring buyers and sellers together where they negotiate prices. Prices for resources are negotiated in factor or resource markets, while prices for finished goods and services are negotiated in final markets.
- *Market structure* (or market power) is a term that describes the type and level of competition between sellers. At the extremes, there is perfect or pure competition (many sellers, strong rivalry and sellers are price takers) and perfect or pure monopoly (only one firm controlling the market and it is a price maker). Between these extremes are monopolistic competition and oligopoly.
- Perfectly or purely competitive markets involve *special preconditions or features* (e.g. strong competition between sellers, no product differentiation, no government controls or regulations, good knowledge of market trends, profit maximisation and rational behaviour by buyers and sellers). In reality, examples of perfectly or purely competitive markets are less common than monopolistic competition, oligopolies and monopolies. Because competition constrains personal greed, the Australian Competition and Consumer Commission (ACCC) helps to promote competition among rival sellers, and outlaws anti-competitive behaviour through the *Competition and Consumer Act 2010*.
- *Markets tell us what types of things and how much to produce, and how to distribute production and incomes*. They do this through the price system. In turn, changes in relative prices affect whether a particular good or service is *profitable*. Rising prices act as a positive incentive and usually signal to profit-seeking owners of resources that there has been underproduction and that output needs to be lifted. Falling prices in the market act as a negative incentive and signal that there has been overproduction and that output should be cut by diverting resources to other purposes.

Looking at markets using demand–supply diagrams

The price or market-based system plays a vital decision-making role in our economy. Economists often use demand–supply diagrams to illustrate how various markets work. Several points can be made about these diagrams:

- *The demand for goods and services*. The demand curve or line in figure 2.36 shows that the quantity demanded by buyers (D) contracts (from Q_2 to Q_1) as the price rises (from P_1 to P_2), and the quantity demanded expands (from Q_1 to Q_2) as the price falls (P_2 to P_1). Movements along the demand line illustrate the *law of demand*.
- *The supply of goods and services*. The supply curve or line in figure 2.37 shows that the quantity that would be supplied by sellers (S) expands (from Q_1 to Q_2) as the price rises (from P_1 to P_2), and the quantity supplied contracts (from Q_2 to Q_1) as the price falls (from P_2 to P_1). Movements along the supply line illustrate the *law of supply*.

FIGURE 2.36 The demand curve or line for buyers

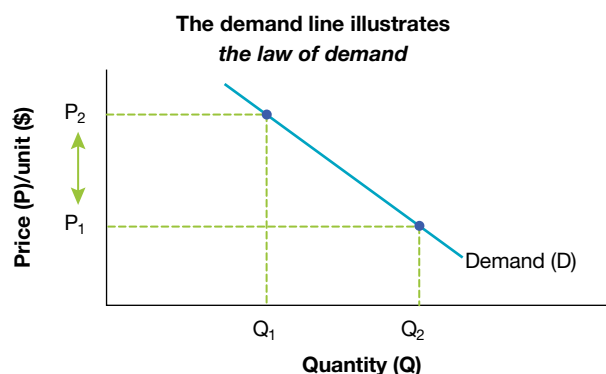
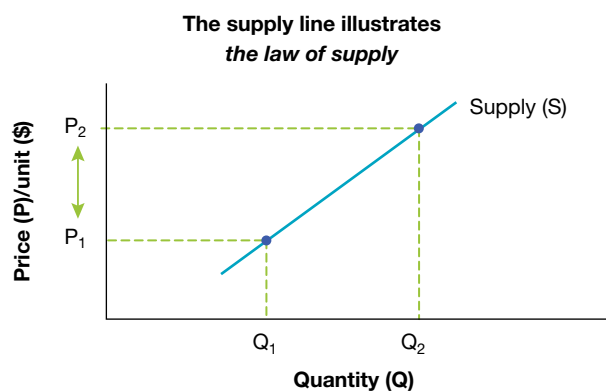
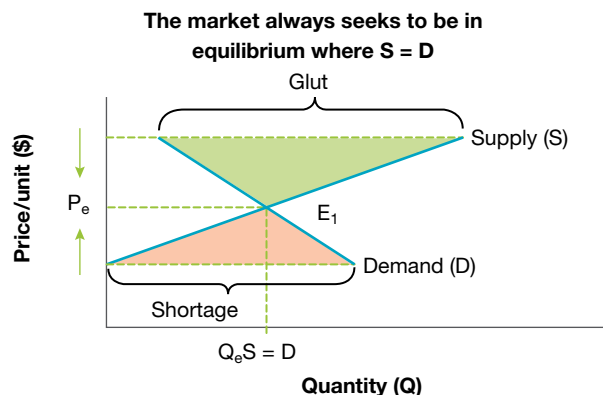


FIGURE 2.37 The supply curve or line for sellers



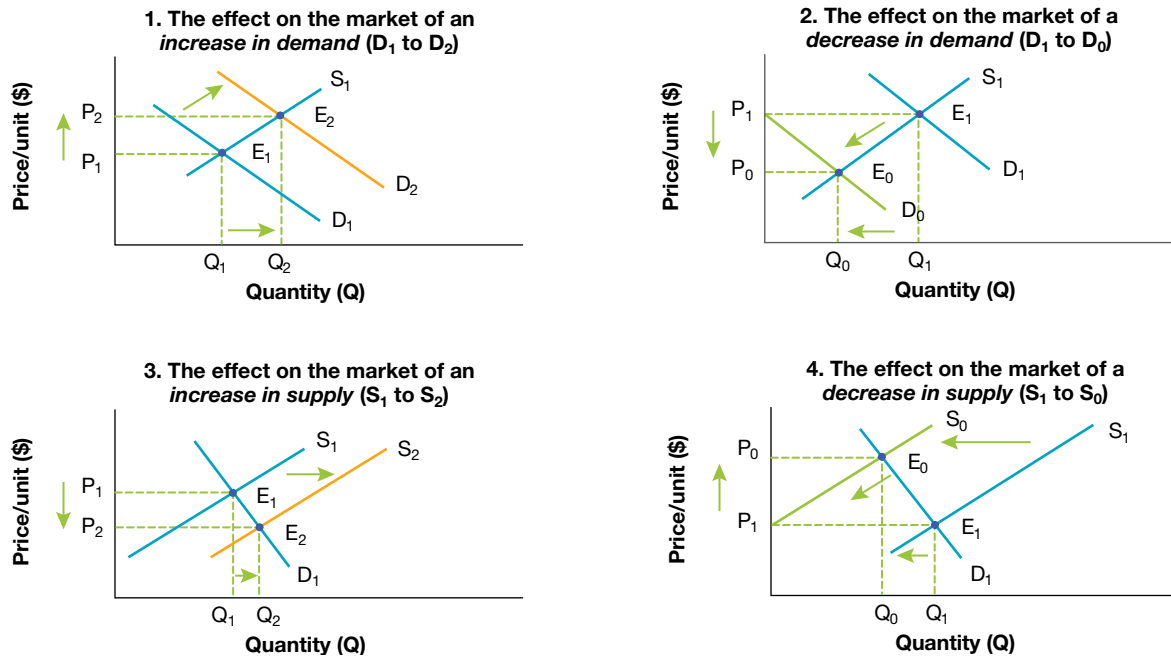
- **Market equilibrium.** The free market always tries to move to a position of equilibrium (E_1) as shown in figure 2.38. Only at this point do buyers (D) and sellers (S) reach an agreement about the actual market price (at P_e) and market quantity (Q_{e1}). Here, S equals D. At prices *above equilibrium*, there will be a glut (overproduction) in the market where $S > D$. Here, prices will be forced down towards the equilibrium level (i.e. at P_e). However, at prices *below equilibrium*, there will be a shortage (underproduction) in the market, pushing prices up to the equilibrium level (at P_e).

FIGURE 2.36 How market equilibrium is reached



- **Changes in market equilibrium due to new non-price conditions of demand and supply.** Once an equilibrium market price is established for each item, these prices are unlikely to remain steady for long because buyers and sellers are continually reviewing their decisions and changing their behaviour as a result of non-price factors. Buyers may choose to demand an increased or decreased quantity of a particular good or service at any given price, while sellers may also choose to supply an increased or decreased amount of a particular good or service at any given price.
- The equilibrium market price can be affected by changes in the non-price *conditions of demand*. These conditions of demand (the quantity demanded at a given price) can change due to changes in advertising, disposable income, tastes, fashions, weather conditions, government taxes, and the prices of complementary and substitute products.
 - Using diagram 1 in figure 2.39, these new stronger demand conditions can cause the position of the demand curve or line to shift horizontally and increase from D_1 to D_2 , causing a rise in the equilibrium market price from P_1 to P_2 .
 - Alternatively, using diagram 2 in figure 2.39, new weaker demand conditions can cause the quantity demanded at a given price to decrease from D_1 to D_0 , causing the equilibrium price to fall from P_1 to P_0 .
- The equilibrium market price can also be affected by changes in the non-price *conditions of supply*. These conditions of supply that alter the amount supplied at a given price can change due to changing seasonal factors, production costs such as wages, interest rates, altered profitability, tax rates on firms and government assistance to producers.
 - Using diagram 3 in figure 2.39, these new stronger conditions can cause the whole supply line to shift and increase from S_1 to S_2 , resulting in a fall in the equilibrium market price from P_1 to P_2 .
 - In reverse, using diagram 4 in figure 2.39, new less favourable conditions can decrease the quantity supplied at a given price from S_1 to S_0 , resulting in a rise in the equilibrium market price from P_1 to P_0 .
- In response to rising or falling market prices that act as incentives, owners of resources and businesses increase or decrease their allocation of resources to produce particular types of goods or services. They follow these price signals to help maximise their profits and incomes. That is, self-interest causes firms to follow price signals and to produce the things consumers want to buy.

FIGURE 2.39 How new non-price factors or conditions of demand and new non-price factors or conditions of supply can affect the equilibrium market price and quantity



Background for research case studies about the operation of markets

Given the importance of markets in the Australian economy, you should undertake a research case study approach to illustrate the theory of the market studied earlier. One of the following markets (or others listed in the course) may provide the focus for a case study:

- *agricultural markets* — institutions where the prices of rural commodities like canola or wheat are set by buyers and sellers
- *markets for mineral commodities* — institutions where the prices of commodities like oil and gold are set by buyers and sellers
- *housing and property markets* — institutions where land and real estate prices are determined by buyers and sellers
- *labour market* — an institution where buyers and sellers of labour negotiate wages and conditions
- *share market* — an institution where share prices are determined in the stock market by buyers and sellers
- *foreign exchange market* — an institution where the rate at which the A\$ is swapped for other currencies is determined by buyers and sellers
- *finance market* — an institution where borrowers and lenders of credit or money determine interest rates.

on Resources

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To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31534).

2.10.2 Key terms

The **community market** is a local institution, perhaps in a suburb or small town, where buyers and sellers of crafts, foods, used wares and plants meet to negotiate prices.

Consumer sovereignty is where the particular types of goods and services produced reflect what individual consumers purchase, rather than this decision being made through government planning.

Demand for a particular good or service represents the amount of a good or service that consumers are prepared to purchase at a given price. Demand varies inversely with price.

Demand–supply diagrams are used to illustrate, hypothetically, how buyers (demanders) and sellers (suppliers) of a particular type of good or service help determine the market price at which the item sells.

Economies of large-scale production are reductions in per unit production costs that are gained when a firm's fixed costs (e.g. for product design or advertising) can be spread more thinly across a larger level of output.

Equilibrium is the natural situation towards which all free and competitive markets tend to move. It exists only when the quantity demanded exactly equals the quantity supplied, and there is no market glut or shortage.

Equilibrium price is the unique price for a particular good or service that is determined in a market when the quantity demanded is exactly equal to the quantity supplied.

Factors or **conditions of demand** are the non-price influences on the quantity of a particular good or service that buyers are prepared to purchase or demand *at a given price*. When demand conditions change, this shifts the whole demand line to the right (an increase in the quantity demanded at a given price) or to the left (a decrease in the quantity demanded at a given price) of the original demand line, thereby affecting the equilibrium price.

Factors or **conditions of supply** represent the non-price influences on the quantity of a particular good or service that sellers are prepared to produce or sell at a given price. When supply conditions change, this shifts the whole supply line to the right (an increase in the quantity supplied at a given price) or to the left (a decrease in the quantity supplied at a given price), thereby affecting the equilibrium price.

The **finance market** is an institution where buyers (borrowers) and sellers (lenders) of credit or finance negotiate a price that is called the rate of interest.

The **foreign exchange market** is an institution where buyers and sellers of international currencies exchange or swap currencies at a price that is called the exchange rate.

International competitiveness relates to whether a business or country is able to produce and sell its goods and services profitably at prices that are below those for similar goods or services made abroad.

The **labour market** is an institution where buyers and sellers of labour resources (i.e. physical power and mental talents of workers) negotiate a price that is called a wage.

The **law of demand** states that as the price of a particular good or service rises, the quantity demanded contracts, whereas if the price falls, the quantity demanded expands.

The **law of supply** states that as the price of a particular good or service rises, the quantity supplied expands, whereas as the price falls, the quantity supplied contracts.

A **market** is simply an institution or organisation where buyers (who create a demand for the item) and sellers (who control the supply of the item) of an individual good or service negotiate an agreeable price.

A **market-based capitalist economy** is the type of economic system found in Australia and many other countries. Here, most decisions about the allocation or use of resources are made by consumers through the market or price system, while most businesses or the means of production are owned by private individuals (i.e. capitalism or private enterprise).

Market power exists when a firm has much control or influence in a market (it is a price maker) because competition is limited and it has a monopoly or is an oligopoly.

Market shortage occurs at a price that is below the equilibrium price, where the quantity demanded is greater than the quantity supplied.

Market structure refers to the nature and level of competition that exists in particular markets (e.g. perfect or pure competition, monopolistic competition, oligopoly and perfect or pure monopoly).

Market surplus or **glut** occurs at a price that is too high and above the equilibrium price. Here the quantity demanded is less than the quantity supplied.

Material living standards refer to how well off an individual or society is when measured in terms of its income, production or consumption levels of goods and services per person per year.

Monopolistic competition occurs when there are quite a few sellers of each product. These products are similar but not identical, since each seller's product is differentiated from that of its rivals by particular features including brand names and design.

Movement along the demand line from one point to another is caused by a rise or fall in the level of prices.

Following the law of demand, a rise in price causes demand to contract, while a fall in price causes demand to expand.

Movement along the supply line from one point to another is caused by a rise or fall in the level of prices.

Following the law of supply, a rise in price causes supply to expand, while a fall in price causes supply to contract.

Non-rural commodity markets are institutions where buyers and sellers of raw materials extracted from the ground negotiate prices.

An **oligopoly** exists when the level of competition is limited because a few large firms control the output of an industry.

Perfect or pure competition exists when there are many sellers of a good or service in a market and each seller has little market power.

Perfect or pure monopoly occurs when competition in a particular industry or market is weak, and a single firm controls the output of an entire industry.

Price makers refer to markets where firms face little or no competition and can set their own prices.

Price takers are those firms operating in strongly competitive markets where there is strong competition and firms have no power to set the prices they receive.

The **property market** is an institution where buyers and sellers of land, houses, units and industrial sites (property) negotiate a price.

Purchasing power refers to the quantity of goods or services that can be bought with each dollar of income. It is affected by prices and inflation.

Relative prices is a concept that compares the price level of one good or service against the price of another (e.g. the price of lamb versus the price of chicken). Changes in the relative price of one good against that for another are likely to affect relative profits and hence decisions made about how resources will be used or allocated.

Relative profits is a concept that compares profits gained from producing one particular good or service against those gained from producing another. This is affected by changes in relative prices. Relative profitability is used to guide most business decisions.

Rural or agricultural commodity markets are institutions where buyers and sellers of farm produce (e.g. grains) negotiate prices.

Shift in the position of the demand line is caused by changes in non-price conditions affecting the quantity of a good or service bought at any given price.

Shift in the position of the supply line is caused by changes in non-price conditions affecting the quantity of a good or service sold at any given price.

The **stock market** is an institution where buyers and sellers of company stocks negotiate share prices.

Supply of a particular good or service represents the amount of a good or service that sellers are prepared to produce or sell at a given price. Supply varies directly with price.



Resources



Digital documents Key terms glossary (doc-31533)

Crossword (doc-31537)

Wordsearch (doc-31538)

Match-up definitions (doc-31539)

2.10 Review questions

To answer questions online and to receive **immediate feedback** and **sample responses** for every question go to your learnON title at www.jacplus.com.au.

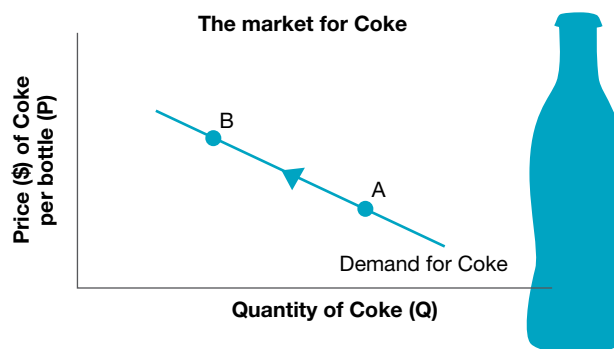
2.10 Exercise 1: Multiple choice questions

- Concerning different types of market structure, which statement is *false*?
 - Perfect or pure monopoly exists when there is a single producer or seller in a market.
 - Oligopolies exist when there are many large firms competing strongly in the market.
 - Perfect or pure competition exists when there are many rival firms, each selling an identical or homogeneous product.
 - Monopolistic competition exists when there are quite a few competing producers in a market, each selling a product differentiated by brand names and other elements.
- In Australia's economy, the *market* as an institution allocates around what percentage of resources?
 - 80 per cent
 - 50 per cent
 - 20 per cent
 - 10 per cent
- The market or price system in Australia helps to decide or answer which of the following?
 - The particular types of goods or services to be produced
 - The volume of each type of good or service to be produced
 - How production and income will be distributed or shared between individuals
 - All of the above
- Which of the following is *not* a precondition of a *perfectly* or purely competitive market?
 - Many buyers and sellers competing
 - The absence of product differentiation
 - The use of regulations and controls by the government
 - Profit maximisation and a good knowledge by buyers and sellers of changing market conditions
- Generally, firms try to maximise their profits. In general, areas of production that are most profitable are *best* indicated by looking at:
 - the final selling price of the good or service.
 - the costs or prices paid for the resources used in production of the good or service.
 - the difference between the final selling price and the prices paid for resources used in the production of the good or service.
 - national sales levels for the good or service.
- Which of the following *best* describes the market for factors of production or productive inputs?
 - Where households supply labour, capital and natural resources
 - Where firms purchase or demand resources
 - Where the prices paid for resources used in production are negotiated
 - All of the above
- For a competitive market, which of the following is *most* correct?
 - Rising prices in a market usually indicate a growing shortage or underproduction.
 - Falling prices indicate that demand exceeds supply.
 - Rising prices indicate that supply exceeds demand.
 - Rising prices indicate that the conditions of demand and supply are steady.

8. In a free or competitive market, *rising* prices for toothpaste reflect:
- A. a glut or surplus in the toothpaste market.
 - B. a shortage in the toothpaste market caused by a rise in the number of buyers relative to the number of sellers.
 - C. an increase in supply because of new cheaper technology that can be used in making toothpaste.
 - D. too many resources allocated to the production of toothpaste and overproduction.
9. Underproduction and a market shortage of bubble gum would be indicated by:
- A. falling bubble gum prices.
 - B. both rising and falling bubble gum prices caused by the erratic behaviour of bubble gum markets and buyers.
 - C. rising stocks and falling sales of bubble gum.
 - D. rising market prices for bubble gum.

10. According to the law of demand, a *contraction* along the demand line for Coke from point A to point B (as illustrated here) is *most* likely to be caused by:

- A. a rise in the price of Coke.
- B. a decrease in the cost of producing Coke, such as cheaper soft drink cans.
- C. a disappointing advertising campaign using country singer John Williamson.
- D. an increase in the supply of Coke.

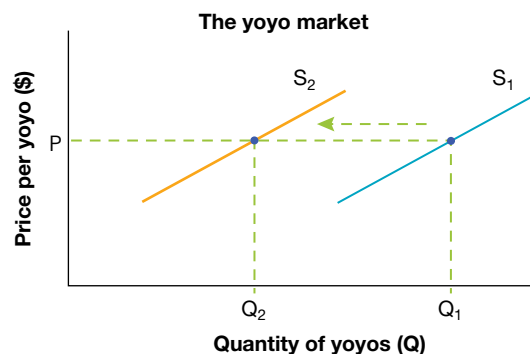


11. The law of supply states that the quantity of a good or service supplied by producers varies:

- A. directly with a rise in price.
- B. inversely with a rise in price.
- C. proportionally with a rise in price.
- D. in response to changes in the conditions of demand.

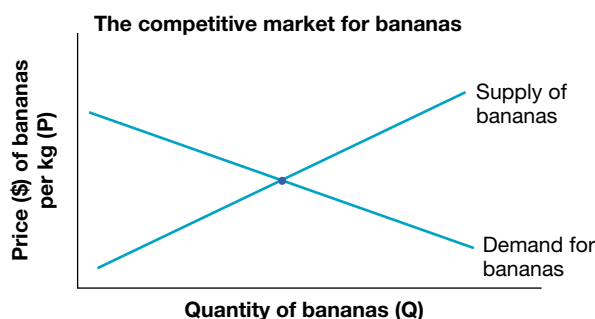
12. Which of the following *best* explains the shift in supply of yoyos from S_1 to S_2 as illustrated here?

- A. Falling wages for workers in yoyo factories
- B. Higher costs of materials (e.g. string, plastic) used to make yoyos
- C. A fall in the demand for yoyos
- D. Rising profits among yoyo producers



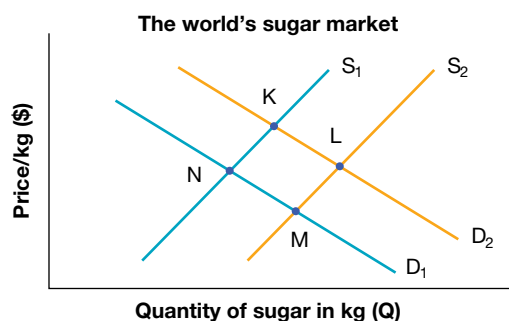
13. In 2014–15, banana crops in some parts of the world were devastated by poor growing conditions (e.g. cyclones, cold weather, floods) in the tropics and the effects of disease that killed plants. Assuming a competitive market for bananas similar to that illustrated here, which of the following descriptions *best* sums up the effects of these events?

- A. The equilibrium price of bananas would fall and the equilibrium quantity would rise.
- B. The equilibrium price of bananas would rise and the equilibrium quantity would fall.
- C. The demand for bananas would fall.
- D. The supply of bananas would rise.



14. Assume that the market for air tickets was a competitive one. In terms of market theory, which of the following is *unlikely* to *reduce* the price of Australian airfares to New Zealand?
 - A. A lower cost of planes purchased by airline carriers
 - B. Greater competition among airlines to operate on that route
 - C. A rapid rise in Australian disposable incomes
 - D. Lower aircraft landing fees in Auckland Airport
15. Between 2002–03 and 2007–08, and again during 2009–11, general interest rates in the Australian capital market rose. In terms of market theory, which of the following does *not* provide a logical explanation for the *rise* in market interest rates?
 - A. A rise in the demand for credit by households borrowing credit
 - B. Decreased savings by households held in various financial institutions (e.g. banks)
 - C. The failure of the government's policies to encourage superannuation and increase domestic savings levels by households
 - D. A fall in the level of government borrowing or demand for credit due to the federal government's budget surplus where there was no need for the government to borrow or demand credit
16. Which of the following would *not* explain the recent *fall* in world wool prices paid to Australian growers?
 - A. A fall in local production costs for wool growers
 - B. A fall in the demand for wool, both in Australia and overseas
 - C. A rise in the world's supply of wool
 - D. The replacement in fashion of the famous ultra-skimpy mini-skirt that uses very little wool, with longer maxi-skirts that use more wool in manufacture
17. In a perfectly or purely competitive market for sunglasses, equilibrium exists when:
 - A. there is no shortage or surplus.
 - B. the quantity supplied equals the quantity demanded.
 - C. there is no tendency for the market price to rise or fall.
 - D. all of the above conditions are achieved.

18. In 2017–18, there was a world record crop of sugar. Prices tumbled in this competitive market. Examine the graph shown here. Which change on the demand–supply diagram illustrates this economic development in the sugar market?



- A. The move from market equilibrium K to L
 - B. The move from market equilibrium L to M
 - C. The move from market equilibrium N to M
 - D. None of the above
19. Theoretically, which one of the following would *not* explain the *fall* in world cotton prices, assuming a competitive market existed for cotton?
 - A. A rise in the costs of machinery for cotton farmers caused by a lower Australian dollar
 - B. A weaker demand for cotton caused by a recession in Asia and the US
 - C. Stronger levels of competition from easy-care synthetic fabrics
 - D. A drop in the price of land used for growing cotton
20. A rare Australian stamp was sold at public auction for \$88 000. Which of the following answers offers the *best* explanation of why the market price for this stamp was so high?
 - A. Buyers and sellers were misled about the collection's value.
 - B. The demand for these stamps by buyers was very strong.
 - C. The supply of these stamps was fixed or limited.
 - D. Both answers B and C help to explain the high price.

21. Examine the hypothetical data contained in table 2.11 for the new extreme form of outdoor entertainment involving ‘Wild Activities’. New venues sprang up in Melbourne and Geelong. In order to share these thrills, daily entry tickets must be purchased through the market. Assume that there is a competitive market operating for tickets.

TABLE 2.11 The demand and supply for ‘Wild Activities’ tickets

Price per entry ticket into ‘Wild Activities’	Demand (tickets per day)	Supply (tickets per day)
\$10	9000	5000
\$15	8000	6000
\$20	7000	7000
\$25	6000	8000

Which of the following statements about the ticket market for ‘Wild Activities’ is *false*?

- A. The demand for tickets contracts as the price rises.
 - B. The supply of tickets expands as the price falls.
 - C. There would be a market glut of tickets equal to 2000 per day if the price was fixed at \$25 per ticket.
 - D. In a free market, the equilibrium price of tickets would be \$20 per ticket.
22. In the Australian economy, which of the following is *most* correct?
- A. Decisions are made mostly by the government and there is private ownership of most resources and businesses.
 - B. It is through the operation of the market system that some decisions are made about how to allocate resources.
 - C. The government owns most of the means of production.
 - D. Demand and supply operate to create price signals to the owners of resources to help them answer the three basic economic questions, and there is a dominance of private enterprise or capitalism.
23. The demand line for fresh tomatoes will normally shift to the *left* of the original demand line if:
- A. the incomes of consumers increase.
 - B. the price of a complement like lettuce rises.
 - C. if there is successful advertising for a complementary good.
 - D. tinned tomatoes became dearer.

24. Examine figure 2.40 showing the world trend in the price of gold (US\$ per ounce) from January 1990 to January 2019.

FIGURE 2.40 Trends in the price of gold (cents US per ounce), 1990–2019



Source: InvestmentMine, <http://www.infomine.com/investment/metal-prices/gold/all>.

Theoretically, which one of the following would *not* explain the spike or peak in the gold price in 2011–12?

- A. There may have been an increase in the demand for gold at a given price, perhaps driven by global economic uncertainties.
 - B. There may have been a decrease in supply of gold at all given prices.
 - C. There may have been a decrease in the demand for gold combined with an increase in supply.
 - D. There may have been an increase in the demand for gold combined with a decrease in supply.
25. Which of the following statements about market structure is *most* correct?
- A. Inflation is generally higher when there is perfect competition in most markets.
 - B. Product quality and customer service are generally poorer, and industry output is lower, when there is a perfect monopoly in a market.
 - C. In general, takeovers and mergers of firms tend to reduce market power.
 - D. Material living standards are generally higher when firms are price makers.

on Resources

- Digital documents** Multiple choice answer grid (doc-31535)
Multiple choice answers (doc-31536)

2.10 Exercise 2: Extended response questions

1. Identify two distinguishing features (other than the product being sold) between the market for beef and the market for electricity. **(2 marks)**
2. Market power
 - a. Define the term *market power*. How does greater market power affect prices in the market? **(2 marks)**
 - b. In what ways would the market power of an Australian wheat farmer *differ* from that of a major supermarket? **(2 marks)**
3. Qantas and Jetstar together produce and control perhaps 80 per cent of Australia's domestic aviation industry. Identify and then explain *three* important and likely *features* of this industry's market structure. **(3 marks)**
4. In general, most economists believe that competitive markets are usually beneficial and bring benefits to individuals and the economy overall. Identify and explain three important *advantages* of highly *competitive* markets. **(3 marks)**
5. Between mid 2012 and early 2018, *property prices* in Melbourne and Sydney rose strongly. Identify and then explain the *three* most important *non-price microeconomic conditions* that are likely to have *increased the demand* for property in these cities at a given price during this period, thereby driving up property prices. **(3 marks)**
6. Examine table 2.12 and then answer the questions that follow.

TABLE 2.12 Hypothetical demand–supply data for Australian avocados

Price per avocado	Quantity ('000) of avocados demanded per year (D_1)	Quantity ('000) of avocados supplied per year (S_1)
\$0.50	600	200
\$1.00	500	300
\$1.50	400	400
\$2.00	300	500
\$2.50	200	600

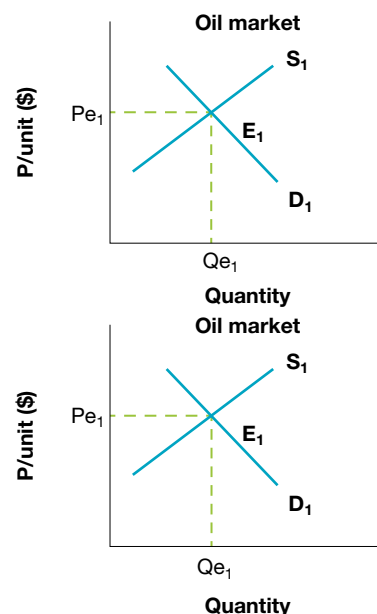
- a. Using table 2.12, accurately construct and fully label a D–S graph for avocados. Your labelling must include an appropriate scale and units for each of the two axes, and needs to show the demand (D) line and the supply (S) line, as well as the original equilibrium price (P_{e1}) and equilibrium quantity (Q_{e1}). **(4 marks)**
- b. What is the market equilibrium *price* (\$/unit) for avocados? **(1 mark)**
- c. What is the market equilibrium *quantity* ('000) of avocados? **(1 mark)**
- d. Quoting figures from the table or your graph, describe the situation that would exist in the avocado market at an excessively *low* price of \$0.50. **(2 marks)**
- e. Quoting figures from the table or your graph, describe the situation that would exist in the avocado market at an excessively *high* price of \$2. **(2 marks)**
- f. Identify two *non-price demand factors* and two *non-price supply factors* that might cause the equilibrium market price of avocados to:
 - i. rise. **(4 marks)**
 - ii. fall. **(4 marks)**
 - iii. Illustrate the effects of changes in these four sets of non-price factors on four fully labelled D–S diagrams (one for the increase in demand, one for the decrease in demand, one for the increase in supply, and one for the decrease in supply). **(12 marks)**

7. Between early 2013 and early 2019, the price of crude oil fell, overall, from around US\$100 a barrel to a low of about US\$70. Oil is used for making petrol that is needed for road and air transport, generating power, and making plastics, chemicals and synthetic fabrics.

a. List and outline *two* important and likely *non-price demand* conditions that might help to explain this overall *fall* in the market price of oil. Using the diagram shown here as a template, construct a D–S diagram representing the oil market in 2013 (the original situation *before* the fall in price), and then show the hypothetical effects of these two new non-price demand conditions causing the oil price to fall. Label all new lines and points clearly. (5 marks)

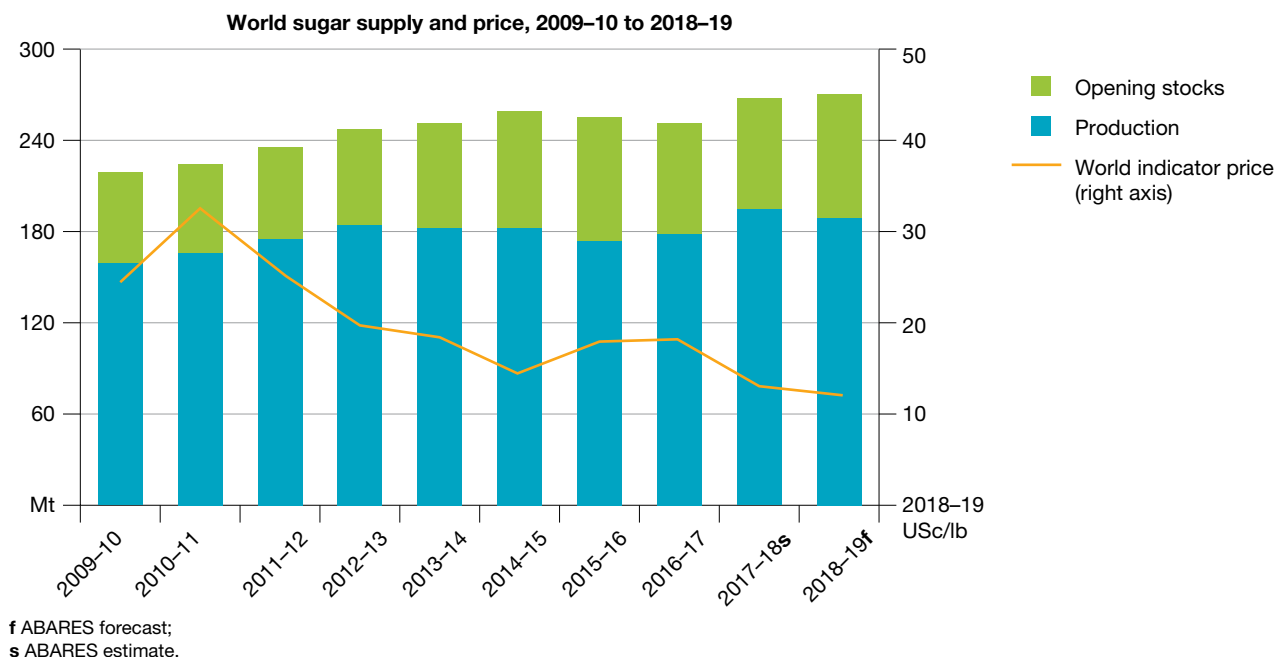
b. List and outline *two* important and likely *non-price supply* conditions that might help to explain this overall *fall* in the market price of oil. Using the diagram shown here as a template, construct a D–S diagram representing the oil market in 2013 (the original situation *before* the fall in price), and then show the hypothetical effects of these two new non-price supply conditions causing the oil price to fall. Label all new lines and points clearly. (5 marks)

c. Referring to the diagram that you completed for part b, explain the main steps whereby the equilibrium market price *fell* from Pe_1 to a new lower equilibrium price of Pe_2 . (3 marks)



8. Look at figure 2.41 showing how the international *market price of sugar* (see the world indicator price or orange line on the graph, measured in US cents per pound weight) and other data have changed in recent years. Sugar or sugar cane is used to produce foods and drinks, and even to make biofuel (petrol) for motor vehicles.

FIGURE 2.41 Trends in price and other data related to the sugar market



f ABARES forecast;
s ABARES estimate.

Source: Graph copied from ABARES 2018, *Agricultural commodities: December quarter 2018*, see <http://www.agriculture.gov.au/abares/research-topics/agricultural-commodities/dec-2018/sugar>.

a. Quoting figures from figure 2.41, describe the *general trend* in the sugar price between 2010–11 and 2018–19. (2 marks)

- b. Thinking back to basic market theory, suggest *two* possible reasons for the *trend* in the price of sugar between 2010–11 and 2018–19 you noted in part a. Illustrate this hypothetically by constructing a D–S diagram that shows the *original* market situation for 2010–11 and then that for 2018–19. (5 marks)
- c. The market provides owners of resources with information that can then be used to make important economic decisions. Giving reasons, explain how the *general trend* in sugar prices between 2010–11 and 2018–19 is likely to impact on the *profitability* of sugar farmers and on the way their resources are likely to be used or allocated between different types of goods. (2 marks)

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2.10 Practice school-assessed tasks

AN ESSAY

You may like to select *one* of the following topics and write an 800-word revision essay.

1. Referring to recent trends in the prices received by grain, cattle or wool farmers, explain how the free operation of the *price system* should work well to allocate Australia's scarce resources between alternative uses. (9 marks)
2. In the absence of government intervention in these primary commodity markets, what *problems* may arise for farmers, and for the Australian economy generally, when there is a change in relative prices? (9 marks)

ANALYSIS OF VISUAL EVIDENCE — A CARTOON

There are many cartoons that could be used to extend your understanding of economics and the operation of markets. Use the internet to select a relevant cartoon about one of the areas we have studied (e.g. the free market and the price system, or demand and supply). Answer the following questions to help you analyse the cartoon selected.

1. What is the economic concept being presented in the cartoon?
2. What is the main message of the cartoon?
3. What is your reaction to the cartoon? Do you agree with what it is saying?
4. Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer. (4 marks)

RESEARCH AND SYNTHESISE INFORMATION ABOUT ONE OF AUSTRALIA'S RURAL COMMODITY MARKETS

Use the **Agricultural commodities** weblink in the Resources tab to download the latest *agricultural commodities report* that is published quarterly. Here you will find graphs about prices and other information about conditions in Australia's key agricultural commodity markets.

1. From this information, select and describe one rural commodity where prices are expected to *fall* in the future and one where prices are expected to *rise*. Suggest likely reasons for these changes in prices. (2 marks)
2. Given recent trends and the expected changes in the relative prices for these two commodities, *predict* and explain how farmers would be likely to respond to this information about the market and its various price signals, and reason how they might change how they use or allocate their resources in the upcoming future. (3 marks)

on Resources



Weblink

Agricultural commodities



Digital documents

Additional Practice SACs (doc-31550)

A case study presentation — on your chosen market case study (doc-31549)

Simulation — the ASX online Schools' Sharemarket Game (doc-31553)

Fieldwork — Excursion to the nature and operation of the Queen Victoria Market (doc-31552)

UNIT 2

CONTEMPORARY ECONOMIC ISSUES

As a social science, economics often looks at contemporary issues where there are wide differences of opinion and constant debate. In most instances the decisions made by consumers, businesses and governments may benefit some stakeholders but not others. Trade-offs, where the achievement of one economic or public policy goal may come at the expense of another, are the subject of much debate in economic circles.

Economic growth is generally associated with improvements in living standards as real incomes grow over time. Students explore how the benefits of economic growth are shared in an economy and begin to appreciate that efforts to increase economic efficiency can sometimes lead to a more inequitable distribution of income. They evaluate the role of government intervention in markets and discuss whether achieving greater equality necessarily causes a decline in economic growth and average living standards. Through the analysis of specific policy measures, students analyse and question the nature of this key trade-off and evaluate whether there is a degree of compatibility between equity and efficiency.

AREA OF STUDY	OUTCOME	TOPICS
1 Economic growth, long-term economic prosperity and environmental sustainability	Explain the factors and policies that may influence economic growth and environmental sustainability, and analyse the potential trade-off	3 Economic growth, long-term economic prosperity and environmental sustainability
2 Economic efficiency and equity	Explain the factors and policies that may influence equity in the distribution of income and efficiency of resource allocation, and analyse the potential trade-off.	4 Economic efficiency and equity as contemporary economic issues
3 Global economic issues	Explain the factors that may influence a global economic issue/s and evaluate potential consequences associated with actions to address the issue/s	5 Free trade versus protectionism 6 Globalisation 7 The challenges faced by developing nations in reducing poverty

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.



3 Economic growth, long-term economic prosperity and environmental sustainability

3.1 Overview

Numerous **videos** and **interactivities** are available just where you need them, at the point of learning, in your digital formats, learnON and eBookPLUS at www.jacplus.com.au.

3.1.1 Introduction

Economic growth involves increasing the size of the Australian economy so it is able to produce a greater quantity of goods and services between one year and the next. Normally, we would be inclined to think that increasing the size of the Australian economy should make us better off and improve society's wellbeing or living standards. However, among other matters, we will explore if economic growth really does make life better, and examine the environmental and other consequences of economic growth.

Economic growth can increase our material living standards, but if it results from depleting our natural resources, it may cause environmental damage, undermining the wellbeing and prosperity of society, now and for future generations.

FIGURE 3.1 Internationally, every country faces decisions about how to use scarce resources in order to gain economic growth. In Malaysia, Borneo rainforests are being cleared to make way for palm oil plantations. Are there benefits to having a strong economy if it is destroying its environmental base, threatening future living standards?



Upon completion of this topic, you should be able to explain the factors and policies that may influence economic growth and environmental sustainability, and be able to analyse the potential trade-offs.

3.1.2 What you will learn

KEY KNOWLEDGE

Use each of the following points from the VCE Economics Study Design as a heading in your summary notes.

- the nature and meaning of trade-offs in economics
- aggregate demand and its components
- aggregate supply
- the meaning and measurement of economic growth using real gross domestic product (GDP) and real GDP per capita
- the economic benefits of economic growth such as growth in material living standards, employment opportunities, economic development and non-material living standards
- the limitations associated with using GDP per capita to measure changes in living standards
- aggregate demand and aggregate supply factors that may influence economic growth
- factors that might affect future rates of economic growth such as an ageing population and labour force participation
- government economic policy responses designed to influence the rate of economic growth such as budgetary policy, monetary policy and aggregate supply policies
- the meaning of both long-term economic prosperity and environmental sustainability
- economic and environmental costs of economic growth such as climate change, depletion of natural resources and deterioration of common access resources
- trade-offs and compatibility between economic growth and environmental sustainability
- alternative economic indicators of living standards
- the effect of policy response used to address environmental effects of economic growth such as market-based approaches, direct actions and regulation

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- access and synthesise information gathered from a range of sources and draw conclusions
- identify trends, patterns, similarities and differences in economic data and other information
- gather, interpret and analyse statistical and graphical data
- evaluate the potential costs and benefits associated with economic activity.

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Resources

 **Digital document** Key terms glossary (doc-31528)

study

To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31543).

3.2 The nature and meaning of trade-offs in economics

KEY CONCEPT

- The nature and meaning of trade-offs in economics

In economics, the concept of a **trade-off** involves *all the possible things we would give up, when we make a decision to use our scarce resources, in order to gain something else*. Trade-offs arise because our resources are insufficient to allow us to have all the things we would like. Usually in economics, the term *trade-off* is expressed as an *opportunity cost* (a concept we introduced in subtopic 1.4). It involves forgoing the value

of the next best alternative. Here, to gain the preferred good, service or experience, individuals, firms, governments or nations have to sacrifice other things that could be obtained or produced using those same resources.

This topic focuses on economic growth that typically involves using more resources each year to increase the nation's total value of goods and services produced, or GDP. One would normally think that growing the economy should allow most people to enjoy higher **incomes** and consumption levels, thereby making life better and raising living standards. However, as we shall see later on, there is often a *trade-off* here. While producing and consuming more goods and services can lead to higher **material living standards**, sometimes this requires sacrificing or forgoing aspects that support our **non-material living standards**. Here we might think of:

- the increased level of carbon emissions from the production and consumption of more goods and services which accelerate climate change and severe weather events
- the depletion of non-renewable resources such as minerals and oil
- the reduction in leisure time due to the pressures of longer hours of work
- increased stress and social problems including under-parented children
- the destruction of natural beauty spots used for recreation
- increased traffic congestion
- waste disposal problems and
- overcrowding of cities that support the growth of industry



on Resources

 **Weblinks** Trade-offs and opportunity costs
People face trade-offs

3.2 ACTIVITIES

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Check your understanding

1. What is an economic *trade-off*?
2. Give an example of how there might be a trade-off between *economic growth* and *non-material living standards*.

Applied economic exercise

1. What are the likely trade-offs that might be associated with each of the following decisions? (12 marks)
 - (a) You regularly fail to do your economic homework, instead preferring to go surfing.
 - (b) The government lowers taxes to help win the next election.
 - (c) You depend on a rainwater tank for water and today decide to use all the water to wash your dog.
 - (d) A decision was finally made to proceed with the building of an east–west tunnel in Melbourne.
 - (e) Aged 17, you decide to drop out of school.
 - (f) The Australian government pays cash subsidies to the coal industry equal to around \$5 per tonne.
2. What might be three likely trade-offs for increasing Australia's production of goods and services (measured by the annual rise in real GDP) at a faster rate of around 5–6 per cent during 2020–21? (3 marks)

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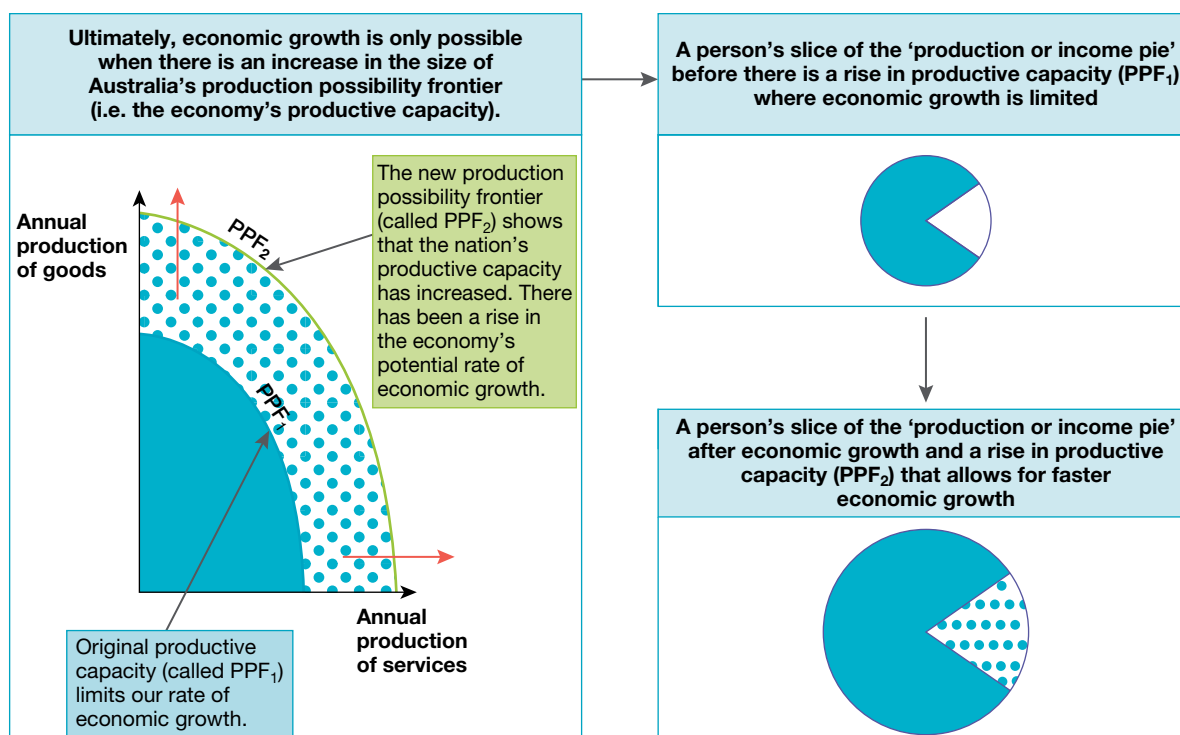
3.3 The meaning of economic growth

KEY CONCEPT

- The meaning of economic growth

Economic growth exists when a country's economy gets bigger over a period of time. It occurs when there is a rise in the total *volume* of goods and services produced by a nation between one year and the next. Economic growth means that there are more goods and services being produced and made available for consumers. It is often measured using the annual percentage change in the real value of gross domestic product (GDP).

FIGURE 3.2 Using the production possibility diagram to show how, in the long term, economic growth can increase the potential levels of national production and income by growing productive capacity, thus improving average material living standards.



The production possibility diagram (PPD) and the production possibility frontier (PPF) can be used to help visualise and understand the nature of economic growth. The left side of figure 3.2 shows that economic growth (producing more goods and services between one year and the next) is only achievable in the *long term* if there is an outward shift in the nation's production possibility frontier (from PPF_1 to PPF_2). Here the PPF represents the country's level of productive capacity or potential level of GDP, largely dictated

by the volume and efficiency of our natural, labour and capital resources. Growing the PPF means there is a bigger *production* or *income 'pie'* available to be sliced or divided between individuals making up the general population.

The right side of figure 3.2 shows that when national output grows at a faster rate than Australia's population, on average each person can have a bigger slice of the production pie and more wants can be satisfied. Average income and consumption per person or material living standards should rise, making us better off materially.

Additionally, economic growth may be possible in the *short run*, but only if there is a shift in the location of an economy on a PPD, moving from inside its PPF (where there are idle or unemployed resources) to a point located somewhere actually on the PPF.

on Resources

 **Weblink** Economic growth easily explained

3.3 ACTIVITIES

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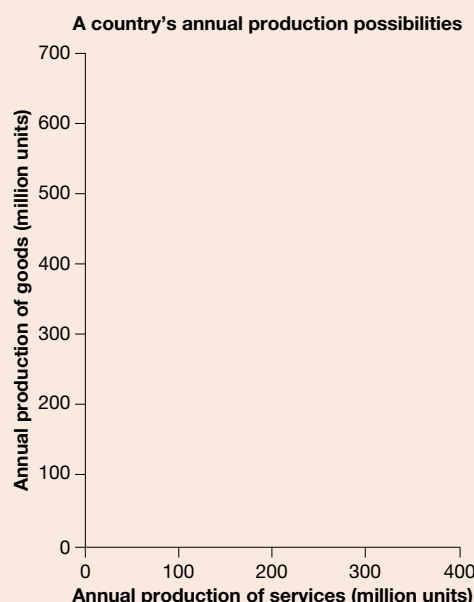
Check your understanding

1. What is *economic growth*?
2. Explain how economic growth in the long term requires a rise in the economy's *productive capacity*.
3. How might the growth in a nation's productive capacity, at a rate faster than its population growth, lead to higher average incomes per person and material living standards?

Applied economic exercises

1. How is the speed of economic growth commonly measured? **(2 marks)**
2. What is meant by a nation's *productive capacity* and how can this be shown diagrammatically? **(3 marks)**
3. The PPD is often used to show how long-term economic growth occurs in a country. Using the data from the table in figure 3.3, carefully draw and fully label a hypothetical production possibility diagram for a country that can produce only goods or services. On this diagram, mark in the original PPF (i.e. PPF_1). **(4 marks)**

FIGURE 3.3 Production possibilities for a hypothetical country



‘Original’ production possibilities for the country (PPF ₁)				
Type of production	Production possibility A	Production possibility B	Production possibility C	Production possibility D
Original annual production of services (million units)	300	200	100	0
Original annual production of goods (million units)	0	300	500	600
‘New’ production possibilities for the country following certain developments (PPF ₂)				
Type of production	New production possibility A	New production possibility B	New production possibility C	New production possibility D
New annual production of services (million units)	350	250	150	0
New annual production of goods (million units)	0	350	550	650

4. Suppose that certain new events occurred that changed the production possibilities, as shown in the lower section of the table in figure 3.3. Draw and label a second, new PPF (i.e. PPF₂).
- (a) Explain what has happened to the country’s productive capacity and potential level of GDP. (2 marks)
- (b) Giving examples, what are the *two* main general determinants of a nation’s productive capacity? (2 marks)
- (c) Use the table to calculate the potential rise in this nation’s total quantity of goods and services that can be produced, following the shift in the PPF at each of the following production possibilities: (4 marks)
- possibility A
 - possibility B
 - possibility C
 - possibility D.
- (d) Following the shift in the PPF₁ to PPF₂, where on the diagram would *potential material living standards* and consumption levels per person be likely to be highest? Explain your answer. (2 marks)

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3.4 The measurement of economic growth using real GDP and real GDP per capita

KEY CONCEPT

- The measurement of economic growth using real GDP and real GDP per capita

There are at least two important measures of economic growth that are widely used — real GDP and real GDP per capita.



3.4.1 Measuring a country's rate of economic growth using real GDP

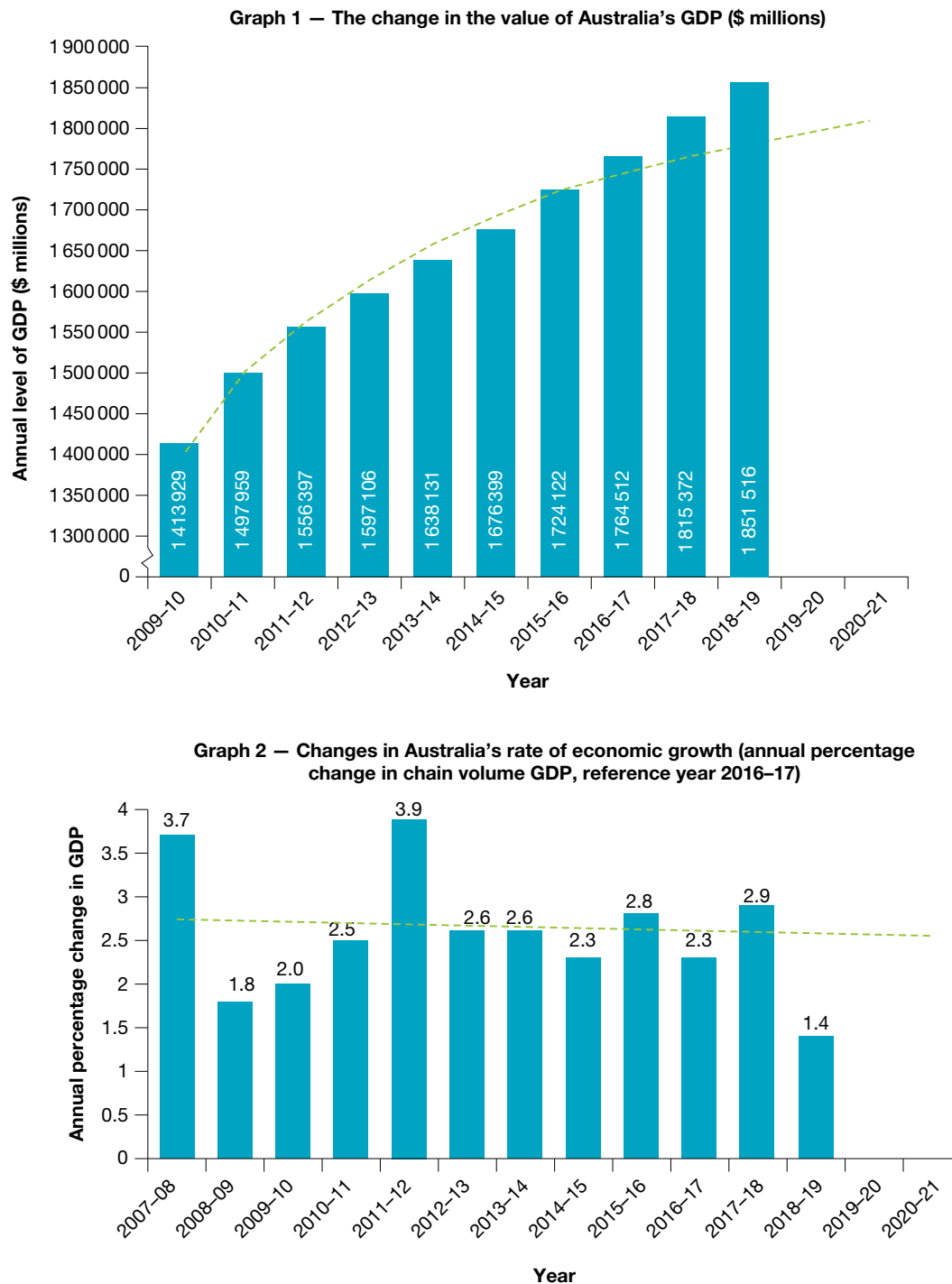
Nowadays, the most common measure of the growth rate in a nation's production is the annual *percentage change* in gross domestic product (GDP) or, more precisely, chain volume (also called 'real') gross domestic product. Here, GDP statistics attempt to estimate the total annual value of goods and services produced or sold by a nation. To make one year's GDP results comparable with another's, the exaggeration of the value of production caused by the effects of inflation (i.e. generally rising prices) or deflation (i.e. generally falling prices) is removed statistically. The resulting measure produced by the Australian Bureau of Statistics (ABS) shows changes in the real or actual *volume* of goods and services produced and is called *chain volume GDP*.

Thinking back to the simple two sector circular flow model of the economy introduced in subtopic 1.5, you may recall that mention was made of the *equality* in the dollar values of total spending (called aggregate demand), national production of goods and services (called GDP), and total incomes. What this means is that, apart from adding up the total value of all goods and services produced by all Australian firms and individuals, the value of GDP can also be calculated by adding up the total value of all incomes received or, alternatively, the total value of all spending on Australian-made goods and services. Hence, if

Australia's total value of spending in a year was \$1700 billion, then both GDP and total incomes would also equal around \$1700 billion.

Figure 3.4 (graph 1) shows how the total annual value of Australia's GDP increased between 2009–10 and 2018–19. In addition, graph 2 in that figure shows how the *rate* of economic growth (measured as a percentage change between one year and the next) has fluctuated quite markedly from year to year. Despite these fluctuations, the growth rate of real GDP has been slowing over the period.

FIGURE 3.4 Australia's annual rate of economic growth indicated by the change in real GDP in absolute and percentage terms

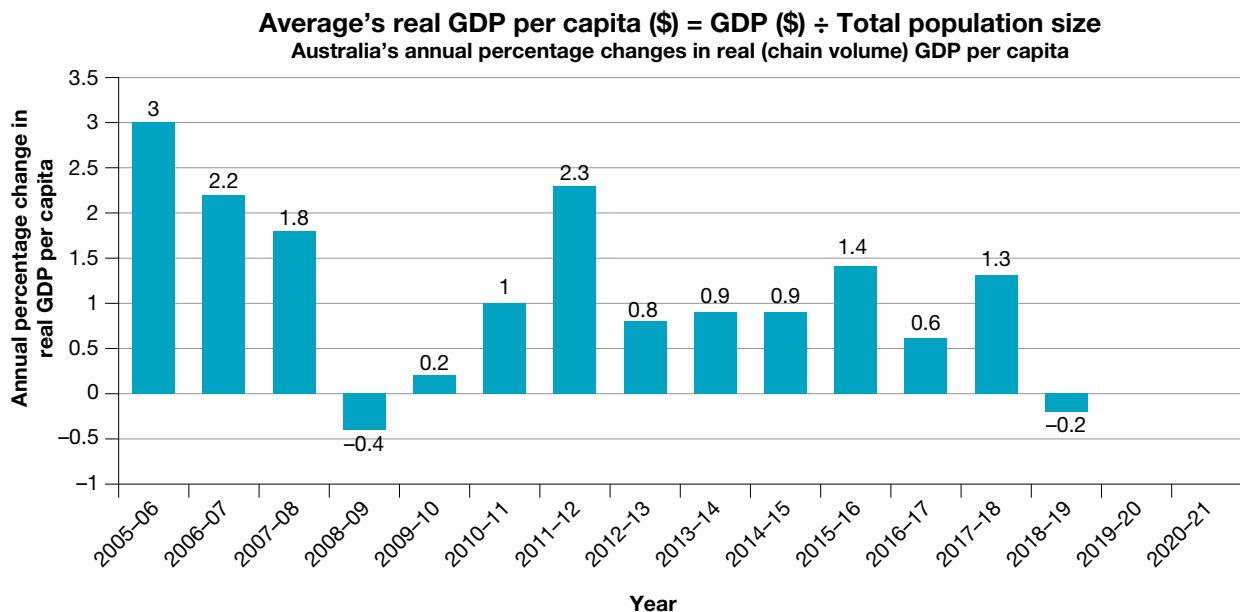


Source: Data derived from ABS 5206.0 (Table 3).

3.4.2 Measuring a country's rate of economic growth using real GDP per capita

Another common measure of economic growth and average material progress is the annual percentage change in chain volume or *real GDP per capita*. Figure 3.5 shows how this is calculated by taking the real annual value of GDP and dividing this by the country's population's size.

FIGURE 3.5 Calculating real GDP per capita and recent trends in Australia's annual percentage change in real GDP per capita



Source: Data derived from ABS, 5206.0.

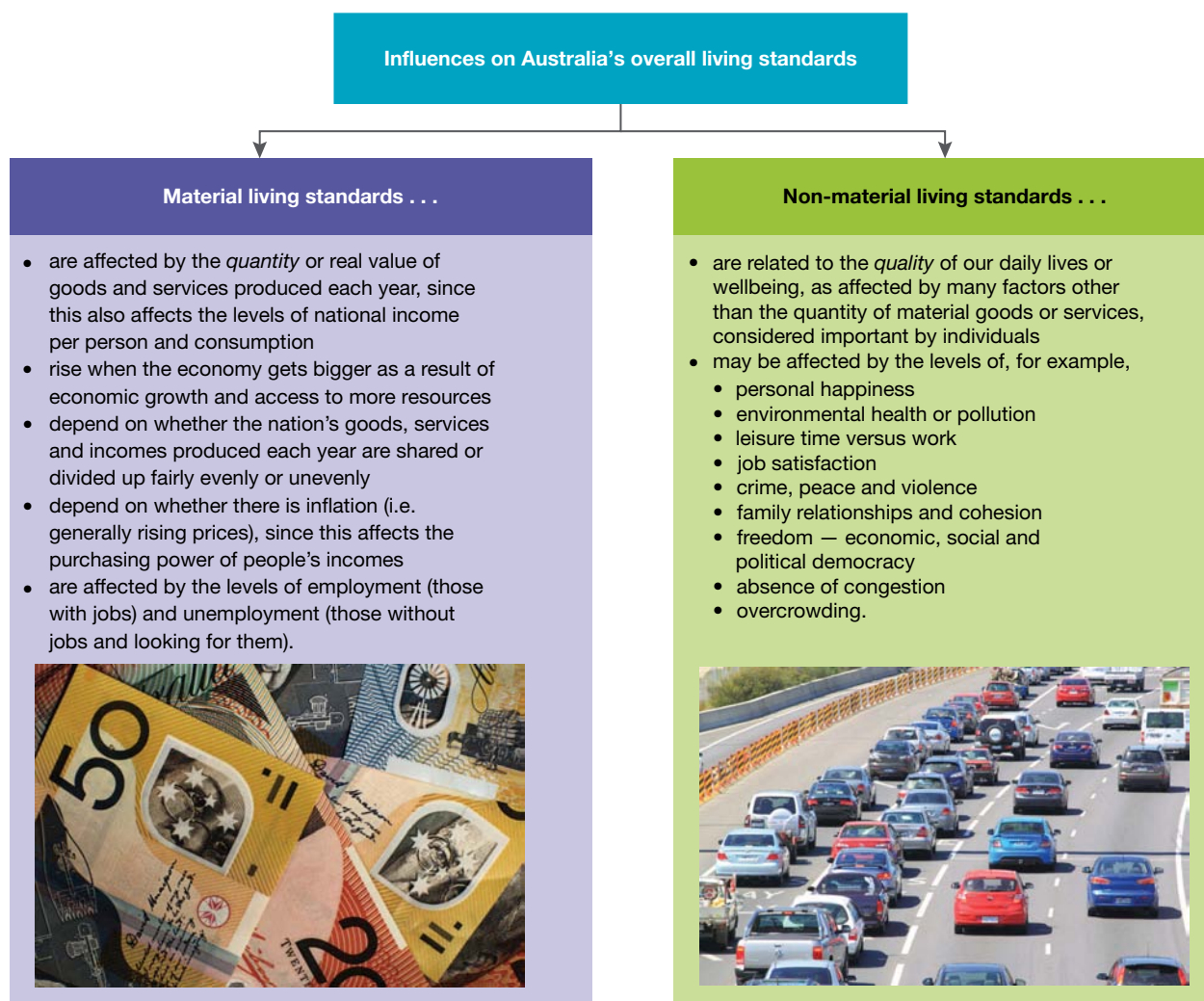
This measure allows us to discover whether the total real value of goods and services produced is growing faster or slower than the rise in the total number of people who share those goods and services. If real *GDP per capita* is rising between one year and the next, it means that *on average* people have access to a greater quantity of goods and services, and can probably enjoy better levels of material wellbeing. Given the close relationship between national production and income, their purchasing power has risen. Figure 3.5 shows us that in most years to 2018–19, this was the case for Australia. However, if the annual rate of economic growth in real GDP is rising at a *slower* rate than the rate of growth in the size of the total population, then on average people are worse off materially and have access to fewer goods and services, as occurred for Australia during the global financial crises (GFC) of 2008–09 and again during 2018–19. For these reasons, most people hope that over time GDP will grow at a faster rate than the population.

To illustrate hypothetically, assume that Australia's GDP for 2020 was equal to \$2 000 000 million and our total population was 25 million. In this case, GDP per head could be calculated by dividing our total GDP of \$2 000 000 million by the population of 25 million people to arrive at an *average* figure of \$80 000 per person per year. While the level of chain volume GDP per head tells us a bit about the average level of material living standards, we shall see that it fails to tell the whole story about a nation's wellbeing.

3.4.3 The concept of living standards

We now understand a little more about what real GDP per capita actually measures. However, what can it tell us about our living standards? A nation's *living standards* depend on both its *material* and *non-material* wellbeing. Figure 3.6 shows the sort of factors that need to be taken into account by a good measure of *living standards*.

FIGURE 3.6 Influences on Australian living standards and wellbeing



Although widely used, on its own real GDP per capita tells us surprisingly little about our material living standards and even less about our non-material living standards. As a measure, real GDP per capita has a number of serious *limitations*. These are summarised in table 3.1.

TABLE 3.1 Limitations of using real GDP per capita as a measure of overall living standards

Limitations of using real GDP per capita as a measure of material living standards	Limitations of using real GDP per capita as a measure of non-material living standards
• Not all goods and services are included in GDP. • The value of some production that is included, is just a guesstimation. • It fails to take account of how evenly goods, services and income are shared.	• The depletion of common access and non-renewable resources is not considered. • The impact of CO₂ emissions on climate is not considered. • Happiness and the loss of leisure time to work are not considered.

3.4.4. Limitations of using real GDP per capita as a measure of material living standards

Material living standards or wellbeing depend largely on the total *quantity* of goods and services produced and available for each of us to consume each year. By itself, real GDP per capita cannot accurately measure this. There are at least *three* main problems here:

1. **Not all goods and services are included in the value of GDP per capita.** Some non-marketed goods and services (items produced but not sold normally through the market) are excluded from the GDP figures, often because they are too hard to measure.
 - Do-it-yourself *home production* such as painting, housework, parenting and gardening are not included.
 - Production involved in the *cash economy*, such as work that is paid in cash and not declared to the tax office, is excluded from GDP.
 - Production in the *black economy* (e.g. the production of illegal drugs) is not included in GDP.
 - The value of goods and services produced by unpaid volunteers is not counted as part of GDP.Some estimates suggest that the value of this non-marketed production could add 10–15 per cent to GDP if it were included. This makes GDP an *underestimation* of the real level of national production and hence material living standards.
2. **The value of some production included in GDP per capita is just a guesstimation.** Because of the lack of an alternative, the ABS is forced to ‘guesstimate’ or impute the value of some types of goods and services that are produced but not sold or marketed in the normal way. This may lead to inaccuracies.
 - The value of *farm production that is consumed on the farm* and not sold is estimated and then included as part of GDP.
 - The annual value of *accommodation* provided by houses occupied by their owners is also estimated and added to GDP.
3. **Real GDP per capita fails to take account how evenly goods, services and incomes are shared.** Having economic growth that lifts the value of real GDP per capita does not necessarily guarantee that people are better off. Material living standards are greatly affected by the way we share, divide or distribute the goods, services and incomes that we produce as a nation. If a few people benefit because of great economic inequality, average material wellbeing is lower than if the production and income ‘cakes’ are divided or shared more evenly. As we shall see in subtopic 4.3, Australia’s pattern of distribution is moderately uneven, especially prior to the government’s tax, welfare and spending policies that are designed to redistribute incomes more fairly.

3.4.5 Limitations of using real GDP per capita as an indicator of non-material living standards

It is fair to say that a country’s real GDP per capita tells almost nothing about society’s *non-material living standards*. For example, real GDP per capita fails to take account of *negative externalities* that lower *non-material living standards*. **Negative externalities** (*environmental and other costs imposed on third parties that result from growing the production and/or consumption of goods and services*) are not taken into account in calculating real GDP per capita. There are many examples of such external costs that undermine our personal wellbeing, resulting from growing the level of GDP per capita:

- the loss of leisure time for families to spend together
- youth problems caused by more adults working long hours and under-parenting their children
- increased stress levels and loss of job satisfaction due to pressure to be more efficient and work harder
- the destruction of the natural environment — for example, the depletion of environmental or common access resources
- the generation of carbon pollution (CO₂), and the acceleration of global warming and climate change including severe weather events.

Because these costs are ignored and not subtracted from the annual value of production, using real GDP per capita as a measure greatly exaggerates our actual living standards.

FIGURE 3.7 When more goods and services are produced and consumed from manufacturing, mining, agriculture and the generation of power, more carbon emissions are released into the atmosphere, contributing to global warming, climate change and severe weather events. In addition, pollution of oceans can occur. These undermine both current and future living standards.



on Resources

-  **Weblinks** Rethinking economic growth — GDP constraints
Standard of living
Best measure of standards of living

3.4 ACTIVITIES

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Check your understanding

1. How is the rate of economic growth *measured* statistically?
2. List and outline three important *limitations* or inaccuracies of using real GDP as a measure of *material* living standards.
3. What are *negative externalities*? How do these affect our wellbeing or overall living standards?

Applied economic exercises

1. Explain what an annual rise in Australia's real GDP by 3 per cent actually means. **(2 marks)**
2. Inflation (generally rising prices paid for goods and services) needs to be taken into account to accurately measure the rate of economic growth, otherwise we cannot be sure what has happened to the real volume

of goods and services produced each year. If a country experiences rapid inflation of 10 per cent for the year, what would this normally do to the *market value* of GDP (measured in dollars) and the *apparent* rate of economic growth, if no attempt was made to remove the effects of inflation and convert this to the *real* value of GDP? **(2 marks)**

3. The value of GDP can be calculated by summing up the total value added to a nation's production by each producer of finished goods and services. According to the simple two sector circular flow model, what are *two* other ways of calculating the dollar value of a country's GDP? **(2 marks)**
4. Carefully define the meaning of *living standards*, noting in detail its main parts and the specific things that might influence each part. **(4 marks)**
5. Classify each of the events listed in table 3.2 into those that are likely to affect *material* living standards and those that are likely to affect *non-material* living standards, giving brief reasons for your classification. Ensure that you indicate the likely direction of change (i.e. an increase or decrease). **(20 marks)**

TABLE 3.2 Events affecting material and non-material living standards

Item or event	Likely effect on material living standards	Likely effect on non-material living standards
1. Your boss gets you to work more unpaid overtime.		
2. The level of GDP per hour worked increases.		
3. Population densities in capital cities rise and the city's footprint grows.		
4. Due to a new freeway, the time taken to travel to work falls.		
5. New mineral resources are discovered and mined.		
6. There was a rise in the minimum wage to around \$740.80 per week as in 2019–20.		
7. Crime rates soar.		
8. Inflation falls to low levels.		
9. The minimum age for voting is increased to 25 years.		
10. Welfare benefits are abolished.		

6. Examine table 3.3 before answering the questions that follow.

TABLE 3.3 Calculating average material living standards for a hypothetical country

Information	2019–20	2020–21
Real GDP (\$ millions)	2 500 000	2 900 000
Population size (millions)	30	34
Average real GDP per head	\$.....	\$.....

- (a) Given the hypothetical information for a country in 2019–20 and 2020–21 shown in table 3.3, calculate the level of average material living standards. **(2 marks)**
- (b) Using your calculations, describe the change in average material living standards quoting statistics drawn from table 3.3. **(2 marks)**
7. There are many reasons why the numbers you have calculated for real GDP per capita are *not* an accurate measure of *material* living standards for a nation. Identify and explain in some detail *two* important limitations.
8. Examine table 3.4 showing the real value of GDP measured in US\$ for three countries in recent times — Australia, Saudi Arabia and Germany:

TABLE 3.4 The real value of GDP in selected countries

Country	Real value of GDP (US\$ millions)
Australia	1142
Saudi Arabia	1582
Germany	3642

Source: Data derived from OECD Stat. see https://stats.oecd.org/index.aspx?queryid=60705&_ga=2.58815268.883813373.1549451190-135421884.1549451190.

Give *two* important reasons why we cannot conclude much from this data about the actual *material* living standards that exist in Australia, Saudi Arabia and Germany. What additional data would we need to know to draw more accurate conclusions? **(2 marks)**

9. Why might real GDP per capita tell us almost nothing useful about a country's *non-material* living standards? **(2 marks)**
10. Examine table 3.5 showing events that might affect the level of real GDP and living standards. Given the limitations of real GDP per head as a measure, indicate whether the listed events cause real GDP per head to be an overestimation or an underestimation of general living standards. Provide a brief explanation. **(10 marks)**

TABLE 3.5 How well does GDP measure living standards?

Event	Likely short or longer term impacts on real GDP per head and material living standards	Likely impacts on non-material living standards
1. A cyclone hits Townsville and there is rebuilding.		
2. The clean-up of an oil spill near Lorne begins.		
3. Your car is stolen and trashed.		
4. Graffiti needs to be removed from street signs and buildings.		
5. An ambulance takes a woman to hospital after a motor bike accident.		

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3.5 The economic benefits of economic growth

KEY CONCEPT

- The economic benefits of economic growth such as growth in material living standards, employment opportunities, economic development and non-material living standards

It is difficult to deny that economic growth (higher levels of national production) has helped most Australians to enjoy better *material* living standards, and has probably even improved some aspects of our *non-material* wellbeing. These benefits are summarised in figure 3.8.

FIGURE 3.8 Summary of the main benefits of strong economic growth



3.5.1 Strong economic growth creates new employment opportunities and lowers unemployment

Strong economic growth and rises in real GDP create extra *jobs*, helping to keep *unemployment* rates at lower levels. Indeed, one of the Australian government's important aims is to achieve the **goal of full employment**. This desirable situation occurs when unemployment is low, perhaps at around 4 to 5 per cent of the labour force.

As illustrated in figure 3.9 (see next page), one benefit of strong economic or GDP growth of around 2.5 to 3 per cent a year is that it often helps to lower Australia's *unemployment rate* (e.g. during 2007–08 and perhaps 2010–11). Economic growth means that firms usually need to hire or employ more staff to lift their production levels. For example, thanks to sustained economic growth over many years, unemployment fell to a 34-year monthly low of only 3.9 per cent in February of 2008. By contrast, after a time lag following years of weaker economic growth at rates below 2.5 to 3 per cent, **cyclical unemployment** soon rises. For example, in 1992–93 shortly after the recession of 1990–91, unemployment peaked at 11 per cent. The same thing happened following the GFC in 2008–09 and, more recently, between 2013 and 2016 where unemployment peaked at 6.1 per cent.

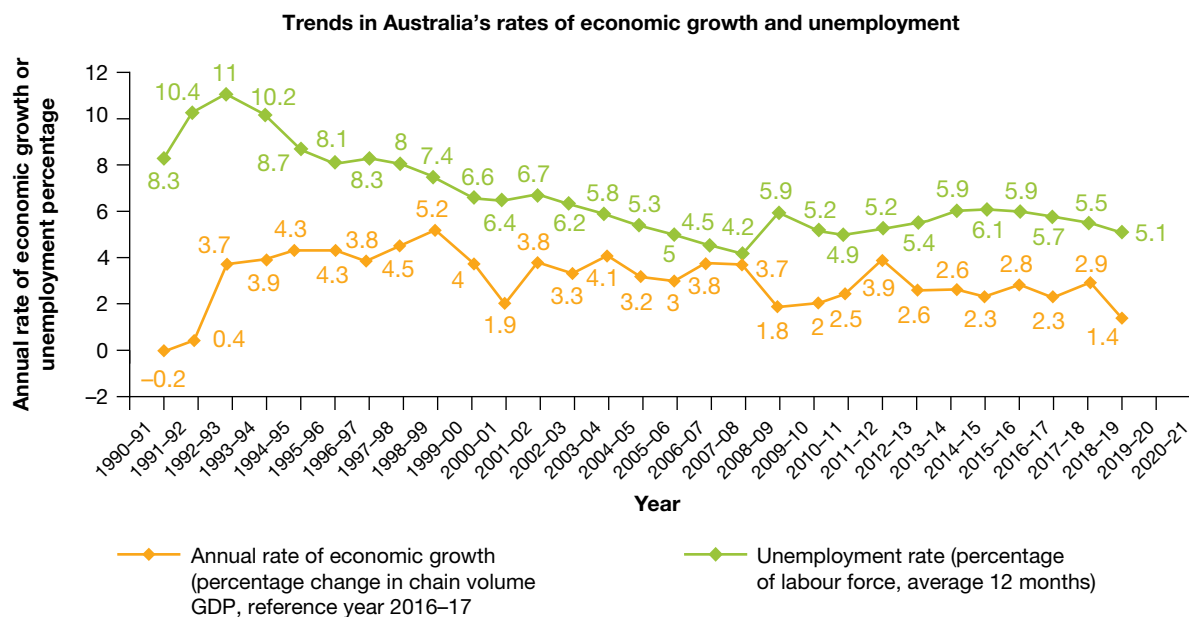
3.5.2 Strong economic growth increases personal incomes and material living standards

In general, income is the reward earned by those who sell resources to the business sector. Most people aspire to have rising incomes.

When economic growth is strong, this usually helps to raise average incomes.

1. There is a close relationship between the rates of growth in national production and national income. When there is strong economic growth of around 3 per cent and unemployment is low, the nation is operating closer to its productive capacity and its PPF is expanding (shifting outwards). Clearly when this occurs, average incomes are likely to be higher and grow more quickly.

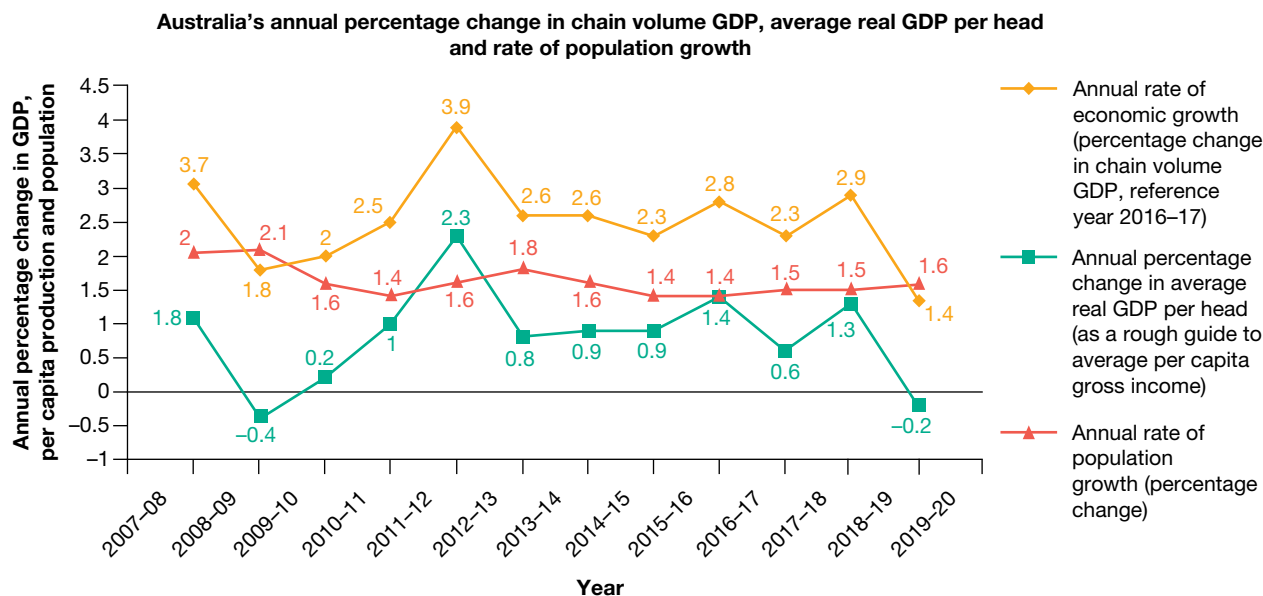
FIGURE 3.9 The close relationship between Australia's rate of economic growth and the rate of unemployment



Source: Data derived from ABS 5206.0, 6202.0.

- As demonstrated in figure 3.10, when the rate of economic growth (annual percentage rise in real GDP) exceeds the increase in population, the average level of real GDP per head rises, thereby tending to lift average gross incomes per person and material living standards. This can be seen especially in 2007–08 and 2011–12. By contrast, when real GDP growth is weak relative to population growth, as in 2008–09 and 2018–19, average GDP per capita, gross incomes and material living standards either fall or scarcely rise at all.

FIGURE 3.10 Strong economic growth at rates higher than rises in Australia's population increase average per capita production and incomes, while slower growth rates tend to reduce average per capital production and incomes and therefore material living standards.



Source: Data derived from ABS 5206.0, 3235.0.

- When there is strong economic growth and firms are increasing their levels of production, they will need to buy extra labour resources from the household sector. This lowers unemployment. Instead of

the unemployed being on the government's welfare benefits of perhaps \$300 per week, individuals are more likely to be on higher incomes — perhaps \$740.80 on the minimum wage (2019–20) or around \$1700 for those on average weekly earnings.

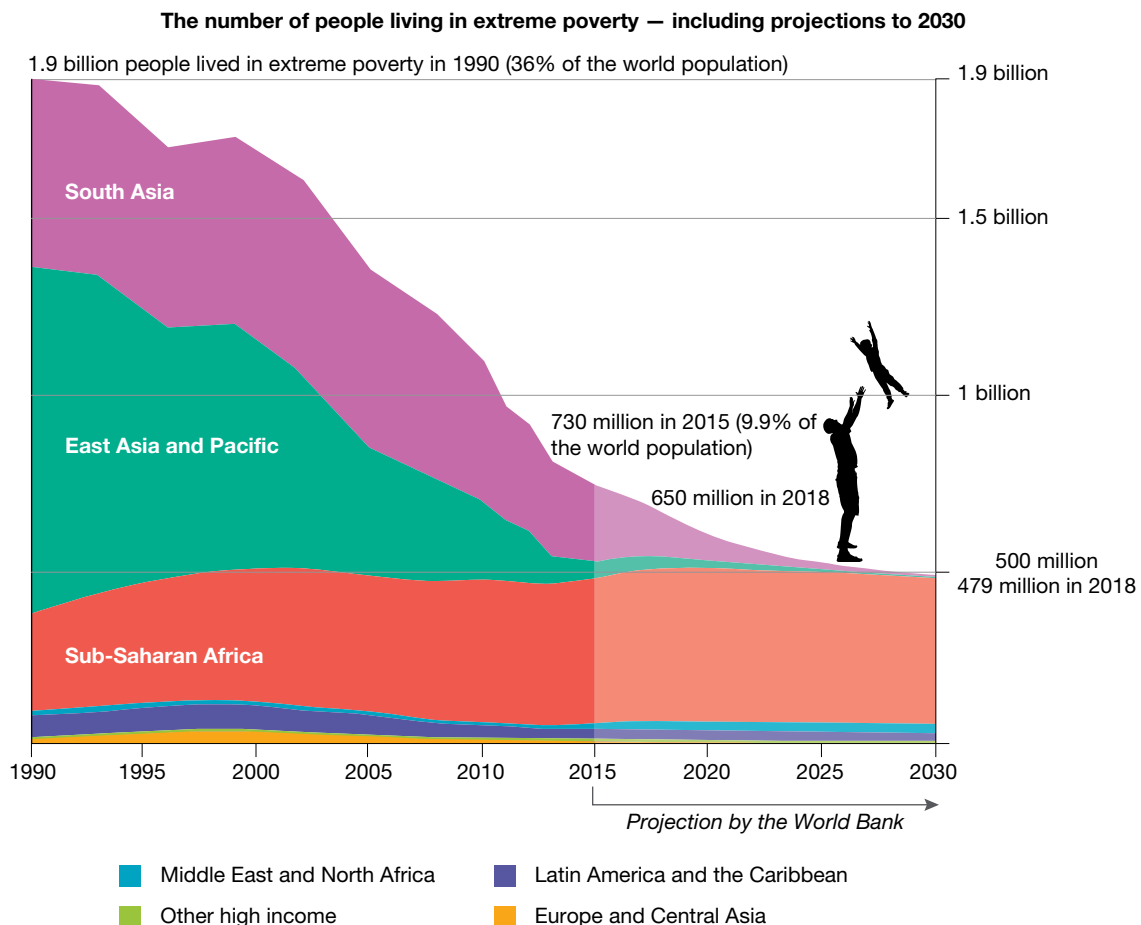
By contrast, slow rates of economic growth of just 0, 1 or 2 per cent a year, can lower average incomes and consumption levels per person, eroding Australia's material living standards.

As shown in figure 3.12, the beneficial impacts of strong economic growth in raising average incomes and material living standards are not limited to Australia. Internationally, the spectacular rise in the average rate of global economic growth, from 4.3 per cent in 1960–2000 to 6 per cent in 2000–10, saw a reduction in extreme poverty (people surviving on less than US\$1.90 per day) by over one billion people in the 25 years between 1990 and 2015. An article in the *Economist* claimed that two-thirds of this reduction can be credited to strong global economic growth, with government policies to reduce income inequality accounting for the remaining one-third.

FIGURE 3.11 When national production rises faster than our population, people on average enjoy higher incomes and purchasing power, enabling them to buy more goods and services than previously. This raises material living standards.



FIGURE 3.12 Strong global economic growth has helped to reduce levels of extreme poverty



Source: Graph copied from original drawn by Max Roser, Global Extreme Poverty, <https://ourworldindata.org/extreme-poverty>.

3.5.3 Strong economic growth improves the government's finances and its capacity to provide services and welfare

Another benefit of a strongly growing economy is that there should be an increase in average incomes, with fewer people unemployed. This also means that there will normally be a rise in the amount of revenue collected by the federal government from personal income and other types of tax (such as that collected from company profits, and from the goods and services tax), along with reduced numbers receiving unemployment benefits. This strengthens the government's finances and budget position, and is ultimately beneficial for our material living standards. For example:

- This extra government revenue can be used to better help the neediest individuals in our society through the payment of more generous cash welfare benefits (to the unemployed, families, sick, aged and veterans, for example), allowing these people to enjoy reasonable living standards. There is more cash to go round for those needing help, and the welfare system is financially more sustainable without adding to government debt.
- The tax money can be used by the government to provide better quality, cheap or free *community services* through the public sector (e.g. public health, education, transport and housing).

By contrast, if economic growth is weak, supporting the incomes of the neediest individuals or providing community services becomes even less affordable for the government, and our living standards would probably fall.



3.5.4 Strong economic growth can improve non-material living standards

Economic growth can sometimes help improve our *non-material living standards* and the *quality of our daily lives*.

First, think for a moment about the massive non-material benefits Australians enjoy, largely thanks to decades of strong economic growth. Consider:

- By sacrificing some income not needed for satisfying pressing needs, individuals have the possibility of gaining more leisure time and reducing their hours of work.
- We have an increased ability to enrich our lives and minds through the broadening experiences gained from international travel.
- We have the resources and capacity to tackle environmental problems that currently reduce our wellbeing.
- There is the opportunity to extend life expectancy and improve our quality of life through improved health possibilities, care and nutrition.
- Society can use technology and innovation to eliminate many physically demanding or boring jobs that reduce work satisfaction.
- There is an improved capacity to allocate resources towards the arts, education, music and drama — experiences that can enrich our lives and expand our possibilities.

Second, strong economic growth normally tends to reduce the number of persons unemployed and those in poverty. For instance, in 2007–08 there were only around 450 000 unemployed, but in 2018–19 weaker economic growth meant that this number increased substantially by over 57 per cent to around 709 000 unemployed. Sadly, studies reveal some of the devastating effects of unemployment on the non-material living wellbeing of individuals and society generally. For instance:

- Both the physical and mental health outcomes of the unemployed are far worse than the outcomes of those with paid jobs.
- More unemployed individuals experience feelings of failure, social isolation and lack of self-worth.
- Unemployment causes family financial and other stress, breakups and unhappiness.
- Both the ABS and the NSW Bureau of Crime Statistics have reported higher youth crime rates among Australia's long-term unemployed, those who leave school early, and people on low incomes and in poverty, thereby eroding the community's general living standards,



These problems undermining our non-material living standards tend to be less severe when the rate of economic growth is relatively strong and jobs are easier to find.

on Resources

-  **Weblinks** Hans Rosling: Asia's rise — how and when
Benefits of economic growth
Evaluating the consequences of economic growth

3.5 ACTIVITIES

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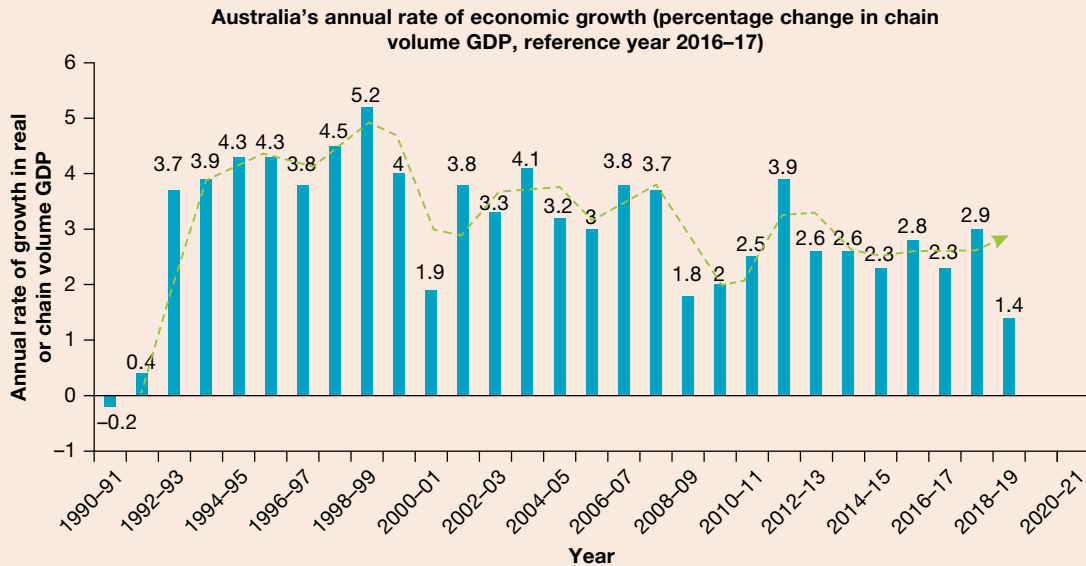
Check your understanding

1. List and outline the main benefits of economic growth for a country like Australia.

Applied economic exercises

1. Explain the likely benefits of faster economic growth resulting from a huge mining project in Queensland that has accelerated the rate of growth in Australia's real GDP per capita under each of the following areas: (8 marks)
 - (a) jobs and employment
 - (b) the government's financial situation (taxes and outlays)
 - (c) personal incomes and material living standards
 - (d) non-material living standards.
2. Economic growth can bring various benefits. Examine figure 3.13 showing the annual percentage change in Australia's rate of economic growth using real GDP since 1990–91.
 - (a) How would you describe the pattern of change in Australia's real GDP over the period shown in figure 3.13? (2 marks)

FIGURE 3.13 Trends in Australia's rate of economic growth (annual percentage change in real or chain volume GDP)



Source: Data derived from ABS 5206.0.

- (b) Refer to figure 3.13.
- What is the general type of *relationship* that exists between Australia's rate of economic growth and the rate of unemployment? Explain the reasons for your answer. **(2 marks)**
 - Referring to figure 3.13, predict the years when Australia's unemployment rate was probably relatively low. Justify your selection. **(2 marks)**
 - How might lower unemployment affect society's non-material living standards? **(2 marks)**
 - Given slower rates of economic growth in the most recent years, explain how you would expect this to affect the Australian government's financial situation and its ability to provide better transport, education and welfare systems. **(2 marks)**
- (c) Refer to figure 3.13.
- What is the general type of *relationship* that exists between Australia's rate of economic growth and the level of average incomes per person? Explain the reasons for your answer. **(2 marks)**
 - Referring to figure 3.13, predict the years when the rate of rise in Australia's average income per person was probably relatively fast. Justify your selection. **(2 marks)**
 - How might a faster rate of rise in average incomes per person be likely to affect material living standards? **(2 marks)**
- (d) Refer to figure 3.13.
- What is the general type of *relationship* that exists between Australia's rate of economic growth and the state of the Australian government's budget (the difference in value between total taxes and government outlays) or financial position? Explain the reasons for your answer. **(2 marks)**
 - Referring to figure 3.13, predict the years when the financial position of the Australian government is likely to be strongest. Justify your selection. **(2 marks)**
- (e) Sometimes, rapid economic growth can lead to an improvement in society's *non-material* living standards. Identify and outline *three* ways this might happen. **(3 marks)**

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3.6 BACKGROUND KNOWLEDGE The business cycle and recent changes in Australia's rate of economic growth

BACKGROUND KNOWLEDGE

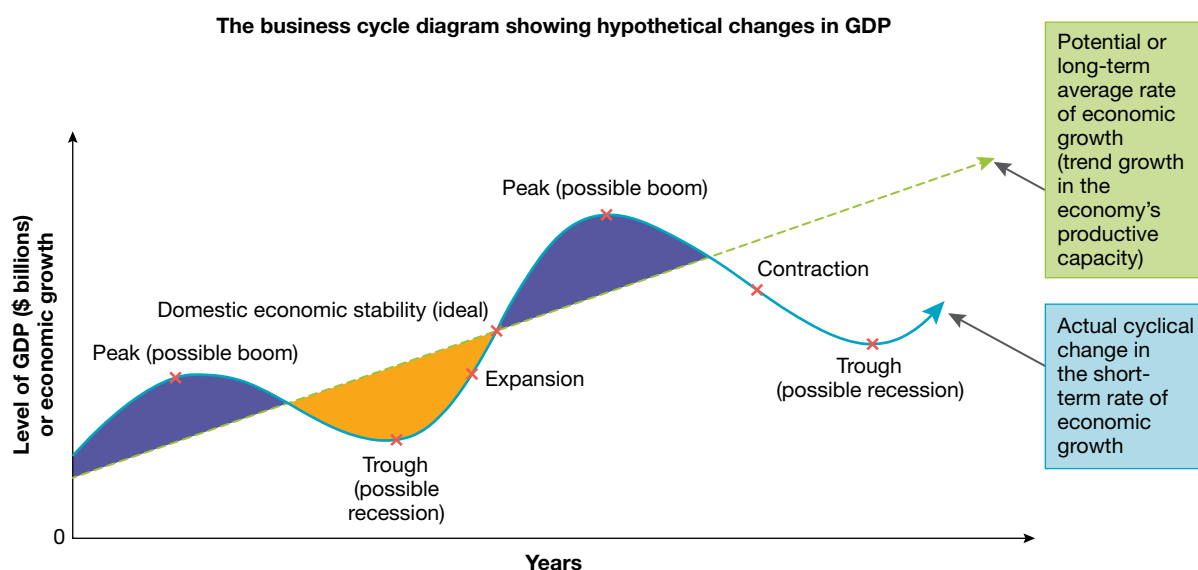
- The rate of economic growth speeds up and slows down over a period of years in a cyclical way. This is called the business cycle.

In all countries, the rate of economic growth or economic activity (usually measured by the annual percentage change in real GDP) moves up and down in a wave-like manner. As we shall see, levels of national production can be quite unstable because of changes in national *spending* (also called total or *aggregate demand*), along with changes in a nation's *productive capacity* (reflecting the potential total level of output or *aggregate supply*). However, before we examine the causes of instability, let us again take a quick look at the business cycle and recent changes in Australia's rate of economic growth.

3.6.1 The business cycle and short-term variations in the rate of economic growth

The **business cycle** is used to describe how GDP typically changes upwards and downwards over a period of years. Figure 3.14 shows that in the shorter term there are *four* main phases making up the economic cycle. As the economy passes through each of these phases of faster or slower rates of economic growth, macroeconomic or general economic conditions change and affect the rates of inflation (the general rise in the price paid for a basket of consumer goods and services) and unemployment (those in the labour force aged 15 and over who are able and willing to work but cannot find a job). Now for a closer look at these phases.

FIGURE 3.14 A diagram showing the business cycle in a country's rate of economic growth



1. The expansion or recovery

The **expansion** or recovery phase is where the level of real GDP is rising and growth rates are quite fast (perhaps around 3 per cent per year). As shown here, it is common to see strong levels of spending, falling unemployment rates (i.e. a drop in the percentage of the labour force who are actively looking for work but cannot find a job) and accelerating inflation (i.e. higher prices paid for most goods and services):

Indicator	Typical situation in a recovery
GDP	→ Rate is increasing
Unemployment	→ Falling
Inflation	→ Rising

2. The peak (perhaps a boom)

The **peak** phase occurs when GDP reaches its maximum level (i.e. the economy's productive capacity or limit) and the rate of growth usually starts to ease off. Here inflation or general prices start to accelerate quickly (perhaps well above 3 per cent rise a year) and unemployment rates fall to low levels (perhaps below 4.5 or 5.0 per cent). The features typically found in **booms** are summarised here:

Indicator	Typical indicators of a boom
GDP	→ At its highest point
Unemployment	→ At its lowest rate
Inflation	→ At a high rate

3. The contraction or slowdown

The **contraction** or downswing phase is where the rate of growth in GDP is slowing. Typically, this is caused by a slowdown in national spending. As summarised here, with weaker spending and lower production, unemployment gradually starts to rise and inflationary pressures ease:

Indicator	Typical indicators of a slowdown
GDP	→ Slower rise or perhaps a fall
Unemployment	→ Rising
Inflation	→ Slowing

4. The trough (perhaps a recession)

The **trough** phase occurs when national production reaches its lowest level, possibly involving negative rates of economic growth. If GDP actually falls over two consecutive quarters (i.e. a period of six months or more), this is called a **recession**. Here, unemployment rises (perhaps well above 5 or 6 per cent) while inflation slows (perhaps to less than 2 per cent, or it may even become negative where there is deflation). In cases where the drop in production and rise in unemployment are really large, this is called a **depression**. The features of a trough are summarised here:

Indicator	Typical indicators of a recession
GDP	→ At its lowest point or negative
Unemployment	→ At its highest point
Inflation	→ At its lowest or possibly negative

FIGURE 3.15 A recession is a slowdown in the rate of economic growth. Sometimes, it is caused by events overseas. This was the case with the global financial crisis (GFC). It is even possible to have two contractions in economic activity, or a 'double-dip' recession, without a complete recovery in between



Domestic economic stability

While not one of the four phases of the business cycle, **domestic economic stability** can be shown on the diagram and represents the *ideal economic position* for an economy to be in. Conditions do not get better than this. With real GDP or national production growing perhaps by an average of around 3 per cent a year, economic growth is neither too fast (causing an inflationary boom) nor too slow (causing recession and unemployment). Indeed, a central aim of the Australian government's policy is to promote better living standards through the pursuit of the *goal of strong and sustainable economic growth* (i.e. where GDP rises fairly steadily by an average of around 3 per cent a year, over the economic cycle). This situation lies midway between the peaks and troughs, and is usually experienced temporarily as the economy passes through it on its way up or down in the business cycle. Here, unemployment is usually relatively low (i.e. around 4.5–5 per cent of the labour force) and inflation is slow (i.e. prices rising by an average of about 2–3 per cent a year). The indicators of domestic economic stability are summarised as follows:

Indicator	Typical indicators of domestic economic stability
GDP —————→	Growing at about 3 per cent per year
Unemployment —————→	Low at around 4–5 per cent of the labour force
Inflation —————→	Low at an average 2–3 per cent rise per year

3.6.2 The long-term trend line in the rate of economic growth

Another feature of the business cycle diagram shown in figure 3.14 (in section 3.6.1) is that there is a *long-term trend line* representing the average sustainable rate of economic growth over many years. For Australia, GDP has increased annually by an average of just over 3.0 per cent over the long term. However, some economists feel that this may no longer be attainable in the future, and we may need to settle for a flatter trend line that is rising more slowly.

3.6.3 Recent changes in Australia's rate of economic growth and its effects on the domestic economy

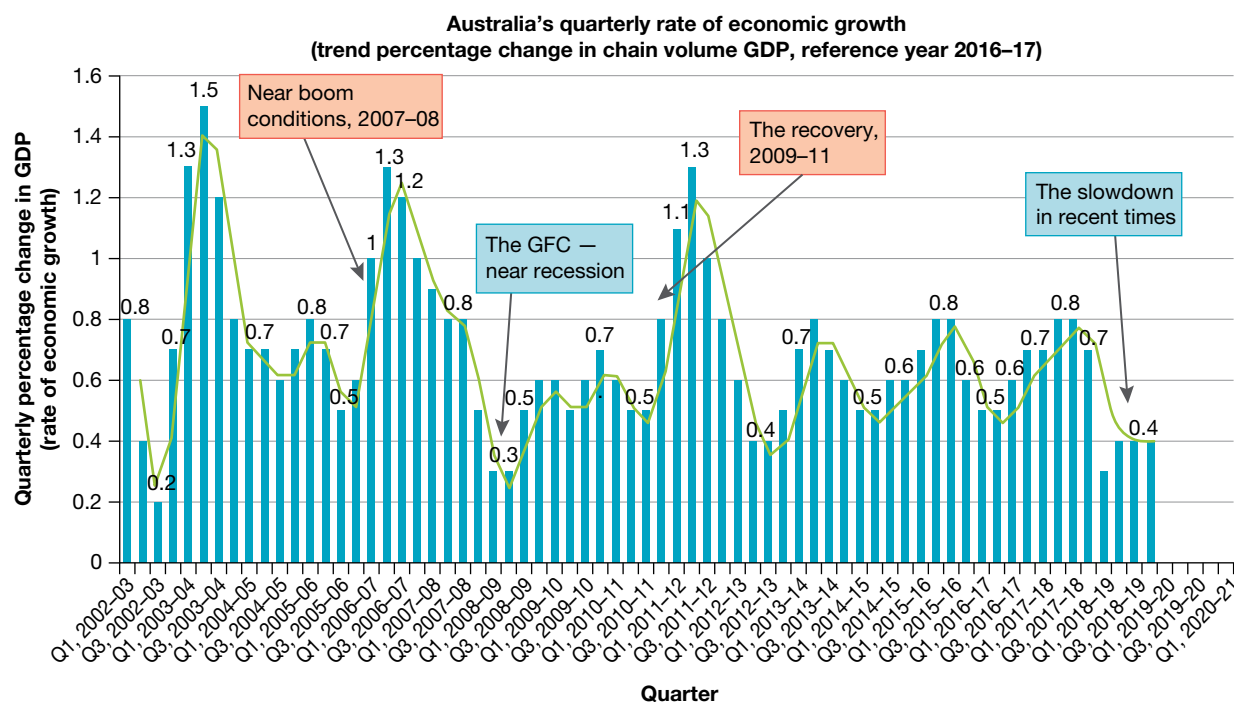
Figure 3.16 shows that Australia's quarterly rate of change in GDP (i.e. calculated every three months) between 2002–03 and 2018–19 behaved in a cyclical way. With the help of the table beneath the graph showing key indicators for the rates of economic growth, inflation (generally rising prices paid for goods and services) and unemployment (those aged 15 and over who are willing and able to work but cannot get a job), see if you can spot a period that may correspond with any of the *five* economic situations just mentioned (if we not only include the peak/boom, slowdown, trough/recession and recovery, but also domestic economic stability).

For instance, referring to figure 3.16, you may notice the following:

- Thanks to economic growth, the size of Australia's economy has approximately doubled in size over the 16-year period covered by the graph.
- While many economies in Europe, Asia and North America slipped into recession during the global financial crisis (GFC), the Australian economy still saw positive rates of economic growth in real GDP throughout — with fairly weak percentage rises recorded during quarters one and two of 2008–09. According to our definition, we did not experience a recession.
- The graph shows that there was a solid recovery in GDP following the GFC during 2009–11, where the rate of economic growth mostly strengthened. This caused unemployment to fall and inflation to rise.
- However, between 2014–15 and 2018–19, the growth rate in real GDP again slowed to below trend to average around 2.3 per cent per year. This caused higher than usual unemployment averaging around 5.7 per cent and very slow inflation of around 1.7 per cent per year.
- Overall for the whole 17-year period ending in 2018–19, Australia's growth rate in real GDP averaged about 2.8 per cent a year, a rate faster than our average annual rise in population of 1.5 per cent.

As a result, on average people have been able to enjoy a larger slice of the production and the income ‘pie’, strengthening our material living standards by just over 1 per cent a year.

FIGURE 3.16 Australia’s business cycle reflects changes in the rate of economic growth (GDP) and that causes variations in other economic variables.

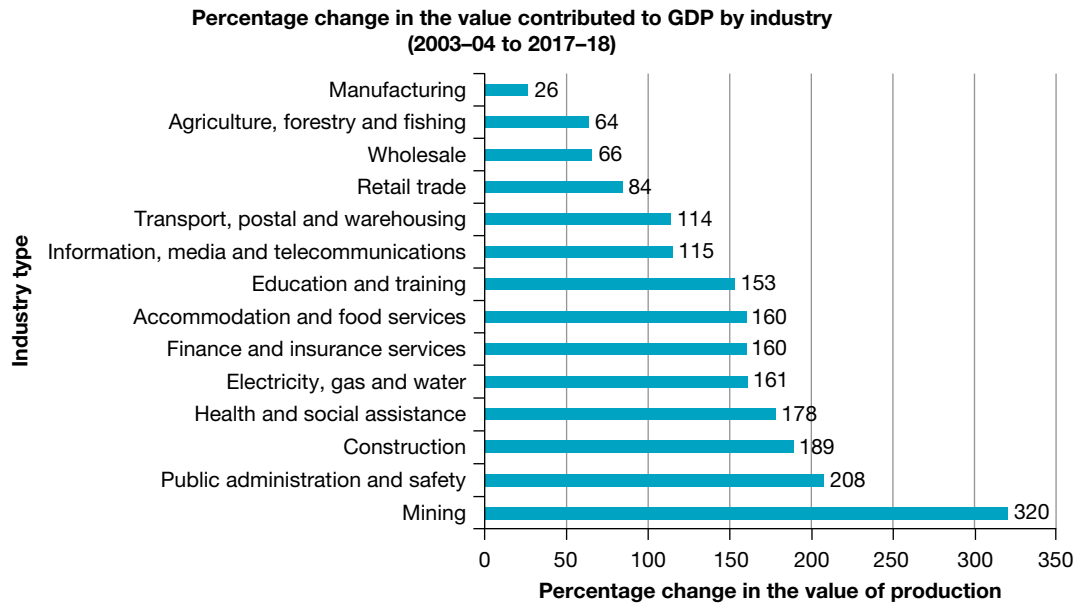


Economic indicators for Australia	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Annual rate of economic growth (percentage change in chain volume GDP, reference year 2016–17)	3.3	4.1	3.2	3.0	3.8	3.7	1.8	2.0	2.5	3.9	2.6	2.6	2.3	2.8	2.3	2.9	1.4	
Annual rate of inflation (CPI)	3.0	2.8	2.5	4.0	2.1	4.5	1.4	3.1	3.1	2.4	2.3	2.6	1.7	1.4	1.8	1.9	1.6	
Annual unemployment rate (average of 12 months)	6.2	5.8	5.3	5.0	4.5	4.2	5.9	5.2	4.9	5.2	5.4	5.9	6.1	5.9	5.7	5.5	5.1	

Source: Data for the graph and table were derived from ABS 5206.0 (Table 1 and Table 3), 6202.0, 6401.0.

While overall the Australian economy has increased in size, figure 3.17 shows that some industries — such as mining, public administration, construction, health, power and water, finance and education — have contributed more to GDP and economic growth than others, such as manufacturing and agriculture.

FIGURE 3.17 Some Australian industries have grown much faster than others.



Source: Data derived from ABS 5206.0 (Table 45). Data rounded.



Resources



Weblinks What is the business cycle?

The business cycle

3.6 ACTIVITIES

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Check your understanding

1. What is the business cycle (economic cycle)? Illustrate this on a fully labelled diagram.
2. Describe the main macroeconomic features or characteristics (i.e. refer to levels of spending, GDP, inflation, unemployment) of each of the following situations found along the business cycle:
 - (a) expansion
 - (b) peak or boom
 - (c) contraction
 - (d) trough or recession.
3. What is meant by the term *domestic economic stability*?
4. What is meant by the long-term trend line on the business cycle diagram?
5. Describe the pattern of Australia's level of economic activity over time when plotted on a graph.

Applied economic exercises

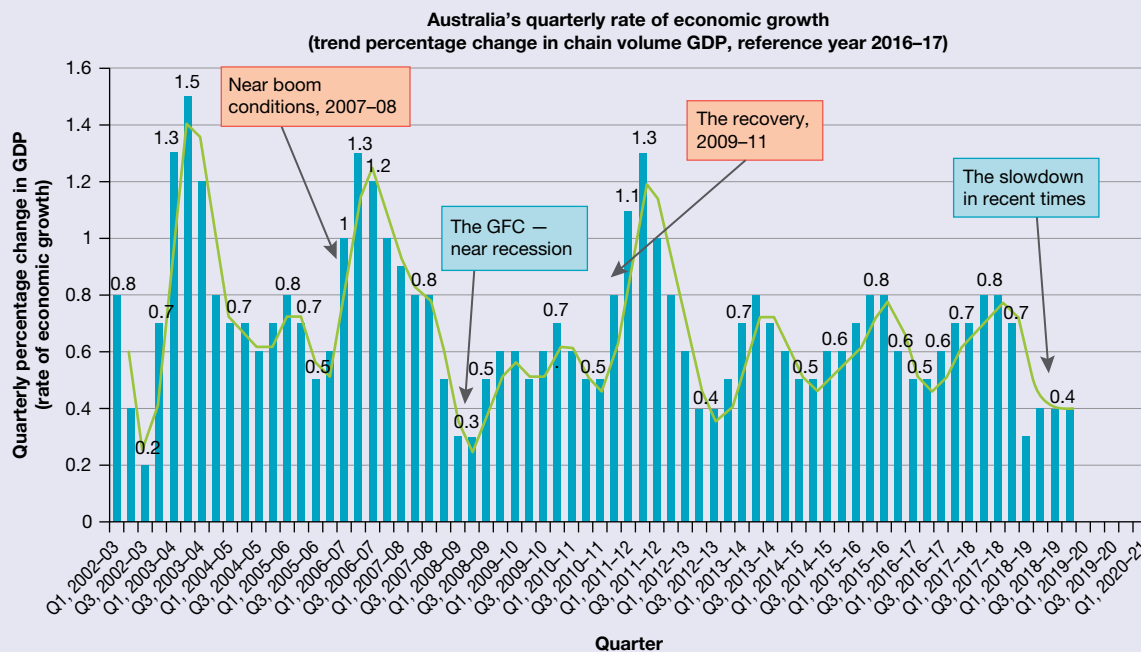
1. Starting at a peak in the business cycle, the economy moves through four main phases and may even temporarily experience the ideal situation called domestic economic stability. Carefully complete table 3.6 summarising the main differences between the *three* economic situations (i.e. a boom, recession and domestic economic stability) found on the business cycle diagram. Where possible, add typical statistics for the indicator relevant for each economic situation. **(4 marks)**

TABLE 3.6 Summary table comparing various economic conditions in a country

Indicator of the economic situation	1. Domestic economic stability (the ideal situation)	2. Boom	3. Recession
Level and rate of growth in AD			
Level and rate of growth in GDP			
Level and rate of unemployment			
Level and rate of inflation			

2. 'Domestic economic stability is the ideal economic situation.' Explain what this means. Why is it important for the economy to avoid high inflation and high unemployment? (2 marks)
3. Examine figure 3.18 showing quarterly changes (every three months) in Australia's rate of economic growth measured by the percentage change in chain volume or real GDP.
Referring to figure 3.18 and quoting the rate of economic growth, answer the following:
 - (a) In which quarters/year do you think economic conditions were closest to a *boom*? In this period, describe the likely level and direction of unemployment and inflation. (2 marks)
 - (b) In which quarters/year do you think economic conditions were closest to a *recession*? In this period, describe the likely level and direction of unemployment and inflation. (2 marks)
 - (c) Was there an actual recession over the years covered by the graph? Justify your answer. (2 marks)
 - (d) Why might the 12-month period between quarter 4 of 2010–11 and quarter 3 of 2011–12 be most closely described as a period of *domestic economic stability*? (2 marks)

FIGURE 3.18 Australia's quarterly rate of economic growth 2002–03 to 2018–19 (percentage change in chain volume GDP, reference year 2016–17)



Source: Data for graph derived from ABS 5206.0 (table 1).

4. Giving reasons, how successful do you think the Australian government was in achieving its goal of a *strong and sustainable rate of economic growth* in recent years? (2 marks)

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3.7 Overview of factors that may affect Australia's rate of economic growth

KEY CONCEPT

- Australia's production levels change as a result of the operation of aggregate supply factors and aggregate demand factors.

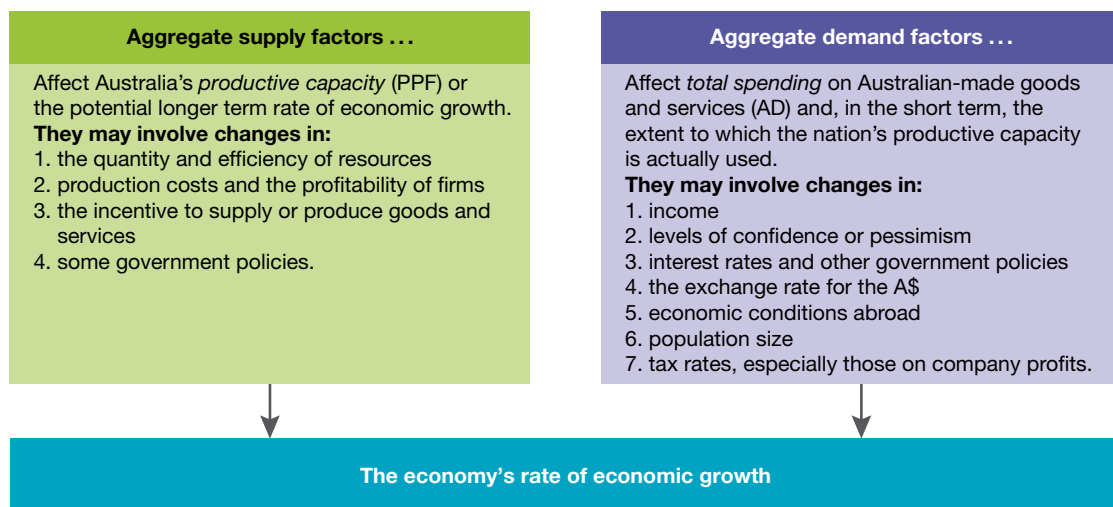
We have already seen that Australia's rate of economic growth changes. Our production levels change as a result of the operation of *two* important sets of conditions or factors:

- *aggregate supply factors* affecting the total potential supply of goods and services in the economy
- *aggregate demand factors* affecting total spending or demand for a nation's goods and services.

3.7.1 The level of aggregate supply and key aggregate supply factors

Aggregate supply (AS) represents the total volume of goods and services that the nation's producers are collectively prepared to make available at a given price over a period of time.

FIGURE 3.19 Overview of factors affecting the rate of economic growth



Aggregate supply factors can alter the total volume of goods and services supplied by affecting the general *willingness* and/or *ability* of individuals and businesses to produce goods and services, especially in the long term. They often involve changes in:

- the *quantity* or *efficiency* of natural, labour and capital *resources* available for production
- business *production costs*, *profitability* and whether firms close down, open up, or expand
- the incentive or *motivation* for sellers of goods and services to produce
- various government *aggregate supply policies*.

Sometimes, aggregate supply factors or conditions may become *more favourable* for producers of goods and services, where there is an increase in aggregate supply and the economy's potential GDP or productive capacity. Alternatively, aggregate supply conditions may become generally *less favourable* where there is a decrease in productive capacity, the level of aggregate supply and the nation's sustainable rate of economic growth.

3.7.2 The level of aggregate demand and key aggregate demand factors

Aggregate demand (AD) represents the total value of all spending each year on Australian-made goods and services by our households and businesses, various governments and foreigners — that is, AD is influenced by *household consumption spending* (abbreviated as C), *private investment spending* (abbreviated as I), *government spending* (abbreviated as G) and *net spending on our exports* or the difference between our foreign spending on our exports less our spending on foreign made imports (abbreviated as $X - M$). Over a period of time, the *level of aggregate demand* ($C + I + G + X - M$) can either become *stronger* and increase, or *weaker* and decrease, thereby affecting the country's actual rate of economic growth.

Aggregate demand factors affect the overall level of AD or total spending on Australian-made goods and services. For example, here we might think of the effects of changes in conditions such as:

- the level of household incomes
- the level of confidence or pessimism of households and businesses about the future
- the rates of tax on incomes and government spending in the budget
- interest rates paid to banks by those people borrowing credit to finance their spending
- the value of the Australian dollar when it is swapped or exchanged for other currencies, thereby affecting the cost of buying exports or imports
- general economic conditions overseas (e.g. booms or recessions) in countries to whom we export
- the size and growth rate of our population as affected by the number of births, deaths and net immigration.

These factors can be very changeable in the short term and may cause AD to suddenly become *stronger* or *weaker*. By affecting level of aggregate demand, these conditions influence the extent to which the economy's productive capacity is used and thus the actual level of GDP.

We will investigate these *aggregate demand factors* and *aggregate supply factors* or conditions in more detail in subtopics 3.8 and 3.9.

3.7 ACTIVITIES

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Check your understanding

1. What are the main factors that affect the rate of economic growth during the following time spans?
 - (a) The short-term rate of economic growth
 - (b) The long-term rate of economic growth
2. Define the following terms:
 - (a) aggregate supply
 - (b) aggregate demand.

Applied economic exercises

1. (a) *Aggregate supply factors* or conditions are one of the main determinants of Australia's rate of economic growth. In general terms, explain how changes in these factors might influence our productive capacity and the potential rate of economic growth. **(2 marks)**
(b) *Aggregate demand factors* or conditions are one of the main determinants of Australia's rate of economic growth. In general terms, explain how changes in these factors might influence the short- to medium-term rate of economic growth. **(2 marks)**
(c) Classify each factor listed in table 3.7 as primarily an AD and/or an AS factors. Briefly explain your reasoning. **(28 marks)**

TABLE 3.7 Factors affecting the rate of economic growth

Factor	Primarily affects AD or AS?	Explain your answer
1. Mineral discoveries		
2. Consumer pessimism		
3. Immigration rises		
4. Lower company tax rate		
5. Higher GST rate		
6. Climate change		
7. Lower worker productivity		
8. A fall in the A\$		
9. Business optimism		
10. Recession in China and Japan		
11. Government outlays on infrastructure (ports)		
12. A fall in income per head		
13. More bankruptcies		
14. Government outlays on training programs		

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3.8 Aggregate supply factors that can affect Australia's rate of economic growth

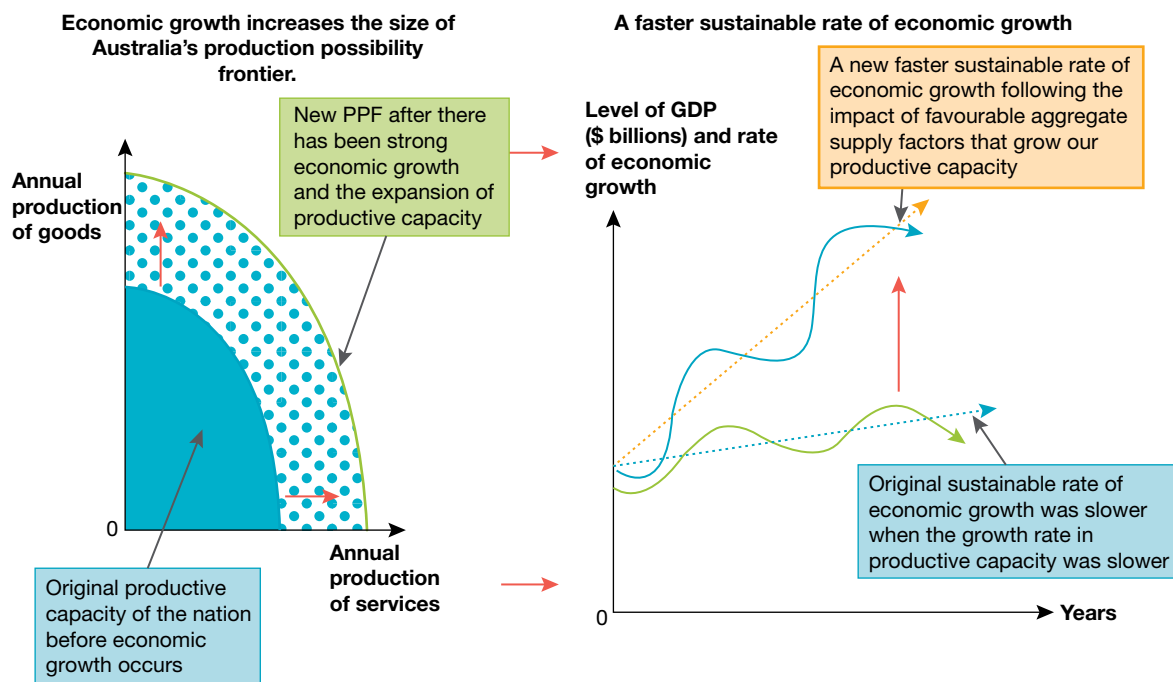
KEY CONCEPTS

- Aggregate supply
- Aggregate supply factors that may influence the rate of economic growth
- Factors that might affect future rates of economic growth such as an ageing population and labour force participation

Aggregate supply factors affect the *ability* and *willingness* of suppliers to produce goods and services. Earlier we saw that in the long term, the country's productive capacity is ultimately dictated by the volume or *quantity* of productive resources and how *efficiently* these resources are used. On a production possibility diagram, this capacity is represented by the PPF that shows the potential level of GDP or aggregate supply (AS). So if there is a rise in the *volume* of these resources or improved *efficiency* due to more *favourable*

aggregate supply conditions that firms see as beneficial, the PPF will grow and shift outwards as shown in figure 3.20. In this case, the potential rate of economic growth should be faster because the country's productive capacity is bigger.

FIGURE 3.20 Growing the size of the economy's productive capacity allows for better average material living standards.



The issue of expanding productive capacity helps to explain why the economically sustainable rate of GDP growth in some countries like China is more rapid, perhaps 8–10 per cent a year. By contrast, Australia can only sustain a potential growth rate of around 3 per cent a year; and in low-income economies in Africa, the figure can be even lower than 1–2 per cent (often less than the growth in their populations). The point is this: without increased productive capacity resulting from the impact of *favourable supply-side factors*, sustained economic growth cannot occur.

Over the years, there have been both favourable and unfavourable *aggregate supply conditions* affecting Australia's PPF and potential rate of economic growth. Statistical data for some of these factors are shown in table 3.8, along with those showing changes in our rate of economic growth.

TABLE 3.8 Trends in some aggregate supply factors affecting Australia's potential rate of economic growth

Aggregate supply factors or conditions	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Rate of economic growth (annual percentage change in chain volume GDP, reference year 2016–17)	2	2.5	3.9	2.6	2.6	2.3	2.8	2.3	2.9	1.4	
1. Labour productivity (annual percentage change in GDP per hour worked)	1.8	–0.2	2.7	2	2	1.3	1.1	0.6	0.2	–0.2	
2. Interest rate (variable percentage at June) — overdraft for large businesses	6.4	6.55	5.7	5.2	4.5	4.3	3.95	3.75	3.85	3.5	

Aggregate supply factors or conditions	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
3. Real unit labour costs in production (annual percentage change, non-farm sector)	–3.6	–0.2	2.7	2	1.3	1	1.10	–3.7	–0.2	–0.6	
4. Exchange rate for the A\$ when this is swapped for a basket of other important currencies (TWI at June 1970 = 100)	67.7	77	76.5	73.9	72	63.8	62.5	65.5	62.6	60.1	
5. Growth in the size of the labour force (annual percentage, June on June)	2.1	1.8	0.7	1.7	1.3	1.8	1.4	1.9	2.3	1.6	
6. Number of strikes (average working days lost per 1000 employees)	165	126	159	293	208	88.9	76	100.7	137.8	107.4	
7. Cost of oil used by many producers (\$US per barrel average)	77	107	109	106	96	54	49	45	69	59	
8. Rate of company tax as a percentage of profits for large companies (and small–medium firms)	30	30	30	30	30	30	30 (28.5)	30 (28.5)	30 (27.5)	30 (27.5)	

Source: Data derived from RBA Statistics, ABS and Statista.

3.8.1 Growing Australia's productive capacity by developing our natural resources

There are many ways in which Australia has increased the volume and efficiency of its natural resources, thereby growing our productive capacity, the size of the PPF and the potential rate of economic growth.

- Exploration has led to many mineral discoveries such as gold, iron ore, bauxite, coal and uranium, as well as natural gas and oil. Shortly into the new millennium we saw the development of a minerals boom as new mining projects were opened, although it has now passed.
- There has been substantial development of our land resources through scientific soil and pasture improvements, the use of some genetically modified crops with higher yields, irrigation, better land management and measures to combat the salinity of soils.



3.8.2 Growing Australia's productive capacity by increasing our labour resources

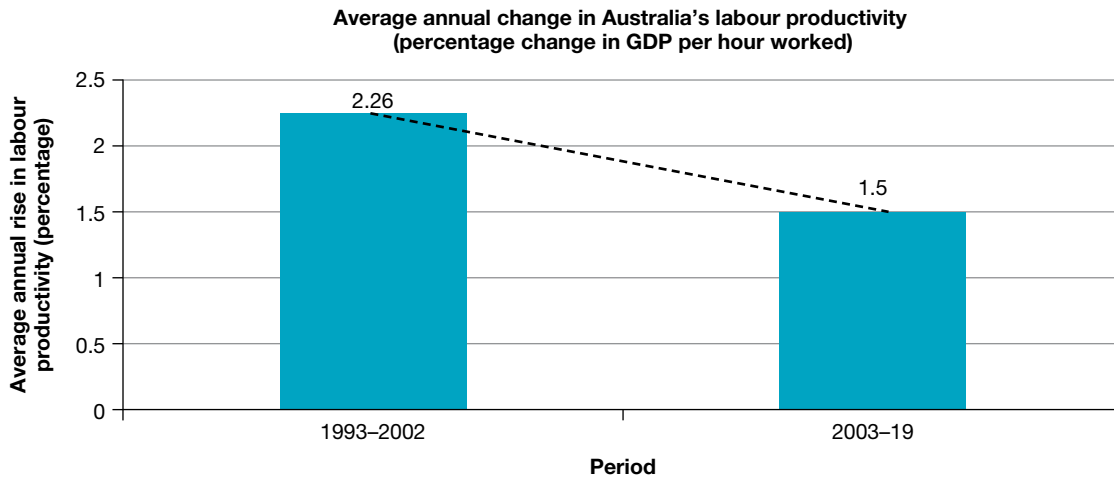
Australia's labour resources (i.e. the labour force) provide the mental talents and physical power needed to expand our productive capacity and potential rate of economic growth. Over the years, the *size* and *efficiency* of our labour force has grown for several reasons:

- high levels of immigration of around 160 000 to 190 000 people per year (people coming into Australia from overseas), with around 65 per cent of these being classified as 'skilled' migrants
- ongoing natural births and a decrease in the death rate
- an increase in the age needed to qualify for the old age pension, keeping people at work for longer

- an overall rise in the percentage of adults participating or being involved in work
- increases in the federal government's spending on education, training and skills.

It is especially important that Australia seeks to grow its **labour productivity** or efficiency, because this means that a bigger GDP is produced per hour worked. This lifts our productive capacity, expanding the PPF and strengthening Australia's sustainable rate of economic growth. Unfortunately, as shown in figure 3.21, there has been a significant slowdown in the growth of labour productivity in more recent years.

FIGURE 3.21 Trends in Australia's labour productivity



Source: Data derived from ABS 1350.0, 5204.0.

Figure 3.22 also indicates that Australia's productivity lags well behind that of some countries like Ireland, Luxembourg, Germany and the United States, even though it is well ahead of Mexico, Russia and Chile.

FIGURE 3.22 International comparisons of Australia's labour productivity



Source: Generally, data is for 2017 and is derived from OECD Productivity Database, see https://stats.oecd.org/Index.aspx?DataSetCode=PDB_LV.

Many factors can affect labour efficiency including access to new, more efficient technology and capital equipment, the wage or pay system that is used to motivate personal effort, and the health, education and skills of workers.

3.8.3 Growing Australia's productive capacity by expanding our capital resources through private investment

Economic growth is usually faster in countries with high levels of investment spending on new plant and equipment like factories, mines, machinery, transport systems and computers. New equipment used by firms usually incorporates the latest technology, thereby reducing production times and costs. In Australia, private business investment spending has been partly financed by capital inflow from overseas and partly from local sources. By increasing the quantity and efficiency of a country's capital resources, investment spending helps to boost productive capacity and aggregate supply, grow the PPF and raise the sustainable rate of economic growth.

3.8.4 Growing Australia's productive capacity by boosting efficiency through government aggregate supply policies

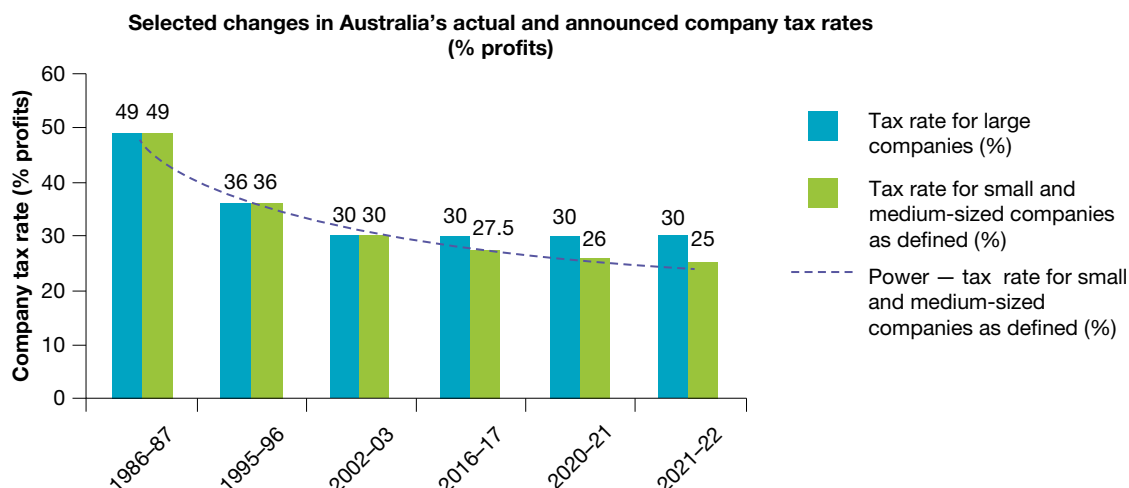
During the past two decades to 2020, the Australian government has implemented many **aggregate supply policies**. These involve measures designed to cut production costs, improve efficiency in our use of resources and expand our productive capacity. Increasing the size of the PPF helps to grow the nation's capacity and potential rate of economic growth.

Recent *aggregate supply policies* of the federal government include the following:

1. **Labour market reform.** The wage system operating in Australia's labour market has been gradually changed, involving substantial **labour market deregulation** (this means reducing the level of government regulation or control of wages and conditions and allowing for greater flexibility in employment arrangements). Today, there are fewer workers covered by the traditional minimum wage system, where wages are set through a government institution called the *Fair Work Commission*. Instead, the wages of most employees are these days decided through a decentralised or deregulated system of enterprise agreements. These workplace agreements are made on a firm-by-firm basis through negotiations between staff and their boss. Pay rises are now more closely linked with worker *efficiency* or performance than under the traditional minimum wage system. This newer system has helped to slow wage costs, grow Australia's productive capacity or PPF and boost the sustainable rate of economic growth.
2. **Promoting stronger competition.** Strong competition usually increases aggregate supply and grows capacity through improved business efficiency and cost cutting among rival firms. As mentioned in topic 1, the Australian Competition and Consumer Commission (ACCC) has been set up to enforce the *Competition and Consumer Act 2010* (before 2010, the ACCA was called the *Trade Practices Act*). These laws make anti-competitive behaviour by firms illegal.
3. **Lowering tax rates.** Tax rates on personal incomes, company profits, capital gains and imports have generally been cut to lower the tax burden on individuals and firms. More reductions have also been scheduled. For instance, the rate of tax on small companies was cut first from 30 to 28.5 per cent, and then to 27.5 per cent from 2016–17. More recently starting July 2018, the upper threshold or cut-off for medium-sized firms has been lifted to include those with an annual turnover of less than \$50 million. Since then, figure 3.23 shows that further reductions in tax rates have been scheduled for small to medium-sized businesses. The rate will be cut first to 26 per cent from July 2020, and then to 25 per cent from July 2021.

These changes help to bring our rates more in line with tax rates in similar countries overseas. It is argued that they, along with some reductions in rates of personal income tax, help to create greater financial incentives to work hard, expand businesses investment and improve efficiency. Greater efficiency in the long term would then grow our productive capacity and the sustainable rate of economic growth.

FIGURE 3.23 Actual and promised changes to Australia's company tax rates



Sources: Data derived from ATO, see <https://www.ato.gov.au/rates/changes-to-company-tax-rates/> and see <https://tradingeconomics.com/australia/corporate-tax-rate>.

4. **Trade liberalisation.** Trade liberalisation involves a shift towards free trade where there is a gradual reduction in the level of trade protection of local industry from foreign imports. This policy means cutting tariffs (the tax added onto the price of imports that makes them dearer than the local product). The last reductions in tariffs occurred in 2010 and 2015, so that rates are now 5 per cent or less. In addition, by early 2019, no fewer than eleven free trade agreements were implemented with countries like Japan, the US, Korea and China, along with the Trans Pacific Partnership (TPP). This opens up new markets for Australian goods and services and allows for more efficient production by local firms on a bigger scale. Furthermore, less protection from import competition forces local firms to use our resources far more efficiently, only producing those things where Australia has the greatest relative cost advantage. In the long term, this also helps to grow our productive capacity and strengthen the sustainable rate of economic growth.

5. **Government infrastructure projects.** Federal, state and local governments in Australia (sometimes in partnership with private businesses) provide important **infrastructure** or capital resources that enable other businesses to produce goods and services and expand their operations. Here, there are *two* important types of infrastructure:
 - **Economic infrastructure** refers to the construction of railways, roads, port facilities, dams, power and improved communications, including the recent rollout of the National Broadband Network (NBN) and Melbourne Metro. Sometimes, these have been built in partnership with private businesses.

FIGURE 3.24 By forcing local firms to produce only those things in which their country has the greatest cost advantage, trade liberalisation has both closed the local manufacturing of cars and made cars cheaper to buy in Australia.



FIGURE 3.25 Bottlenecks in economic infrastructure such as railways have developed in recent years.



- **Social infrastructure** includes the facilities needed for providing education and health that bring benefits to both individuals and business.

Without an adequate and efficient supply of infrastructure, firms cannot grow Australia's productive capacity or the potential GDP. However, despite the growth in government investment spending on infrastructure over the past decade to 2020, many claim that the level has been inadequate to keep up with our growing population. Some areas have been allowed to deteriorate. Notably, serious infrastructure shortages or bottlenecks have developed in electricity, gas, water, skilled education, communications and transport. These have limited Australia's sustainable rate of economic growth.

3.8.5 The negative impact of climate change and severe weather events on Australia's productive capacity

Especially over the last ten years or so, severe weather conditions affecting Australian farming, mining and tourism have been unfavourable to aggregate supply. Our productive capacity, or PPF, has been limited greatly by persistent drought (2004–10 and in Western Queensland in 2013–16), fires, storms, cyclones and even floods (e.g. December 2010, January 2011, January 2013 and 2017 and February 2019). Evidence suggests that these severe weather events are the by-product of climate change resulting in part from various economic activities that emit greenhouse gases that add to global warming.

FIGURE 3.26 As a result of Cyclone Yasi and the Queensland floods in early 2011 and 2019, and Cyclone Debbie in 2017, there was personal suffering and the rate of growth in Australia's GDP slowed by one percentage point below what it would have been. For instance, severe weather events have reduced tourism, destroyed infrastructure like roads and rail systems and destroyed crops and stock, and limited mining production.



3.8 ACTIVITIES

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Check your understanding

- What are aggregate supply-side factors?
- Describe how any *four* of the following aggregate supply factors might affect Australia's potential rate of economic growth and our level of productive capacity.
 - Increased development of natural resources
 - Drought, floods and severe climatic events
 - A fall in the level of business investment spending
 - A rise in the level of immigration
 - Increased government investment in the provision of infrastructure
 - A fall in labour productivity
 - Government microeconomic efficiency reforms

Applied economic exercises

- Aggregate supply factors* can especially affect the long-term potential rate of economic growth by influencing the size of a country's PPF and whether businesses are more willing or able to produce or supply goods and services. Identify and explain *four* important general *categories* of aggregate supply factors that might affect the size and/or growth of a country's PPF or potential rate of economic growth. **(4 marks)**
 - For each event in table 3.9, explain how the *aggregate supply factor* or event could affect Australia's productive capacity and potential long-term rate of economic growth. **(12 marks)**

TABLE 3.9 Aggregate supply events affecting Australia's long-term rate of economic growth

Event	How does this event affect productive capacity and the potential long-term rate of growth?
1. Efficiency among Australian workers and the productivity of other resources fall to even lower levels.	
2. New oil and gas discoveries are made in SA to rival those of the North-West Shelf.	
3. Genetically modified (GM) sheep double wool production per sheep per hectare.	
4. Severe floods occur in eastern Queensland and Victoria in 2010–11, and 2019, and drought in western Queensland 2012–14 and eastern and southern Australia in 2014–19.	
5. Business and government expenditure on new capital equipment and buildings reaches an all-time high.	
6. Australia's overall participation rate in the labour force falls from 65 per cent to about 62 per cent due to our ageing population.	
7. Bass Strait oil and gas reserves run out.	

(continued)

TABLE 3.9 Aggregate supply events affecting Australia's long-term rate of economic growth
(continued)

Event	How does this event affect productive capacity and the potential long-term rate of growth?
8. Soils in the Murray River region become salinated and useless.	
9. Mining in Kakadu causes environmental damage and discourages tourism in the region.	
10. New technology leads to lower power costs and higher efficiency.	
11. Australia's population rises to 28 million people.	
12. A carbon emissions trading scheme (ETS) to help reduce pollution is introduced, whereby the price or cost of carbon dioxide pollution by firms would be determined by market demand and supply for special permits.	

- (c) Identify and outline how any *three* of the following government aggregate supply policies could help to lift efficiency in the use of Australia's resources. **(3 marks)**
- Lower rates of tax
 - Education spending
 - Promoting stronger competition
 - Building new infrastructure
 - Trade liberalisation
 - Deregulation of the labour market

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3.9 Aggregate demand factors that can affect Australia's rate of economic growth

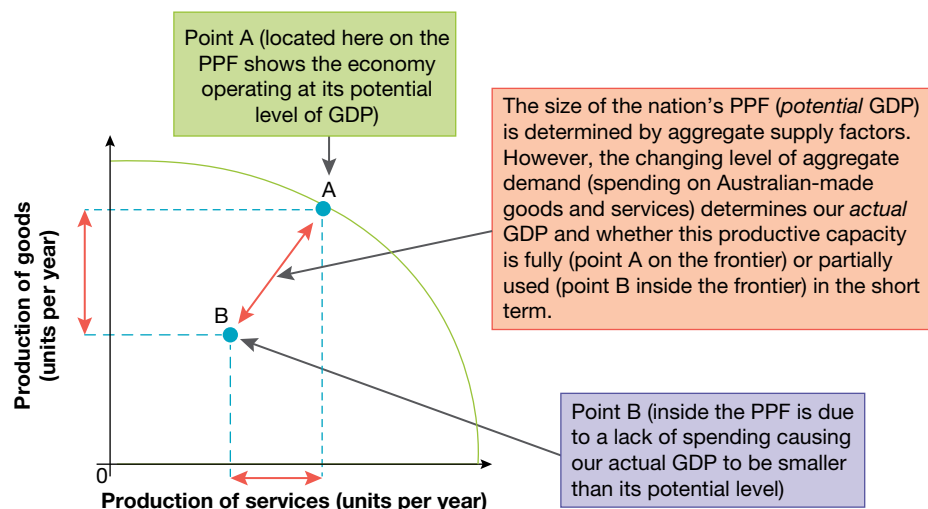
KEY CONCEPTS

- Aggregate demand and its components
- Aggregate demand factors that may influence the rate of economic growth

When we see newspaper headlines about the latest recession or boom, we realise that Australia's rate of economic growth can alter quite suddenly. This is often the result of changes in the decisions made by households, businesses, governments and people overseas about their overall level of spending on

Australian-made goods and services (called *aggregate demand*). As we shall see, changes in *spending* on Australian-made goods and services or aggregate demand (AD) decide the extent to which our nation's productive capacity or potential GDP (as shown in figure 3.27 by the PPF on the PPD) is actually used.

FIGURE 3.27 Using the PPD to show how changes in spending or aggregate demand determine the extent to which our actual GDP is at its capacity in the short term



To better understand the causes of economic instability in the short-term illustrated on the business cycle diagram (see figure 3.14, section 3.6.1), we are going to use a new **five sector circular flow model** representing the Australian economy. It is similar in some ways to the basic *two sector circular flow model* we introduced in topic 1, but this one has a few additions that make it more realistic and useful.

3.9.1 The five sectors of the model show the key decision makers

As evident from figure 3.28, it is easy to see how the *five sector circular flow diagram* got its name — things move in a circular fashion around this model of our economy.

Notice that although this model has *two* main sectors (the household and business sectors), it also has *three* lesser sectors (the financial, government and overseas sectors), making five in total.

1. The household sector

This sector includes nearly 26 million consumers or spenders, making up Australia's entire population. Everyone in the country belongs to this sector. Apart from making decisions about spending, households also supply or sell resources to the business sector.

2. The business sector

The business sector consists of over 2.2 million trading enterprises (e.g. sole traders, partnerships, public companies). They supply or sell finished goods or services, using resources or purchased from households. Businesses also make decisions about investment levels, production and how many staff to employ.

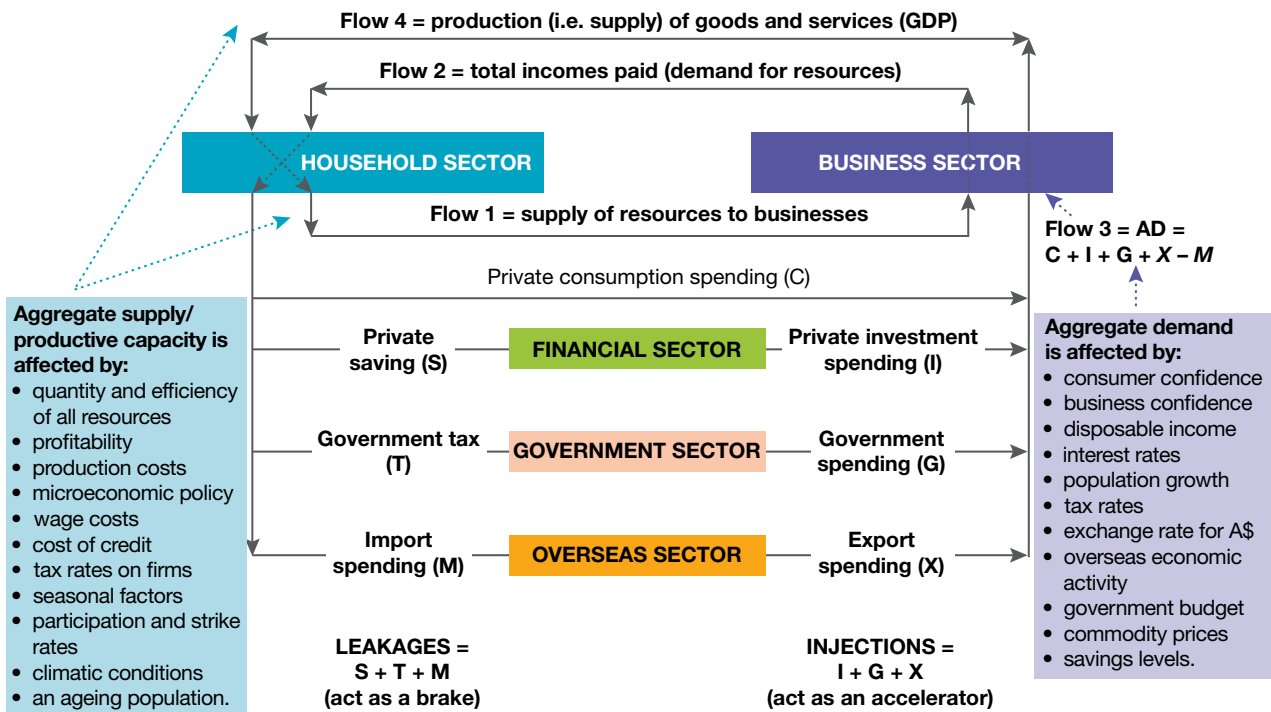
3. The financial sector

The financial sector consists of organisations such as banks, credit unions, building societies, the stock exchange and life insurance companies. According to this model, these institutions collect or borrow household savings from some individuals and re-lend them as credit to businesses wanting to expand their operations through investment spending involving the purchase of new plant and equipment.

4. The government sector

The government sector includes the activities and decisions of federal, state and local governments. It collects various types of tax revenue from those earning income and then uses this to help pay for government spending on the provision of goods and services for the community (e.g. public roads, health, education, transport and housing).

FIGURE 3.28 The five sector circular flow model showing the basic working of the Australian economy



5. The overseas sector

The overseas sector involves spending by Australian residents on imports of goods and services, along with spending by people in overseas countries on our exports of goods and services.

3.9.2 The model's four flows that link decision makers

You may have noticed that there are *four* main *flows* or streams that link the five sectors of this model of the Australian economy:

Flow 1

Flow 1 is the flow or supply of *resources* (labour, capital and natural resources) from the household sector to the business sector during a period of time. Ultimately, a nation's productive capacity or potential output or supply of goods and services is determined by the volume and efficiency of its productive resources. As mentioned earlier, it is impossible for countries to produce more than their resources will permit. Hence, the expansion of resources is vital if the supply of goods and services produced in an economy is to grow between one year and the next.

Flow 2

Flow 2 is the payment of **total income** over a period of time (made up of wages, profits, interest and rent) to those households that sell resources. As such, it represents the demand by businesses for resources. The more resources bought by firms each year, the higher the employment rate and the total level of incomes. However, total incomes fall when there are fewer resources wanted or employed by firms, causing unemployment.

Flow 3

Flow 3 represents **aggregate demand (AD)** or total annual spending on *Australian-made* goods and services over a period of time. This reflects the spending decisions made by households, businesses and governments, both here and overseas. It is made up of expenditure components including private

consumption spending (C), *plus* private investment spending (I), *plus* government consumption and investment spending (G), *plus* overseas spending on Australian exports of goods and services (X), *minus* Australian spending on imports of goods and services (M).

$$AD = C + I + G + X - M$$

In turn, AD is affected by the level of total **leakages** or the withdrawal of income (i.e. $S + T + M$), relative to total **injections** or additions to the overall spending stream (i.e. $I + G + X$). Leakages act like a *brake* and slow the economy, but injections work like an *accelerator* and speed up economic activity and GDP. Hence, decisions that raise leakages relative to falling levels of injections also slow C, and thus AD. However, decisions that cause leakages to fall relative to rising injections will tend to accelerate the level of AD. When the total value of injections equals the total value of leakages, there will be economic stability.

Flow 4

Flow 4 is the annual value (\$) of a nation's production or supply of goods and services. This is measured using gross domestic product (GDP). The level of GDP is taken as a general indicator of economic activity and growth in the Australian economy. It should also be noted that, according to this model, the values of these flows are equal. That is:

AD or national expenditure (i.e. $C + I + G + X - M$)
= The national value of goods and services produced (GDP)
= The value of resources employed
= The national value of incomes paid (e.g. wages, rent, interest, dividends)

3.9.3 Using the circular flow model to explain changes in Australia's rate of economic growth

The wonderful thing about the five sector circular flow model is that it can be used to make predictions and understand economic relationships. It can also help you to understand why a nation's value of GDP goes up and down over time, causing the business cycle.

How spending (AD) helps to determine production levels (GDP)

Let us see if we can use the circular flow model to predict the effects on the Australian economy of a stronger rise in total level of spending on locally made goods and services (AD). Again referring to figure 3.28, assume that AD (i.e. flow 3) was originally equal to \$1000 billion a year. It is logical that businesses would try to produce goods and services or GDP equal to \$1000 billion (i.e. flow 4) to satisfy this demand. In order to do this, firms would need to purchase \$1000 billion worth of resources supplied by households (i.e. flow 1). Businesses would also have to pay households \$1000 billion in total incomes in exchange for these resources (i.e. flow 2).

Households would then use most of their income for private consumption spending (C). This includes the purchase of food, clothes, holidays and health services. Alternatively, some income may be diverted into various *leakages* such as savings (S) in the *financial sector*, taxes (T) paid to the *government sector*, or spending on imports (M) through the *overseas sector*. These leakages of spending act like a *brake* on the economy and slow total spending. However, it is also possible that there will be injections of spending through these three sectors back into the economy, thereby accelerating the level of AD (i.e. flow 3). Injections here might include business investment spending (I) on new equipment, government spending (G) on providing community services and utilities, and overseas spending on our exports (X). These injections act like an *accelerator* to lift AD and speed up the economy. Our explanation has now worked its way

around all four flows that make up the circular flow diagram. We may see that, potentially, changes in the total value of leakages (i.e. $S + T + M$) and injections (i.e. $I + G + X$) could have a powerful influence on the level of AD (i.e. flow 3). Even so, we have still not explained why the rate of economic growth or GDP (as a measure of economic activity) sometimes rises and falls in a cyclical fashion.

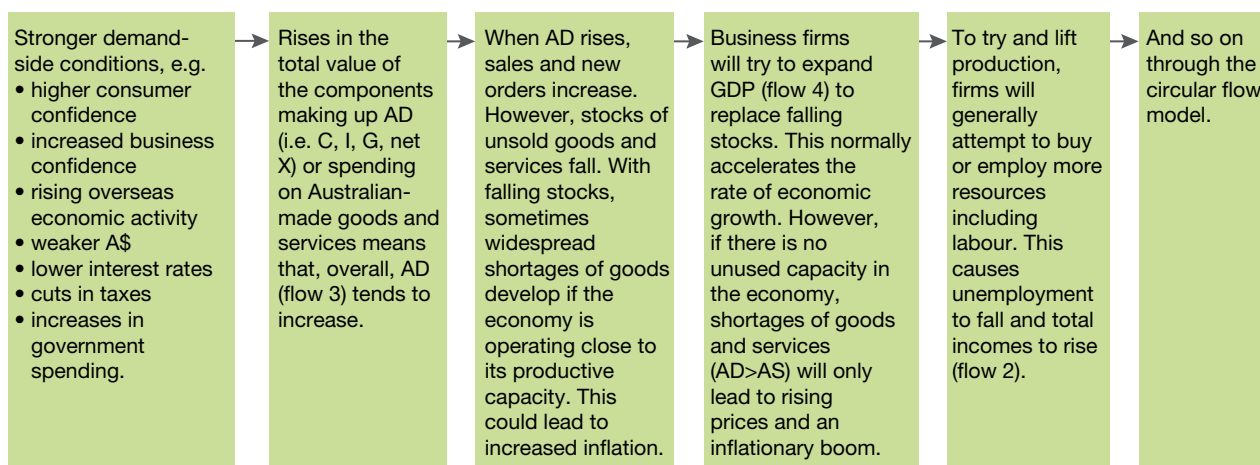
The business cycle in the level of GDP and rate of economic growth

We all know that over a period of time lasting several years, Australia's economic conditions will change. On the news, for example, there is often talk about *booms*, *recessions* and *domestic economic stability*. These economic situations occur when the *pace* or rate of economic growth or activity speeds up or slows down. Often economic growth changes in a *cyclical* way as we saw illustrated on the *business cycle diagram* (see again figure 3.14 in section 3.6.1). Using the circular flow model, we can now start to understand how these cyclical changes in the rate of economic growth could occur. Remember that the level of AD and economic activity in the economy will remain *steady* only as long as the total *level* of leakages equals the total level of injections.

The causes of rising GDP, perhaps leading to a boom

In the short term, assuming there is unused productive capacity (located inside the economy's PPF), there is a cyclical rise in the level of GDP (i.e. flow 4) if the value of *leakages* (lower $S + T + M$) falls relative to *injections* ($I + G + X$). If this happens (continuing the numerical example used earlier), consumption expenditure (C) will rise, stimulating AD above its original level of \$1000 billion, perhaps reaching \$1200 billion. Because the size of the flows making up the model are of *equal* value, GDP, employment of resources and incomes will also need to increase to help maintain equality. However, if the economy was already operating at or near its productive capacity, *stronger* AD may mean that spending will outstrip national production or aggregate supply. Normally, this would cause widespread shortages of goods and services, leading to increased inflation. These signs are typical of a *period of expansion* or possibly a **boom** in economic activity (e.g. perhaps to some extent seen in Australia during 2010–11). A step-by-step explanation of the cause of booms, using the circular flow model as a guide to your thinking, is shown in figure 3.29.

FIGURE 3.29 How stronger aggregate demand factors speed up Australia's rate of economic growth and activity

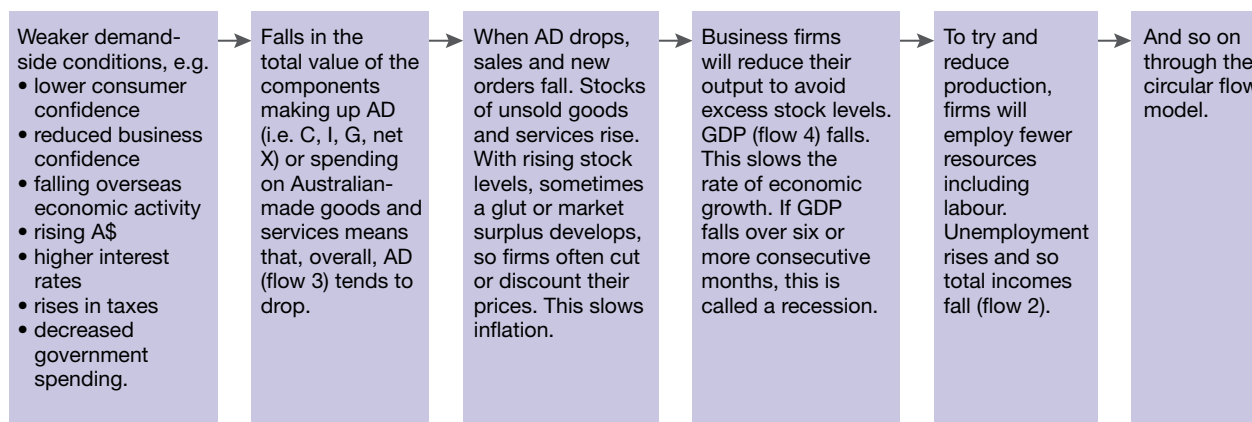


The causes of falling GDP, perhaps leading to a recession

By contrast, a *fall* in the level of GDP (i.e. flow 4) or *economic growth* can reflect *rising leakages* and *lower injections*. This reduces consumption spending (C) and *slows* AD. Returning to our example, if AD fell from its original value of \$1000 billion to, say, \$800 billion, GDP would fall below the economy's capacity, and

employment of resources and incomes would also drop in order to restore equality between the various flows. Additionally, with slowing economic growth and activity, **inflation** is likely to fall because national production supplied exceeds the level of AD or spending, causing stocks of unsold goods to build up. To try to avoid this, firms would cut or discount their prices, slowing inflation. These are common signs of a *slowdown* (e.g. as in Australia during the GFC in 2008–09 and to a lesser extent between 2012 and 2019) or possibly a *recession*. A step-by-step explanation of the cause of recessions, using the circular flow model to guide your thoughts, is summed up in figure 3.30.

FIGURE 3.30 How weaker aggregate demand factors slow Australia’s rate of economic growth and activity



The causes of ideal levels of GDP, leading to domestic economic stability

Somewhere between the peaks in GDP on the one extreme, and the troughs at the other, lies the desirable economic situation called *domestic economic stability* (sometimes called *internal balance*). Here, the level of AD is ideal and closely matches the country’s productive capacity (the country is closely located on or near its PPF). Expenditure is neither too great, causing an inflationary boom, nor too small, causing a recession where there is high unemployment. In the example, this situation might involve AD being equal to around \$1000 billion per year (not \$1200 billion or \$800 billion).

However, even now there are still some unanswered questions. For instance, why do people change their spending levels in the short term, thereby causing AD and GDP to rise or fall?

3.9.4 Aggregate demand factors determine the levels of aggregate demand and GDP

In the short term, the spending decisions made by households, businesses and governments, both here and overseas, affect Australia’s level of AD. In turn, AD has a really important influence on our rate of economic growth and general *economic conditions*. Typically, these conditions change cyclically through periods of *expansion*, *boom*, *contraction* and *recession*. You may recall that when the level of AD rises, there is a period of expansion in GDP leading to a peak or, perhaps, an inflationary boom. Here, inflation or prices usually rise more quickly due to widespread shortages of goods and services. By contrast, when the level of AD falls, there is a period of contraction or a slowdown in production leading to a trough or, perhaps, a recession when unemployment rises.

Given the great importance of the level of AD as a determinant of short-term conditions and the rate of economic growth in Australia, it is vital that we now understand what causes AD (i.e. $C + I + G + X - M$) to rise or fall, resulting in faster or slower rates of economic growth. The key here lies in understanding the *various aggregate demand factors*, both here and overseas, that operate to influence the level of total spending on *Australian-made goods and services* (AD). Statistics showing changes in various *aggregate demand conditions* are summarised in table 3.10, along with those for variations in Australia’s rate of economic growth. As we shall see, some of these affect C, I, G, or net exports ($X - M$).

TABLE 3.10 Trends in some aggregate demand factors affecting Australia's levels of AD and economic growth

Aggregate demand-side factors or conditions	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Rate of economic growth (annual percentage change in chain volume GDP, reference year 2016–17)	2	2.5	3.9	2.6	2.6	2.3	2.8	2.3	2.9	1.4	
1. Consumer confidence index (average 12 months, Westpac/Melbourne Institute)	115	109	96.1	101.8	102.8	96.1	99.1	98.7	101.4	102.4	
2. Business confidence index — average quarterly (NAB net balance)	13.3	7.2	–0.2	–2.1	7.5	4.75	3.9	7.7	9.2	3.0	
3. Annual change in real net national disposable income per head (annual percentage)	–2.1	5.1	3.1	–1.5	–0.5	–1.5	–1.6	3.5	1.3	2.5	
4. Annual total credit growth (annual percentage, June on June)	3	2.7	4.4	3.1	5.1	5.9	6.4	5.3	4.7	3.3	
5. Official interest rates (percentage at June)	4.5	4.75	3.5	2.75	2.5	2	1.5	1.5	1.25	1.25	
6. Underlying budget outcome (\$ billion)	–54.5	–47.5	–43.4	–18.8	–48.5	–37.9	–39.6	–33.2	–10.1	–4.2	7.1
7. China growth in GDP (annual percentage)	10.3	9.4	7.4	7.5	7.5	7	6.4	6.9	6.8	6.2	
8. US growth in GDP (annual percentage)	0.3	1.9	2.8	1.4	2.5	2.3	1.2	2.2	4.1	2.4	
9. Exchange rate (TWI at June 1970 = 100 points)	67.7	77	76.5	73.9	72	63.8	62.5	65.5	62.6	60.1	

(continued)

TABLE 3.10 Trends in some aggregate demand factors affecting Australia's levels of AD and economic growth
(continued)

Aggregate demand-side factors or conditions	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
10. Terms of trade index at June (2016–17 = reference year = 100 index points)	128.3	124.1	124.7	112.8	108.5	97.2	87.5	100	101.9	112	
11. Population growth rate (annual percentage)	1.6	1.4	1.7	1.7	1.6	1.4	1.5	1.6	1.6	1.6	
12. Rate of company tax (percentage of profits, large & small-medium)	30	30	30	30	30	30	30 (28.5)	30 (27.5)	30 (27.5)	30 (27.5)	

Aggregate demand factors affecting private consumption spending (C) as a part of AD

Australian households make expenditure decisions that affect AD and the rate of economic growth. Their level of **private consumption spending** (C) on food, clothes, electrical goods, entertainment and holidays, for example, is affected by changes in the following *aggregate demand factors*:

- Household *disposable income per head* represents money available for spending per person after the payment of tax and the receipt of government welfare benefits. A drop in disposable income per head tends to slow private consumption, as seen between 2012–13 and 2015–16, while higher disposable income in 2016–17–18 accelerates consumption spending.
- *Consumer confidence* is the degree of optimism or pessimism about future household incomes and employment prospects. Greater optimism like that in 2017–19 usually leads to stronger consumption spending and reduced savings, while general pessimism, as in 2011–12, 2014–15 and 2016–17 slows consumption.
- *Interest rates* received by households on their bank savings deposits, or those to be paid on credit borrowed from the banks, affect both the level of savings and spending. Higher interest rates encourage savings and discourage borrowing to buy expensive consumer items such as a house or car, while lower interest rates, as seen recently between 2012 and 2019, help to lift consumption spending.
- The *rate of population growth* that takes into account the excess of births over deaths and immigration levels influences consumption spending. For instance, a slower growth in population as in 2014–15 and 2015–16 tends to slow consumption.
- *Government budgetary policies* affect the levels of tax and government spending. Cuts in personal income tax rates, as in 2012–13, 2016–17, 2019–20 and promised in upcoming years, can help to increase disposable income and hence consumption spending.
- Changes in the exchange rate for the A\$ against the value of other currencies will affect the prices and hence the relative attractiveness for us of buying goods and services made overseas. This affects the level of consumption of Australian-made goods.

Let us see how changes in aggregate demand conditions might affect consumption expenditure by using an example. The level of C would tend to *rise* if consumer confidence strengthened, population size increased, income taxes were cut, or interest rates fell on borrowed credit used to purchase consumer goods such as a new surfboard, a computer or holiday to Queensland's theme parks. Using the circular flow model

to guide our explanation, it follows that, other things remaining unchanged, lower C would then tend to slow AD (i.e. flow 3), sales (while raising unsold stock levels), the rate of economic growth or GDP (i.e. flow 4), employment of resources (i.e. flow 3), and incomes (i.e. flow 2). It might even bring on a recession with higher unemployment rates. In reverse, *stronger* aggregate demand conditions would normally tend to boost C, AD and the rate of economic growth, perhaps leading to an inflationary boom.

Aggregate demand factors affecting the level of private investment spending (I) as a part of AD

Businesses make expenditure decisions that affect AD and the rate of economic growth. The level of **private investment spending** (I) by businesses on new plant equipment such as computers, factory buildings and trucks, for instance, reflects the influence of the following *aggregate demand conditions*:

- **Business confidence or optimism reflects expectations about the level of future sales and profits.** Business pessimism leads to reduced investment spending on new plant and equipment, as followed the global financial crisis in 2008–09 and again during 2011–13, while optimism during 2016–18 often leads to increased investment spending.
- **Interest rates charged by banks on loans to firms alter levels of private investment spending.** Higher interest rates tend to discourage investment spending on new equipment because it becomes dearer for firms to borrow and repay credit, while low rates as in 2012–19 encourage investment spending. In contrast, higher interest rates make repaying a business loan dearer.
- **Company tax rates affect the after-tax profits of businesses.** Lower tax rates for small businesses, as during 2015–16 and 2018–19 (and upcoming years) lift after-tax profits and hence encourage new investment spending designed to expand the business. Rises in tax rates have the opposite effect.

Here, *weaker* aggregate demand conditions perhaps reflecting increased business pessimism, higher interest rates on borrowed credit by firms, rises in company tax rates or rising levels of unsold stocks of goods, would all tend to slow I and reduce AD and the rate of economic growth, leading to a slowdown. In contrast, *stronger* aggregate demand conditions would tend to increase the level of I and AD, along with economic growth (GDP), employment and incomes.

Aggregate demand factors affecting the level of government spending (G) as a part of AD

Decisions taken by Australian governments also affect AD and the rate of economic growth. The level of **government spending** (G) on the provision of community services (e.g. health, transport, education, defence and childcare) is influenced by the following *aggregate demand conditions*:

- **The level of unemployment.** G often increases when the unemployment rate rises because, through this approach, the government can help lift the level of AD and perhaps avoid recession — as was demonstrated during the GFC during 2008–10 and again in 2013–16.
- **The level of inflation.** G often decreases or slows when inflation is rising because this helps the government slow AD and reduce inflationary pressures as it did in 2007–08 and again in 2011–12.
- **The speed of population growth.** G often rises faster when population growth is more rapid following a rise in the birth rate, a lower death rate or increased level of immigration, because more community services are needed.
- **Concern about the level of government debt.** If the government spends more than it receives in taxes, it is likely that it will have to borrow money, adding to its level of public debt. Concern about high public sector debt levels, as in recent years, can slow the level of government spending, AD and GDP.

So G might increase due to rising levels of unemployment (as in 2008–10 and 2013–15), falling inflation, generous election promises or a faster growth in our population size, thereby tending to increase AD, GDP (economic activity), employment and incomes. In reverse, events that reduce G also tend to slow the level of AD and Australia's rate of economic growth.

Aggregate demand factors affecting the level of export spending (X) as a part of AD

Decisions made by consumers abroad also affect Australia's AD and rate of economic growth. People overseas might increase their **spending on Australian made exports** (X) of goods and services (e.g. cotton, wool, minerals, manufactured items and travel) due to changes in the following *aggregate demand conditions*:

- **The exchange rate or the value of the A\$ when swapped or converted into other currencies.** A rising A\$ as in 2010–12 tends to slow our exports because they become dearer to people overseas, while a fall in the A\$ as in 2016–19 makes exports cheaper, leading to an increase in the volume of their sales and hence AD.
- **Overseas economic conditions such as booms and recessions.** A recession or slowdown abroad among our major trading partners like China, Japan or the US, as occurred following the global financial crisis in 2008–09 and in 2012–19, slows overseas spending on our exports, while a boom overseas tends to raise the value of foreign spending on Australian exports.
- **Natural disasters and severe weather events in Australia and overseas.** Cyclone Yasi and the floods in Queensland in 2011 and 2019, and Victoria in late 2010, early 2011, 2013 and 2017, reduced the value of our agricultural and mining production available for export, while events overseas like the Japanese tsunami in 2011 slowed the demand for our exports.

This means that stronger aggregate demand conditions including a fall in the A\$, a boom overseas in nations with whom we trade (e.g. the US, China, Japan), favourable climatic conditions in Australia for growing rural produce, and higher commodity prices received for our exports (called a favourable change in our terms of trade) would all tend to accelerate X, AD, GDP (economic activity), employment, incomes and perhaps inflation. By contrast, conditions that weaken our X would also tend to slow AD and Australia's rate of economic growth.

FIGURE 3.31 International trade involving the export and import of goods and services has a major effect on Australia's level of aggregate demand and our rate of economic growth.



The level of import spending (M)

Spending decisions made by local residents affect AD and the rate of economic growth. The level of **import spending** (M) by Australians (e.g. on oil, computers, business equipment and overseas holidays) reflects changes in the following aggregate demand conditions:

- **The exchange rate or value of the A\$ against other currencies alters the value of imports.** A *fall* in the A\$ as in 2013–16 and 2019 tends to make imports dearer in Australia, while a *rise* in the A\$ as in 2010–12 and 2016–17 tends to make imports cheaper and more attractive. These changes in turn affect the level of AD.
- **Trends in local economic conditions can influence imports.** If there is confidence, and a boom locally, this often results in more spending on imports, while weaker conditions and recession usually mean lower spending on imports.
- **Consumer confidence and business confidence levels locally influence spending on imports.** Greater optimism locally, as during 2017–19 for instance, results in more spending on imports, while pessimism as in 2014–17 tends to lower our spending on imports.
- **Our inflation rate relative to that overseas affects our spending decisions.** For instance, higher inflation at home makes overseas goods and services relatively more attractive, increasing imports.

Remember that higher imports have a negative or slowing effect on AD (spending on *Australian-made* goods and services) and are subtracted from its value. Hence, conditions like a falling A\$, a recession in our economy, higher prices paid for imports and weaker consumer and business confidence in Australia would all tend to slow M. In themselves, and other things remaining unchanged, these should help to accelerate AD and economic growth. In reverse, events that increase imports would tend to undermine spending on Australian-made items, slowing the level of AD the rate of economic growth.

on Resources



Weblinks The circular flow

Circular flow of income: how the different components of an economy interact

Circular flow matrix — how the economy works

3.9 ACTIVITIES

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Check your understanding

1. Draw and fully label a *five sector circular flow model* representing Australia's economy.
2. Define each of the following terms used in the circular flow model:
 - (a) aggregate demand
 - (b) gross domestic product (GDP)
 - (c) leakages
 - (d) injections
 - (e) household consumption spending
 - (f) business investment spending
 - (g) savings
 - (h) spending on exports
 - (i) spending on imports
 - (j) taxes
 - (k) government spending.
3. Using the *five sector circular flow model*:
 - (a) What causes the level of economic activity to rise, perhaps leading to an inflationary boom?
 - (b) What causes the level of economic activity to fall, perhaps leading to a recession?
4. What are *aggregate demand-side factors*? Define each of the following aggregate demand-side factors and explain how each could affect the level of AD:
 - (a) consumer confidence
 - (b) business confidence
 - (c) disposable income
 - (d) the exchange rate for the A\$
 - (e) interest rates
 - (f) overseas economic activity.

Applied economic exercises

1. (a) The *five sector circular flow model* is especially useful in understanding the impacts of changes in aggregate demand factors or conditions on the economy. The subset of 37 short questions listed in table 3.11 requires that you provide concise answers. These are to help sharpen your understanding of the nature and workings of the five sector circular flow model of the Australian economy. See how you go. **(37 marks)**

TABLE 3.11 Understanding the features of the five sector circular flow model

1. Draw and fully label the five sector circular flow model.
2. What are the main economic functions of the household sector?
3. What are the main functions of the business sector?
4. What are the main functions of the financial sector?
5. What are the main functions of the government sector?
6. What are the main functions of the overseas sector?
7. Who are the suppliers of resources?
8. Who are the buyers of resources?
9. How are the suppliers of resources rewarded for their efforts, skills and risk?
10. Who are the demanders of finished goods and services?
11. When do wants become an actual demand for goods and services?
12. How might households dispose of the income they receive?
13. What are the main general determinants of the level of C?
14. What are leakages?
15. How is the impact of leakages different from that of injections?
16. Why might household saving levels change from one period of time to the next?
17. What factors affect the level of imports?
18. Under what circumstances might governments increase tax leakages relative to government spending?
19. Define what is meant by AD.
20. What are the immediate determinants of the level of AD?
21. List six reasons why AD may rise or fall.
22. What are three main economic effects of a rise in AD by \$100 million for an economy that has unemployed resources or unused productive capacity?
23. What is the immediate effect of a decision by the business sector to increase its production or supply of goods and services?
24. What is the main cause of increased incomes?
25. What may cause some people to receive no income at all?
26. Why might there be reduced employment of resources and rising unemployment in an economy?
27. What are the effects on the economy of AD rising faster than the productive capacity of the country?
28. What is the impact on AD of a rise in imports?
29. Give three reasons why businesses might decide to increase their investment spending.
30. What three specific events could increase exports?

31. What three specific events could increase imports?
32. Give three specific reasons why households may cut their consumption expenditure.
33. Give two specific reasons why a government may lower government spending.
34. According to the model, what is the general cause of a contraction or recession in economic activity (GDP)?
35. According to the model, what is the general cause of an expansion in economic activity (GDP)?
36. According to the model, what can be said about the values or size of the flows of AD, GDP and total incomes in an economy in a given year?
37. What is the name of the flow that measures the general level of economic activity in a country's economy?

- (b) 'The level of aggregate demand helps to determine the rate of economic growth and the extent to which the economy's productive capacity is actually used.' Define what is meant by the term *aggregate demand (AD)*. (2 marks)
- (c) Use the five sector circular flow model of the economy to help you predict (in a logical and step-by-step way) the likely cyclical effects of the ten economic events listed in table 3.12 on the following:
- AD
 - inflation or generally rising prices
 - GDP and the rate of economic growth
 - employment or unemployment of resources
 - incomes and perhaps material living standards.

Start each answer with a brief *definition* of the italicised term (see the *Economics dictionary*), and then step through your explanation. In answering the question, remember that many of the listed events change the size of leakages, injections and AD (i.e. flow number 3). In turn, this alters sales, orders and unsold stocks of goods and services, perhaps affecting inflation. And so, the next flow to be affected is, in order, the level of business production or GDP (i.e. flow number 4), then the level of resources purchased and perhaps the unemployment rate (i.e. flow number 1), and finally the total level of incomes paid to households (i.e. flow number 2).

The order or sequence of your step-by-step explanation is important, so try not to get sidetracked onto changes in things about which we may be very unsure. To help with this aspect and to guide your response, read the sample answer provided at the end of table 3.12. As a shorthand approach here, you may use official abbreviations, horizontal arrows (indicating 'leads to') and vertical arrows (meaning 'increase' or 'decrease'). Notice how the explanation works its way around the circular flow model in a forward direction. You may also find it useful to review figures 3.29 and 3.30 from section 3.9.3 before starting your responses. (20 marks)

TABLE 3.12 Events affecting aggregate demand, economic growth and the economy

Aggregate demand factor or event	Explanation of the likely effects of the changed aggregate demand event on the economy
1. <i>Consumer confidence</i> strengthens as in 2017–19	
2. <i>Household disposable income per person</i> falls as in 2014–15 and 2015–16.	
3. There is a <i>slowdown overseas</i> in China's rate of economic growth as in 2016–19.	
4. The <i>exchange rate</i> for the A\$ rises or appreciates against other currencies as in 2005–08, 2010–12 and 2016–17.	

TABLE 3.12 (continued)

5. <i>Interest rates</i> fall and remain low on bank credit that is borrowed by business firms as in 2008–09 and 2012–19.	
6. More <i>free trade agreements</i> are signed, abolishing tariffs on imported goods and opening up new export markets.	
7. A decision was made to stage the World Soccer Cup in Melbourne, attracting overseas tourists and involving <i>investment</i> in new facilities.	
8. You decide to spend your week's wages on a big night out in Melbourne and reduce your level of <i>savings</i> by \$250.	
9. In 2014, the federal government abolished the carbon tax levied on business polluters.	
10. Australian households decrease their <i>savings ratio</i> (as a percentage of income) as during 2016–18.	

SAMPLE ANSWER

Predict the likely economic effects on Australia's economy of a large fall in the level of business confidence

Definition: Business confidence relates to the general level of business optimism or pessimism about its future sales and profits. This affects businesses' investment decisions.

Step-by-step explanation: If there was a collapse in business confidence, firms would be pessimistic and feel that their future sales and profits will fall →

↓ investment spending (I) or injections by firms on new plant and equipment since there would be no need to expand their capacity →

↓ AD or total spending on Australian-made goods and services (flow 3) →

↓ sales and higher stocks perhaps leading to price discounting and lower inflation →

↓ production by Australian firms, hence slowing the rate of growth in national output or GDP produced (flow 4) →

↓ amount of resources needed or employed by Australian firms (flow 1) →

↓ employment and increasing unemployment →

↓ total incomes paid to Australian households (flow 2) and perhaps lower material living standards.

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3.10 Government economic policy responses designed to influence the rate of economic growth

KEY CONCEPT

- Government economic policy responses designed to influence the rate of economic growth such as budgetary policy, monetary policy and aggregate supply policies

An important objective of the Australian government is to grow the size of the economy. Here the **goal of strong and sustainable rate of economic growth** is defined as an appropriate rise in real GDP, perhaps

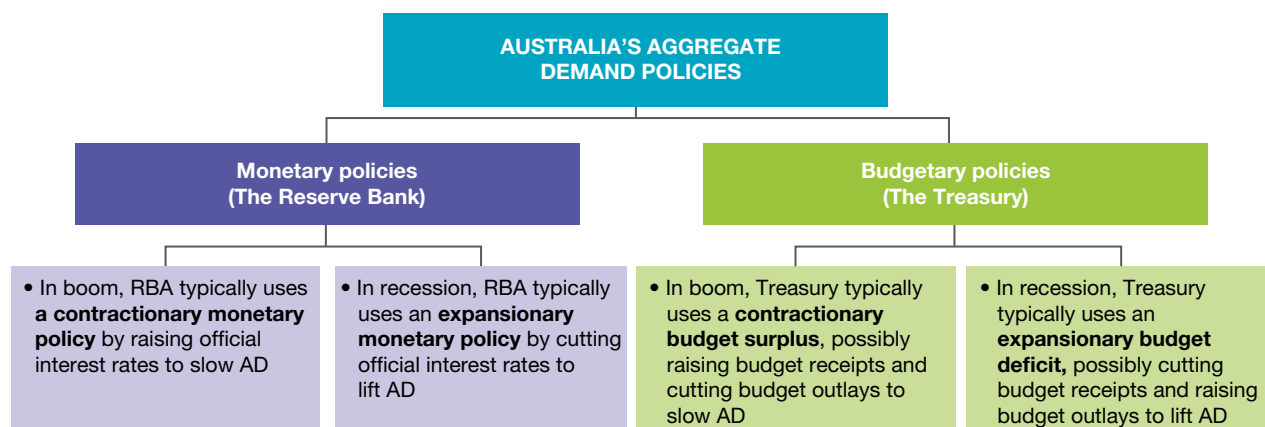
by an average of around 3 per cent a year, that does not jeopardise or undermine the achievement of other government goals like that of low inflation, full employment of the labour force and the environment.

Rates of economic growth above this often cause the economy to overheat (and suffer from shortages of goods and services, boom conditions and hence inflation) because there is insufficient productive capacity available, limiting aggregate supply. Excessively rapid and inappropriate growth also greatly accelerates environmental damage and ultimately is unsustainable in the long term. However, slower rates of economic growth below 2 or 3 per cent mean there is unused productive capacity. Here, GDP is rising too slowly to maintain full employment and material living standards fall.

As we shall now see, the Australian government uses a combination of both *aggregate demand policies* and *aggregate supply policies* to help promote the goal of a *strong and sustainable rate of economic growth*, and avoid both high inflation and unemployment (i.e. the economy should experience the ideal situation of *domestic economic stability*).

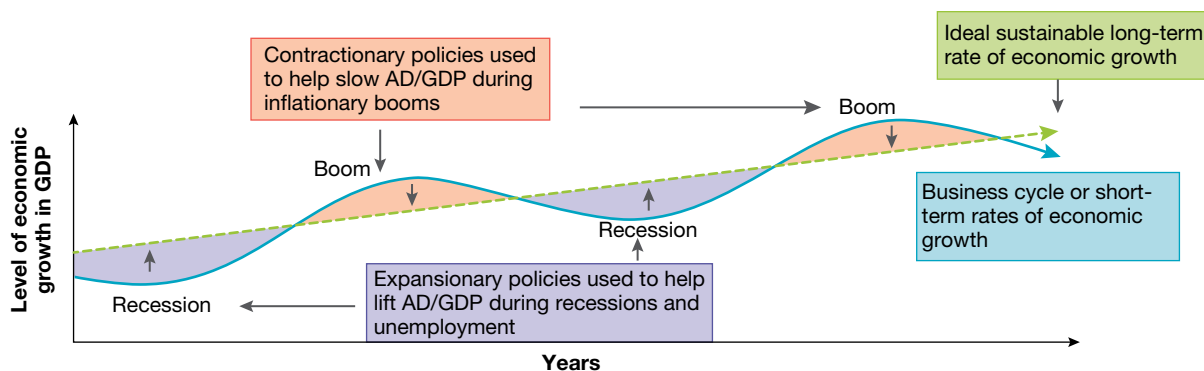
3.10.1 Government aggregate demand policies designed to influence the short-term rate of economic growth

Aggregate demand macroeconomic policies involve government measures designed to help regulate the level of spending on Australian-made goods and services (i.e. they seek to regulate the level of $AD = C + I + G + X - M$) so it is neither too strong nor too weak. There are *two* types of *aggregate demand* measures that can be used to promote a steadier rate of economic growth: *monetary policy* and *budgetary policy*.



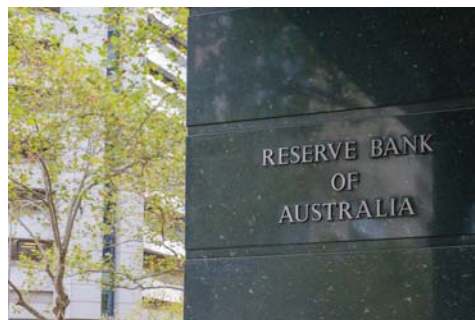
These policy measures are used in a *countercyclical* way where they become *expansionary* in slowdowns or recessions to lift spending, and *contractionary* in booms to slow excess spending. As illustrated in figure 3.32, these aggregate demand policies are changed in ways to help flatten out the severe ups and downs in the business cycle, and thereby promote greater economic stability.

FIGURE 3.32 How countercyclical aggregate demand policies can help to flatten out the business cycle and promote domestic stability



1. Monetary policy

Monetary policy involves the Reserve Bank of Australia (RBA) using changes in official **interest rates** to control spending and regulate the level of economic activity and GDP. Here, interest rates represent the cost to firms and households for borrowing credit. Alternatively, people with savings deposits in a bank account also receive interest as a reward. By changing interest rates, the RBA can regulate how much money is saved, borrowed and spent using its **countercyclical policy** (i.e. using monetary policy in a countercyclical way):



- If there is a *recession* or slowdown in the rate of economic growth, the RBA can adopt an **expansionary policy** by cutting interest rates to stimulate borrowing and spending (between 2011 and mid 2019, it cut interest rates fourteen times and kept them low).
- By contrast, when spending and activity are running too hotly causing an inflationary *boom*, the RBA can adopt a more **contractionary policy** to slow AD by lifting interest rates (between 2009–10 and 2010–11).

2. Budgetary policy

The federal treasurer announces the government's **budgetary policy** each year, usually in May. It involves changing taxes (e.g. personal income tax, company tax on profits, the goods and services tax, and excise taxes on alcohol, tobacco and petrol) and government outlays (e.g. on welfare benefits, health, education, defence, communications and industry assistance). Since taxes are a leakage in the circular flow model and government outlays are an injection, the budget can be used to help regulate AD and stabilise the business cycle by applying measures in a *countercyclical* way.



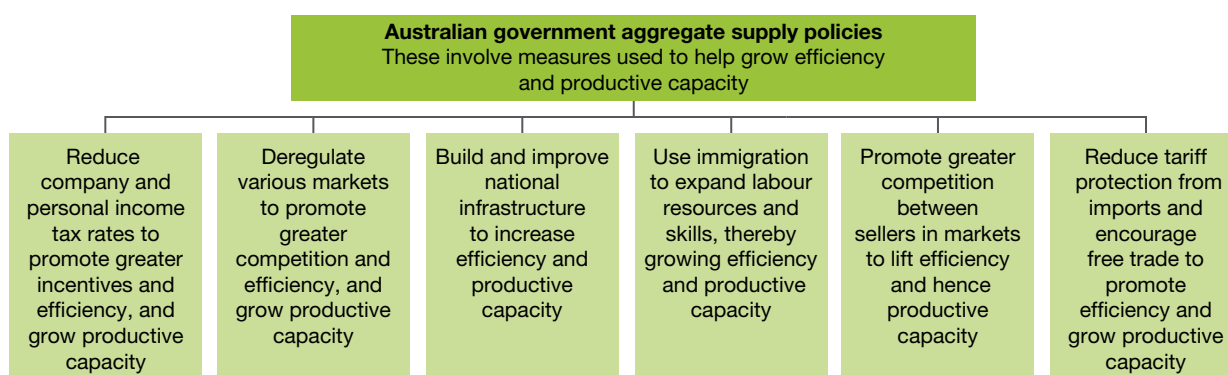
- In a period of slowdown or *recession* where low spending causes a drop in the rate of economic growth, the treasurer could cut taxes or increase budget outlays to encourage more spending. These moves would cause the budget to become *expansionary*, typically resulting in a bigger *budget deficit* due to cutting tax receipts and increasing its outlays (e.g. 2009–10 following the GFC and again in recent years such as in 2013–16) or possibly, it could involve a reduction in the size of the budget surplus.
- In reverse, if the pace of economic growth was too strong and the economy was overheating leading to an *inflationary boom*, theoretically the government could raise taxes and/or reduce government outlays to slow AD and cool economic activity. The budget becomes *contractionary*, typically resulting in a bigger *budget surplus* where receipts exceed outlays (e.g. the boom of 2007–08) or perhaps it may involve reducing the size of the budget deficit (e.g. 2016–19).

3.10.2 Government aggregate supply policies designed to influence the longer term rate of economic growth

Aggregate supply policies have also been widely applied to make conditions *more favourable* for business. When firms are more willing and able to produce or supply goods and services, there is a rise in Australia's productive capacity and level of aggregate supply. For instance, government measures that help increase *efficiency* in the way resources are used mean that more output can be gained from the same inputs. This grows aggregate supply and our potential rate of economic growth.

As summarised in figure 3.33, the federal government has used a range of *aggregate supply policies* in recent years. Let us now look at some of them.

FIGURE 3.33 Summary of selected government aggregate supply policies used to boost Australia's efficiency and productive capacity



Cutting tax rates can boost incentives and efficiency

Between 2000–01 and 2019–20, the federal government reduced tax rates on personal incomes, company profits for small to medium-sized firms and capital gains (the profits from selling assets such as shares and property). For example:

- There was a rise in the tax-free income threshold from \$6000 to \$18 200 starting July 2012. More recently to 2020, some of the cut-offs or thresholds for entering higher rates of personal income tax have been progressively raised, easing the tax burden for some.
- Australian companies are at a competitive disadvantage because they often pay higher tax rates than firms overseas, making them less likely to expand their operations. To help fix this, the federal government has progressively reduced company tax rates from a high of 49 per cent in 1986–87, to 30 per cent or less, depending on the size or turnover of the business. Table 3.13 shows that by 2021–22, small and medium-sized firms with an annual turnover of less than \$50 million will pay a tax rate of just 25 per cent.

TABLE 3.13 Actual and future reductions in tax rates for small to medium-sized companies

Income year	Aggregated turnover threshold	Tax rate for base rate entities under the threshold	Tax rate for all other companies
2017–18	\$25m	27.5%	30.0%
2018–19 to 2019–20	\$50m	27.5%	30.0%
2020–21	\$50m	26.0%	30.0%
2021–22	\$50m	25.0%	30.0%

Source: Table copied directly from the ATO (table last updated October 2018), see <https://www.ato.gov.au/rates/changes-to-company-tax-rates/>.

The main argument is that lower tax rates help encourage greater personal effort by individuals because there is more reward or incentive. Lower tax rates also improve business profits and hence encourage expansion involving greater investment in new technology and equipment. As a result, reductions in tax rates should help increase efficiency, lift productive capacity and boost Australia's potential rate of economic growth.

Deregulation of the labour market can boost labour efficiency

Market deregulation involves gradually reducing unnecessary government's restrictions in various markets, making supply conditions more favourable for businesses. Perhaps the best-known example is the *deregulation* of Australia's *labour market*. Essentially, this has involved a gradual shift from the

government-regulated minimum wage system for setting fairly uniform pay and conditions for workers, to the widespread use of enterprise bargaining. In the latter case, wages are set on a firm-by-firm basis through negotiations between staff and their boss. Pay levels are more variable and are usually related to a worker's productivity or efficiency. So, unlike the old wage system, there is now a far greater incentive to work hard. This helps keep wage costs lower. In most cases, the main aim of market deregulation is to increase the level of market competition and hence efficiency. In turn, greater efficiency slows production costs, strengthens the profitability of firms, reduces the number of business closures and encourages the growth of firms and hence the economy's potential level of GDP.

Education spending can lift productivity

Government outlays on education can have a powerful effect on the long-term rate of economic growth by improving the skills, creativity, ingenuity and capacities of our labour resources, thereby strengthening supply conditions. In addition, skilled individuals are more employable and less likely to be unemployed. This lifts worker productivity or the level of labour output per hour worked.

In turn, higher efficiency helps to grow the nation's productive capacity or PPF, potential level of aggregate supply and the sustainable rate of economic growth. The 2019–20 federal government budget, for instance, announced that there would be around \$36 billion spent on funding government and private schools, early learning, apprenticeships, TAFE colleges and universities.



National infrastructure projects can improve efficiency

Infrastructure includes the building of highways, rail links, port facilities, telecommunications (including the National Broadband Network or NBN), water supply, power grid, and education and training facilities. Especially in the nine years to 2019–20, there was increased federal government investment spending on national infrastructure projects. For instance, in the 2019–20 budget the federal treasurer announced there would be \$100 billion of national infrastructure spending rolling over the ten-year period 2019–20 to 2028–29. Additionally, recent budgets have also announced projects including



the M80, the inland rail project from Melbourne to Brisbane, a second airport for Sydney's west, and regional rail projects. Improved infrastructure makes the conditions of supply for businesses more favourable. By increasing the quantity and efficiency of Australia's capital resources and infrastructure, it reduces business costs, strengthens efficiency and profitability and therefore encourages business expansion. In turn, this grows Australia's productive capacity and PPF, thereby boosting economic growth.

Immigration policy grows our labour resources

In recent years, the federal government has actively promoted quite high levels of immigration of around 160 000 to 190 000 migrants a year, many with wanted skills that are in short supply. This supply-side policy helps reduce labour shortages and therefore increases both the quantity and efficiency of Australia's labour resources. In turn, a bigger and more skilled labour force helps to grow our PPF and the potential rate of economic growth.

Promotion of greater competition promotes efficiency

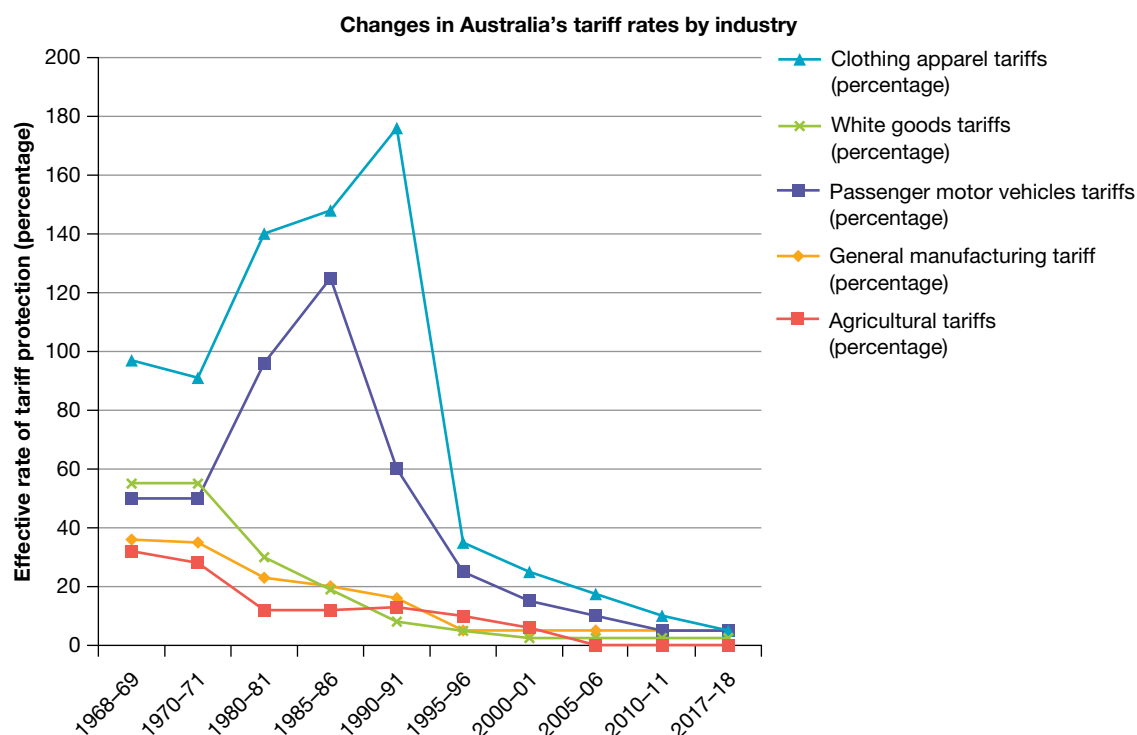
The government has introduced reforms to stimulate the level of competition or rivalry between firms in the setting of prices. This should force businesses to cut costs by raising their efficiency levels. Improved efficiency enables greater output from the same inputs, strengthening supply conditions. In this area, government measures have included bolstering the power and profile of the *Australian Competition and Consumer Commission* (ACCC). As discussed, this organisation is responsible for enforcing the *Competition and Consumer Act* (CCA) of 2010 (formerly called *Trade Practices Act* or TPA). The CCA makes it illegal for firms to collude using strategies to push up or fix prices, or limit competition. So activities such as *price fixing*, *collusive bidding*, *market zoning*, *price leadership* and *interlocking directorships* are all outlawed because they reduce business efficiency and productive capacity, and worsen the inflation rate (discussed in section 1.7.5).

Tariff cuts and free trade agreements can lift efficiency

Tariffs are an indirect tax that is added onto the price of imports. Tariffs limit competition from overseas goods, reduce local efficiency, increase production costs for other local industries and slow the potential rate of economic growth. However, since the early 1970s, the federal government has progressively reduced tariffs protecting local firms, and to mid 2019 had enacted eleven free trade agreements with other countries (with others awaiting final approval), abolishing tariffs, increasing competition and efficiency, and growing access to new export markets abroad.

Figure 3.34 shows that general tariff rates have gradually fallen from a high of 38 per cent in the late 1960s to less than 5 per cent from 1996. Since 2015, the *higher tariff rates* that were *initially* applied to special industries (e.g. textiles, footwear, clothing, automobiles) have also been reduced to the standard rate of just 5 per cent or less.

FIGURE 3.34 How the Australian government has reduced tariffs protecting local industry to help boost the level of competition in markets and hence local efficiency



Source: Data rounded and estimated using information derived from many sources including AGPS; Industry Commission; 2002 Trade Policy Review for Australia; Productivity Commission, Trade and Assistance Review, 2015 (see also <http://www.pc.gov.au/research/ongoing/trade-assistance/2013-14/trade-assistance-review-2013-14.pdf>); DFAT; budget Review 2006-07, budget papers 2008-09 to 2017-18; and other sources.

The lowering of government tariff protection means that only efficient firms will survive. It also means that Australia's resources will be allocated into those areas where our cost advantage or competitiveness in production is greatest (or our cost disadvantage is least). In turn, greater efficiency in resource use should help to bolster Australia's productive capacity, aggregate supply and hence the potential growth rate.

Resources



Weblinks Fiscal policy and stimulus

The Australian federal budgets 2016–17, 2017–18 and 2018–19

3.10 ACTIVITIES

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Check your understanding

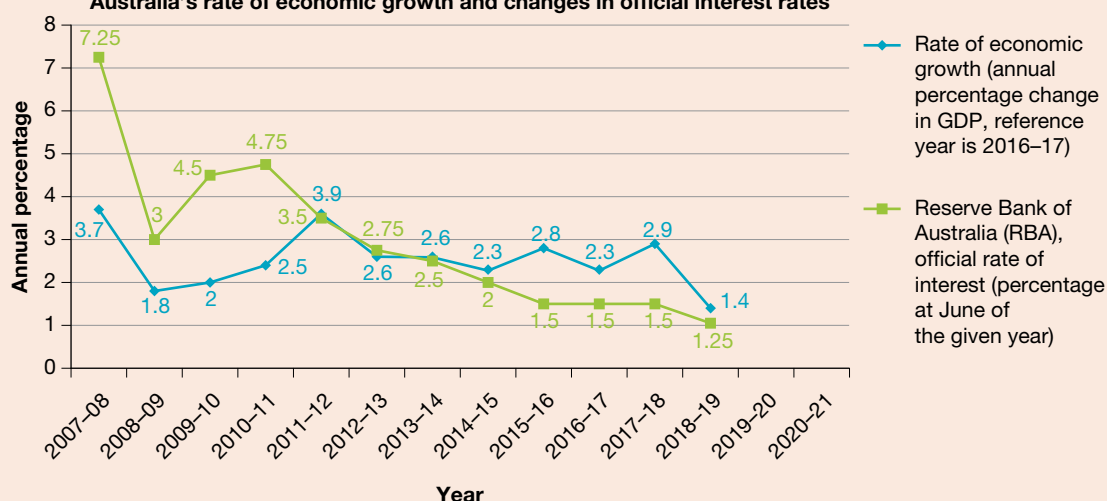
1. Define aggregate demand policies.
2. Explain how the Australian government might use its *budgetary policies* and *monetary policies* as demand policies, to affect the rate of economic growth and promote better economic stability in the following economic situations:
 - (a) a *recession* where economic growth has slowed and unemployment is rising
 - (b) an inflationary upswing or *boom* where economic growth is too fast.
3. Define aggregate supply policies, giving three examples.

Applied economic exercises

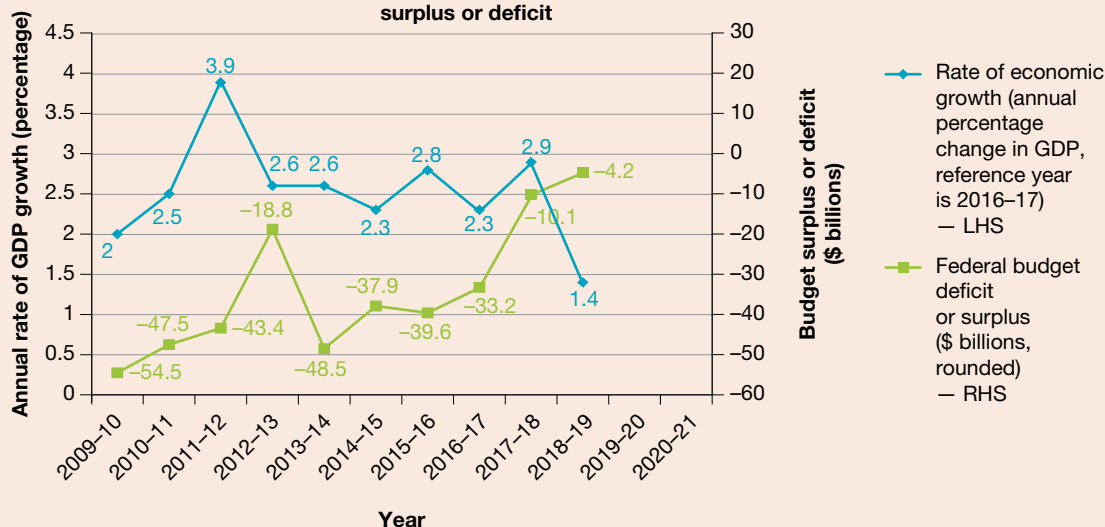
1. (a) Define what is meant by the federal government's *goal of a strong and sustainable rate of economic growth*. **(2 marks)**
 (b) Distinguish between *monetary* and *budgetary* policies as two means of stabilising the levels of AD and economic growth. **(4 marks)**
 (c) Explain how the Australian government typically uses *budgetary* policies and *monetary policies* as aggregate demand policies, to influence the rate of economic growth and promote better domestic economic stability in each of the following economic situations:
 - i. a *recession* where annual economic growth has slowed to 1 per cent and unemployment has risen to 6 per cent **(4 marks)**
 - ii. an inflationary upswing or *boom* where annual economic growth is running too fast at 5 per cent and inflation has accelerated to 5 per cent. **(4 marks)**
- (d) What are the main *differences* between an expansionary and a contractionary *monetary policy* approach? **(2 marks)**
- (e) Examine *graph 1* in figure 3.35 showing how the RBA has used interest rates as an aggregate demand policy to help stabilise the rate of economic growth.
 - i. Give examples of the years where it appears the RBA was adopting a relatively expansionary approach, explaining the reasons for this by looking at the rate of growth in GDP. In this case, how would the change in interest rates help to stabilise the level of economic activity? **(2 marks)**
 - ii. Give examples of a year where it appears the RBA was adopting a relatively contractionary approach, explaining the reasons for this by looking at the rate of growth in GDP. In this case, how would the change in interest rates help to stabilise the level of economic activity? **(2 marks)**

FIGURE 3.35 Using changes in official interest rates and the federal budget to help regulate Australia's rate of economic growth and achieve domestic economic stability

Graph 1 – How the RBA changed interest rates to help stabilise Australia's rate of economic growth
Australia's rate of economic growth and changes in official interest rates



Graph 2 – How the federal budget was used to help stabilise Australia's rate of economic growth
Australia's rate of economic growth and the federal budget surplus or deficit



Sources: Data rounded and derived from ABS 5206.0 (Table 3), 6202.0, 6401.0; Australian government, budget papers (various); RBA statistics.

- (f) What are the main *differences* between an expansionary and a contractionary *budget*? (2 marks)
- (g) Examine *graph 2* in figure 3.35 showing how the government has used changes in the budget outcome (i.e. the value of receipts from taxes against the value of government outlays and spending) to help stabilise the rate of economic growth.
- Give examples of the years where it appears the government was adopting a relatively *expansionary approach*, explaining the reasons for this by looking at the rate of growth in GDP. In this case, how would the change in the overall levels of budget receipts relative to outlays help to stabilise the level of economic activity? (2 marks)
 - Give examples of a year where it appears the government was adopting a relatively *contractionary approach*, explaining the reasons for this by looking at the rate of growth in GDP. In this case, how would the change in the overall levels of budget receipts relative to outlays help stabilise the level of economic activity? (2 marks)

- (h) Imagine you were in charge of monetary policy (changes in interest rates) and budgetary policy (changes in taxes and government outlays). Explain how you would use *each* of these policies in the following situation, to help promote *domestic economic stability*:
- GDP growth rate 1.2 per cent (2 marks)
 - unemployment 3.6 per cent (2 marks)
 - inflation –0.9 per cent. (2 marks)
- (i) Define the term *aggregate supply policies*. In general terms, explain how these policies might help to increase Australia's potential long-term rate of economic growth. (2 marks)
- (j) For each *aggregate supply policy* listed in table 3.14, outline the nature of the government's policy and then explain logically, step-by-step, how it might help to increase Australia's *productive capacity* (aggregate supply in the long term) and lift our potential rate of economic growth. (10 marks)

TABLE 3.14 How government aggregate supply policies may affect Australia's rate of economic growth

Aggregate supply policy	Nature of the government's policy and how it might grow Australia's productive capacity
1. Reductions in the rates of personal income tax and company tax between 2019 and 2021	
2. Increased government spending on education and training	
3. Maintenance of immigration target intake at the high level of 160 000 to 190 000 per year	
4. Extension of trade liberalisation, including tariff cuts and the signing of free trade agreements	
5. Increased government investment spending on building national infrastructure projects	

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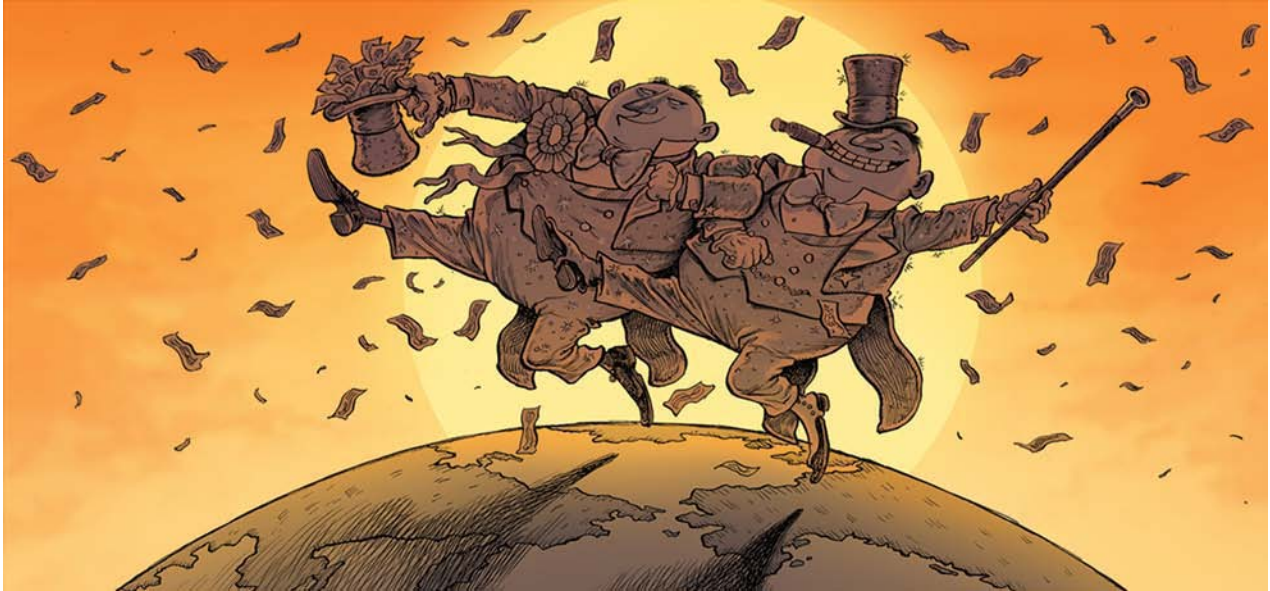
3.11 The meaning of both long-term economic prosperity and environmental sustainability

KEY CONCEPT

- The meaning of both long-term economic prosperity and environmental sustainability

Most people throughout the world would like to be better off and enjoy improved **economic prosperity**, extending from the present into the future. But what does economic prosperity actually look like? For most, it is taken to mean having higher incomes per person and being able to consume or purchase more goods and services. It could also mean having a job and avoiding inflation, since these affect our purchasing power and incomes. This usually requires that a nation grows the size of its economy.

FIGURE 3.36 The 1990s saw market capitalism adopted as the world's most popular type of economic system. Here there is increased reliance on the operation of free markets and the incentive to maximise profits. Some believe that this development was perhaps the major driver behind the acceleration in global economic growth and incomes, and the significant reduction in poverty.



In *poor* countries, improved economic prosperity may come from producing more food, vaccinations against preventable diseases like malaria, clean drinking water, and basic education and housing. In *rich* countries like Australia, improvements might be reflected in more iPhones, fashionable clothes, entertainment, travel, body makeovers and the latest energy-devouring appliances. Whether we are talking about poor countries or rich ones, promoting strong economic growth is usually seen as the main way of improving economic prosperity. However, are strong rates of economic growth *sustainable* so that they can continue forever, allowing *future generations* to also enjoy economic prosperity?

FIGURE 3.37 Economic prosperity means different things to different people. For some in poor countries, it means access to vaccinations to prevent disease; while for others, it may be access to games and entertainment during leisure time.



Unfortunately, **long-term economic prosperity** (all future generations being able to have high incomes and consumption levels) is not as simple as maximising the *current* rate of economic growth. This is because using up natural and other resources (e.g. minerals, oil, water, oceans, climate and air) today to grow GDP and improve our *immediate* economic prosperity involves a longer-term *opportunity cost* or sacrifice. Without technological change and innovation, economic growth is likely to jeopardise the economic

prosperity and opportunities of future generations by depleting and degrading natural resources, thereby limiting their production and living standards.

Furthermore, economic growth has involved increased pollution and emissions into the atmosphere of greenhouse gases including carbon dioxide. These have accelerated climate change, global warming and severe weather events like cyclones, storm surges, floods, droughts and fires. Today, these incidents are becoming more common. They can certainly cause loss of life, destroy infrastructure, reduce productive capacity and undermine material wellbeing.

So even though economic growth can enhance our economic prosperity, it can also threaten it and create opportunity costs paid by future generations. Balance is required. Indeed, in 2006, well-known UK economist Sir Nicholas Stern (author of *Economics of Climate Change*) predicted that climate change resulting from some economic activities will cut global GDP and economic prosperity by 20 per cent. However, if appropriate policy measures were to be implemented right now to help curb high-emission types of production and encourage cleaner alternatives, the long-term economic cost to prosperity would involve sacrificing only around 1 per cent of global GDP.

Concern about such trade-offs associated with improving economic prosperity gave rise to the concept of **sustainable economic growth**.

- Sustainable economic growth is commonly defined as ‘a method of expanding the economy’s production levels to meet the needs for goods and services of the present population, without undermining the ability of future generations to meet their own needs’.
- Another definition of sustainability is ‘an economy where production is in equilibrium or balance with the environment and its ecological support systems’.
- Put yet another way, **environmental sustainability** would mean that ‘the rates of harvesting renewable resources, creating pollution, and depleting non-renewable natural resources as a result of maintaining or increasing economic prosperity, can be continued indefinitely into the future’.

on Resources



Weblinks

Sustainability easily explained

Sustainability explained through animation

3.11 ACTIVITIES

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Check your understanding

1. Explain what is meant by the term *economic prosperity*.
2. How might the maximisation of economic prosperity undermine environmental sustainability?

Applied economic exercises

1. (a) What is meant by *long-term economic prosperity*? **(2 marks)**
(b) ‘Ethiopia or Sudan do not have economic prosperity, while relatively, Australia and New Zealand do’. Explain what this statement means. **(2 marks)**
(c) Define what is meant by an *environmentally sustainable rate of economic growth* for Australia. Explain why a real annual rate of GDP growth of around 8 per cent is likely to be environmentally unsustainable in the long term. **(2 marks)**

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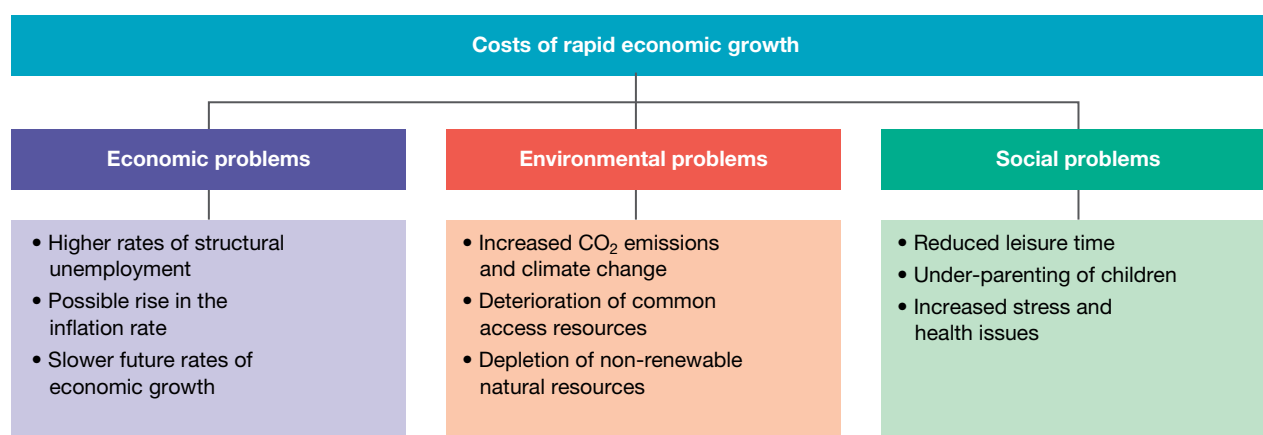
3.12 Economic and environmental costs of economic growth

KEY CONCEPT

- Economic and environmental costs of economic growth such as climate change, depletion of natural resources and deterioration of common access resources

Few people, especially in low-income countries, deny the benefits of strong economic growth for general economic prosperity. Worldwide and in the space of just two decades, growth has lifted perhaps 1 billion people out of severe poverty by helping to generate jobs, raise incomes, and allow for a greater satisfaction of basic needs (like food, clean water, accommodation, clothing and medical services) and even some wants. However, the question that we now have to ask is — at what costs have we pursued economic growth?

FIGURE 3.38 Some costs of economic growth



3.12.1 The economic costs of economic growth

While economic growth has mostly beneficial economic effects, at least three problems can sometimes arise:

- **Economic growth can add to structural unemployment.** Usually economic growth causes a fall in cyclical unemployment (i.e. unemployment due to a lack of spending or AD) because as businesses seek to expand production, they need to purchase extra resources including labour. However, sometimes economic growth involves structural change in the way firms produce goods and services and the type of things that are made in the economy. When firms change their production methods and use new technology to become more efficient (such as using robots on an assembly line, ATMs for banking, automated warehouses, online shopping and so on), in the short term, especially, this can cause some workers to lose their jobs, resulting in higher **structural unemployment** even though it can accelerate economic growth in the long term. Additionally, in seeking to be more competitive and expand, some firms undertake cost-cutting measures. This can involve closing down less efficient and unprofitable business operations, or even relocating the whole business to low-wage countries (e.g. Bonds underwear, Brinton's carpets and aircraft servicing moved to China). While adding to global economic growth, this too can cause structural unemployment at home.
- **Economic growth can accelerate inflation.** When economic growth is driven by strong rises in spending or AD, and the economy is close to its productive capacity or on its PPF, it is common to see a general rise in the prices paid for goods and services. This is due to widespread shortages. In turn,

higher inflation rates reduce the purchasing power of money, thereby eroding our consumption and material living standards.

- **Economic growth now may limit future economic growth.** Economic growth usually requires access to additional natural and other resources that are used to produce goods and services. Unfortunately, our natural resources like clean water and minerals are limited. As a consequence of using up non-renewable natural resources to fuel greater production for the current generation, we may well be reducing the capacity of future generations and an ever growing population to enjoy economic prosperity.

This raises some tricky questions — can we predict with some accuracy how long the world's natural resources will last? The short answer is no, because there are too many things that might change in the upcoming years. For instance, population growth might slow due to changes in the birth or death rates, we might be able to substitute one mineral or energy resource for another by using new processes or technology still to be invented, or there may be dramatic new discoveries of mineral wealth, and so on. However, one thing is certain — that at some point in time, the world will not support an even larger population at current incomes due to issues related to access to water, energy and air.

3.12.2 The environmental costs of economic growth

Economic growth can accelerate *environmental problems* including climate change, the depletion of natural resources and the deterioration of **common access goods** (i.e. those things we all share and depend on, like air and oceans).

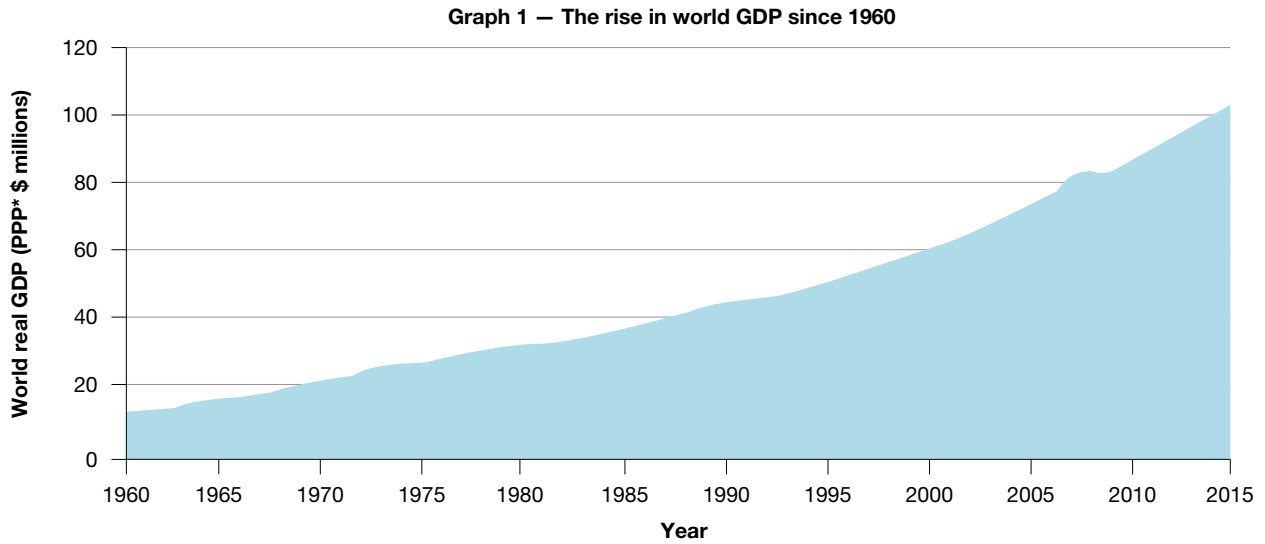
Economic growth accelerates climate change

Much research shows a close connection between global production levels, carbon dioxide emissions and climate change that involves increased global temperatures and severe weather events. Some of this evidence is presented in the seven graphs shown in figure 3.39. The explanation goes something like this:

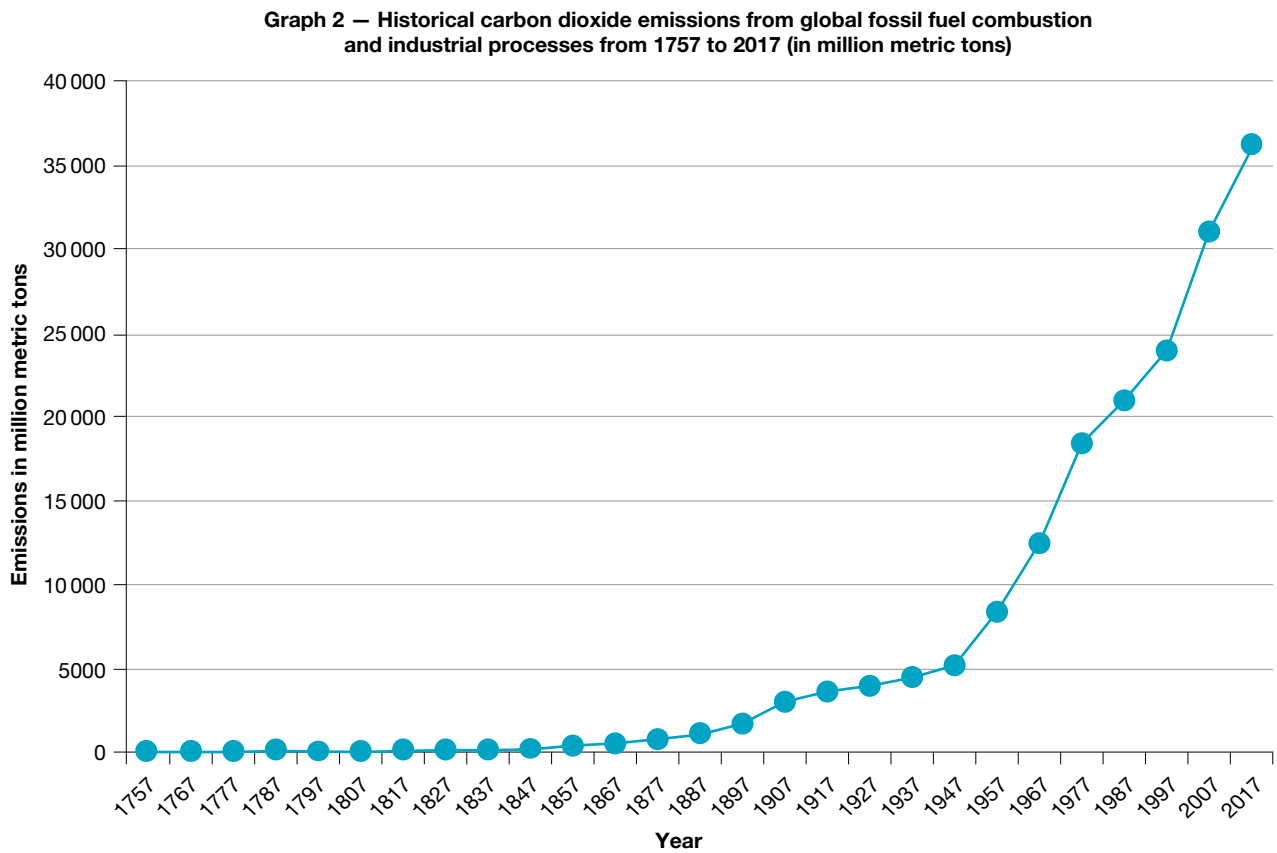
- Global production and economic growth have accelerated markedly (see graph 1). For the last 50 years or so, global GDP (measured in international dollars or purchasing power parity, PPP) has risen by an average of over 3 per cent a year. In part, the global growth in GDP also corresponds with the rise in the world's population.
- To a large extent, economic growth has depended on access to cheap energy in the form of burning fossil fuels like coal and oil. However, this has resulted in an exponential increase in global carbon dioxide or CO₂ emissions (see graph 2), along with other greenhouse gases. As can also be seen, Australia's carbon emissions per person (our carbon footprint) are the highest in the world (see graph 3), and electricity generation is the largest source of our CO₂ emissions (see graph 4).
- Greenhouse gases have trapped the Earth's heat and contributed to global warming (see graphs 5 and 6), melting the polar ice caps and contributing to extreme weather events like droughts, fires, floods and cyclones.
- The predicted effects of global warming for Australia (see graph 7) may include lower rainfall, more droughts, higher temperatures, reduced rural and fishing production, loss of biodiversity and rising sea levels that threaten coastal communities.



FIGURE 3.39 Data relating to global economic growth and climate change

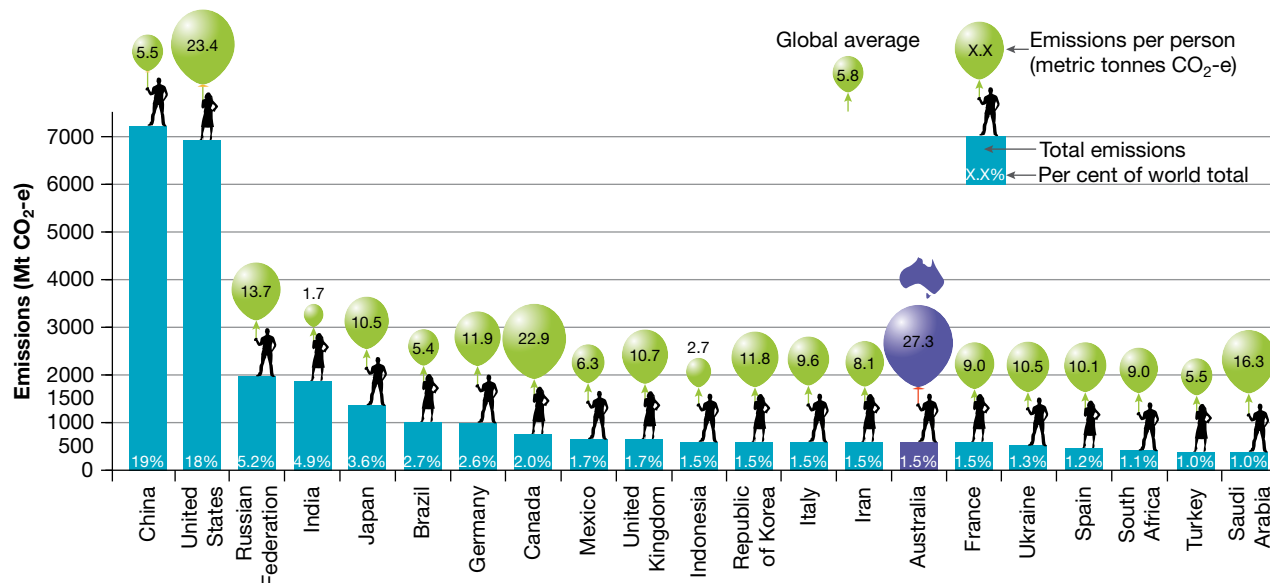


***Note:** PPP = purchasing power parity

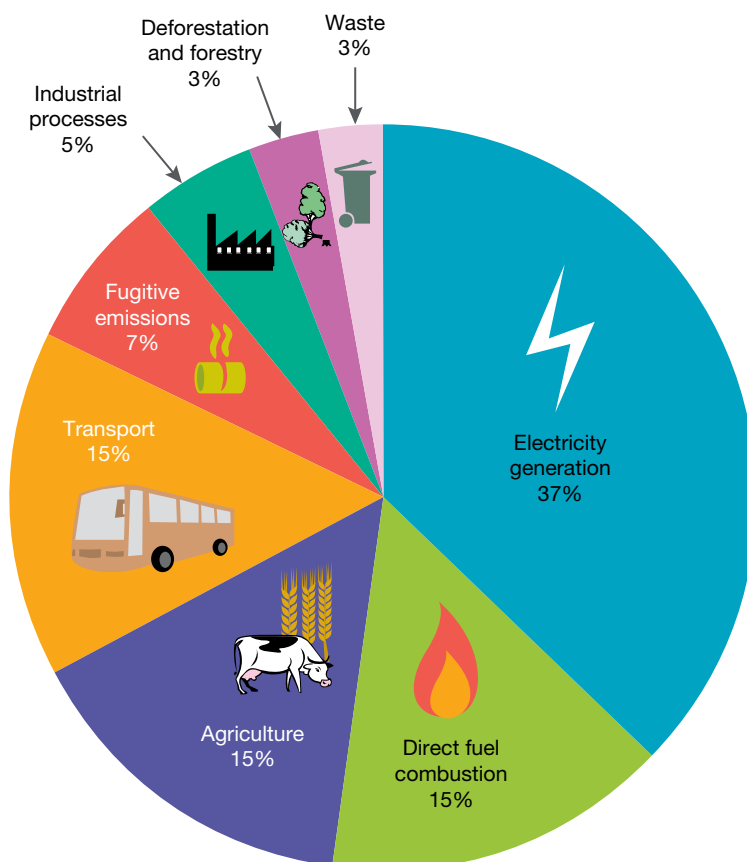


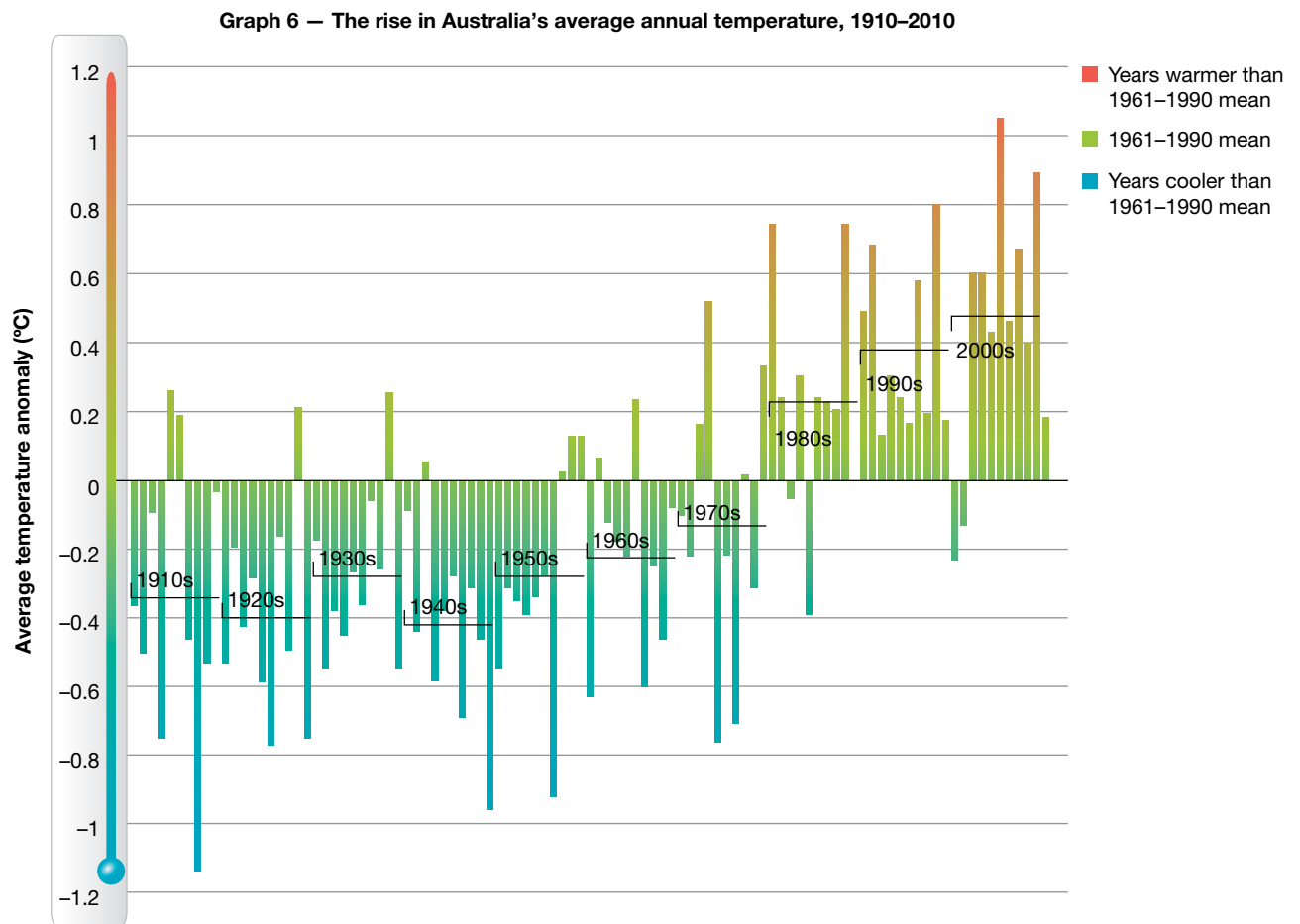
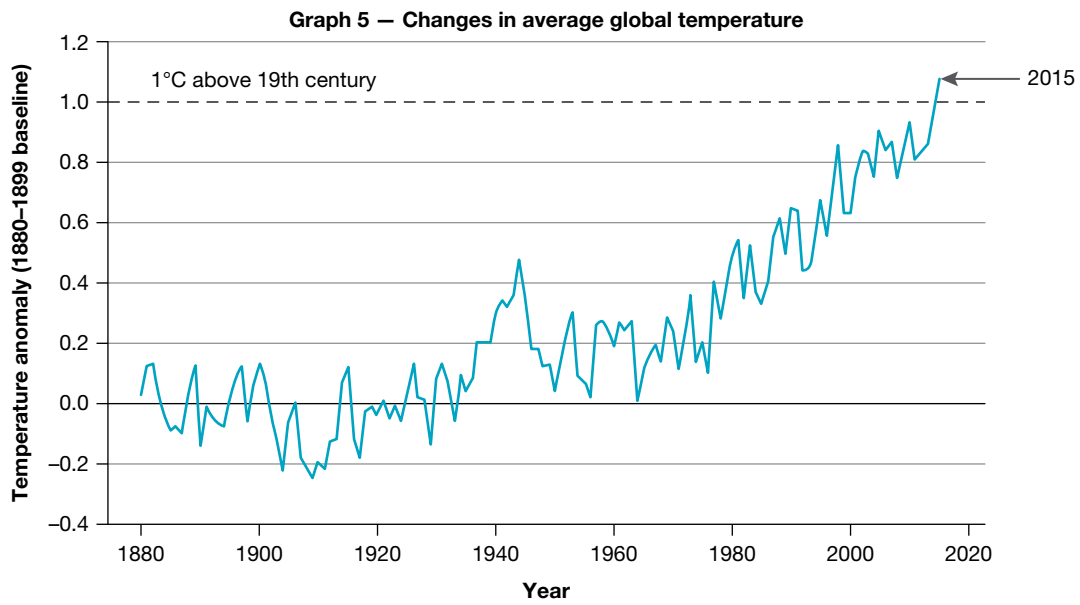
(continued)

Graph 3 — Comparison of tonnes of CO₂ per person (see the balloon for each country)



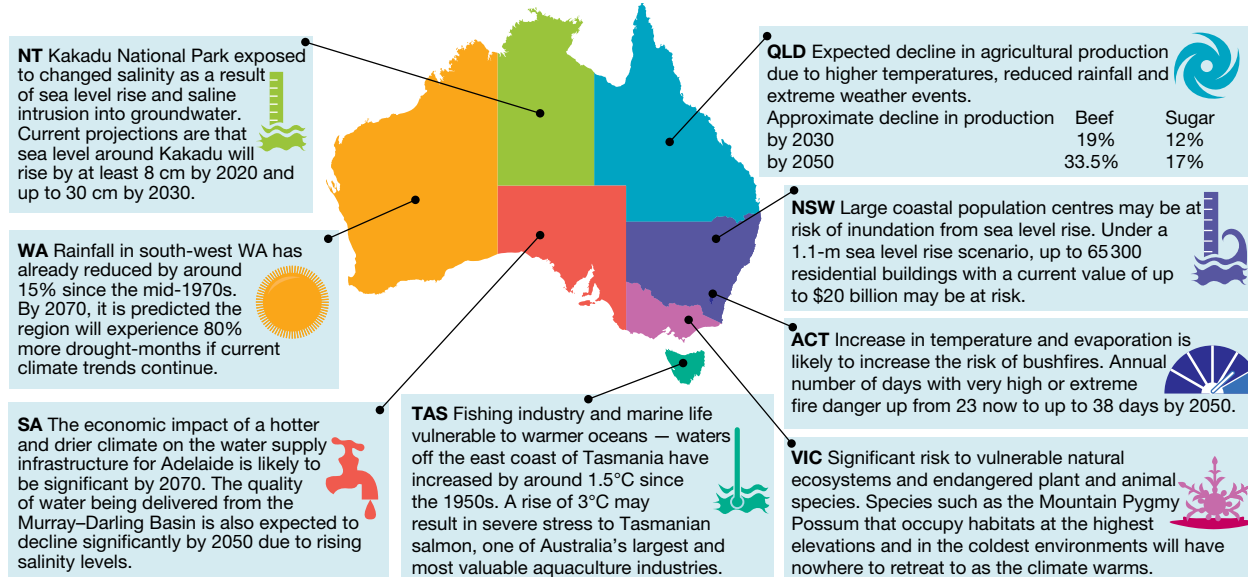
Graph 4 — Sources of Australia's CO₂ emissions





(continued)

Graph 7 — The predicted effects of climate change in Australia



Sources: *Graph 1* copied from an online article by Dariana Tani, 'The world economy — 50 years of near continuous growth', World Economics, Global Growth Tracker, March 2016. *Graph 2* copied from Statista, Historical carbon dioxide emissions from global fossil fuel combustion and industrial processes from 1757 to 2017 (in million metric tons), see <https://www.statista.com/statistics/264699/worldwide-co2-emissions/>. *Graph 5* copied from NASA, 'Analyses reveal record-shattering global warm temperatures in 2015', <http://climate.nasa.gov/news/2391>. Remaining four graphs from *Securing a clean energy future: the Australian government's climate change plan*: *graph 3* — from figure 2.1, p. 12, quoted from Climate Analysis Indicators Tool, Version 8.0 (World Resources Institute, 2010). *Note:* Land use change is excluded; *graph 4* — from figure 2.2, p. 13 (quoted from 2009 emissions from the National Greenhouse Gas Inventory 2011, DCCEE analysis); *graph 6* — from figure 1.1, p. 3; *graph 7* — from figure 1.3, p. 5, quoted from Department of Climate Change and Energy Efficiency, Impacts in Australia Fact Sheets, 2011.

Economic growth causes a deterioration of common access resources

Common access resources are those that we all share and depend on for survival like the air, climate, forests, rivers and oceans and ecosystems. They are seen as free and non-excludable, so without proper safeguards imposed by nations (e.g. environmental pollution controls, or putting a price or cost on pollution to make it less attractive), these resources are often over-exploited for personal gain or profit. Abuse by individuals can deprive others of consumption. The atmosphere is a common access resource. So when pollution is released into the air (or waterways) as a result of production, consumption and waste disposal, this creates **negative externalities** or costs for third parties who are usually not directly involved with the particular economic activity. In the case of pollution resulting from economic growth, it may cause global warming and severe weather events leading to rising sea levels, the destruction of island and coastal communities, disease and health issues, the loss of life, global mass migration and population shifts, wars and reduced rates of GDP growth and economic prosperity.

Economic growth causes a depletion of natural resource

In Australia's case, economic growth has depended on the exploitation of natural resources. However, some of our natural resources like minerals (e.g. iron ore, bauxite, coal, oil, copper and gold) are *non-renewable*. Once used up they cannot be replenished, depriving their use by future generations.

While predictions about running out of mineral resources are remarkably unreliable, and can change in the space of just a few years due to variations in new discoveries of deposits, consumption patterns and technological breakthroughs (for instance, the extraction of oil from shale deposits has dramatically increased the world's estimated oil or energy reserves), table 3.15 shows a few of these current projections:

TABLE 3.15 One estimate of how long various natural resources will last

Mineral resource	Estimated lifetime remaining
Oil	30–40 years
Coal	120–140 years
Gas	60–70 years
Uranium	60–80 years
Copper	30–40 years
Zinc	20–30 years

Source: Data derived from several sources including ‘Natural resources: how long will they last?’ by visual.ly see <http://visual.ly/natural-resources-how-long-will-they-last>; The Green Optimistic, see <http://www.greenoptimistic.com/much-planets-natural-resources-actually-remain-20140516/#.Vy6aXthf0y4>.

Resource depletion or exhaustion may reduce the economic prosperity of our children, or theirs. There are also the problems of extraction and processing minerals. They often release large amounts of carbon dioxide and other greenhouse gases associated with climate change. In addition, extraction usually scars the natural environment and destroys ecosystems and wildlife habitats.

3.12.3 The social costs of economic growth

Economic growth can accelerate social problems.

- Economic growth can reduce the number of hours of leisure. This is because over the last 30 years, Australian workers have seen an overall rise in actual hours worked by those employed full time to around 40 per week. As a result, there has been a reduction in the number of hours left for recreation and leisure, even though some people have taken a cut in income to reduce their time at work.
- Economic growth can be associated with increased levels of stress and health issues associated with pressures to lift work place productivity and cut costs.
- Economic growth has been linked with under-parenting due to parents working longer hours. This means that they spend less time raising, loving and guiding their children. Some young people are left unsupervised and to their own devices. Some wander the community; find themselves in unsafe situations; or are exposed to crime and drugs, which in turn could lead to further social problems.



on Resources

-  **Weblinks** David Attenborough: The truth about climate change
The impossible hamster (and economic growth)
The limits to growth — is the prediction of 1972 going to happen?
Hot cities — counting the cost (BBC)
Hot cities 18: Lima Peru 2 — climate meltdown (BBC)
David Attenborough: Climate change — Britain under threat

3.12 ACTIVITIES

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Check your understanding

1. Identify and explain the major economic costs associated with economic growth.
2. Explain how economic growth might create:
 - (a) environmental costs
 - (b) deterioration of common access goods
 - (c) the depletion of natural resources.

Applied economic exercises

1. (a) Growth in GDP sometimes brings *economic* costs. Complete table 3.16 by explaining how economic growth might cause each of the impacts noted. **(4 marks)**

TABLE 3.16 The economic costs of economic growth

Possible effect or cost of economic growth	How the growth in GDP may cause the economic cost
1. A rise in the level of unemployment	
2. Higher rate of inflation	
3. Lower future rates of economic growth	
4. Lower future incomes and material living standards	

- (b) Some of our *non-renewable natural resources* are running out because of economic growth and a finite planet. Depending partly on the decisions we make as consumers, future generations will probably have reduced access to some resources. Classify each of the products in table 3.17 as to whether they are produced using mainly *renewable* (R) or *non-renewable* (NR) natural resources. **(10 marks)**

TABLE 3.17 Classifying types of resources used in production

Type of product	Classification of resources (R or NR)
1. A nylon shirt	
2. A coffee table made from plantation pine	
3. Petrol (crude oil)	
4. Gas made from corn or sugar cane	
5. Solar or wind power	
6. A woollen jumper	
7. Steel framing for a house	
8. A plastic ruler	
9. Cement	
10. Sardines from the Atlantic Ocean	

- (c) Over the past 1000 years, global production and population have both increased. Initially until the 1800s, this was relatively slow. However, in the subsequent 200 years, the process accelerated dramatically and, when graphed, their level has risen exponentially at a faster and faster rate. In some circles, this has

caused alarm because the world's resources are limited and growth in production is unsustainable in the long term. Here is an old French riddle about exponential growth that you might like to solve — when will the lily plant cover just half the pond? **(2 marks)**

Imagine you own a beautiful fish pond (representing the supply of the world's resources) on which a water-lily is growing (representing the world's demand for resources). This lily plant doubles in size each day. If the lily is allowed to grow unchecked, it will completely cover the whole pond in exactly 30 days, choking off all other forms of life in the water. For a long time, the lily plant seems small and harmless, and so you decide not to worry about cutting it back until it covers *half* the pond.

On what day will that be?

(d) Economic growth can also result in *environmental and other costs*.

i. What are *negative externalities* and how can they affect living standards? **(2 marks)**

ii. What types of negative externalities are likely to result from the economic activities listed in table 3.18? **(10 marks)**

TABLE 3.18 The nature of negative externalities

Type of activity	Identify and explain the resulting negative externality and who bears the cost
1. Increased wood chipping in the Otways and north-east Victoria	
2. Setting up a new paper mill in Burnie, Tasmania	
3. The construction of a new tunnel near Westgate in Melbourne	
4. The opening of Sydney's new airport in the west	
5. A passenger smoking a cigar on a flight to Perth	
6. Leaving an electric light on all day in your bedroom	
7. Driving instead of walking to the corner shop	
8. Off-road four-wheel driving and trail motorbike riding	
9. Disposing of household rat poison down the sewer	
10. Holding a wild and noisy party at your house on Saturday night	

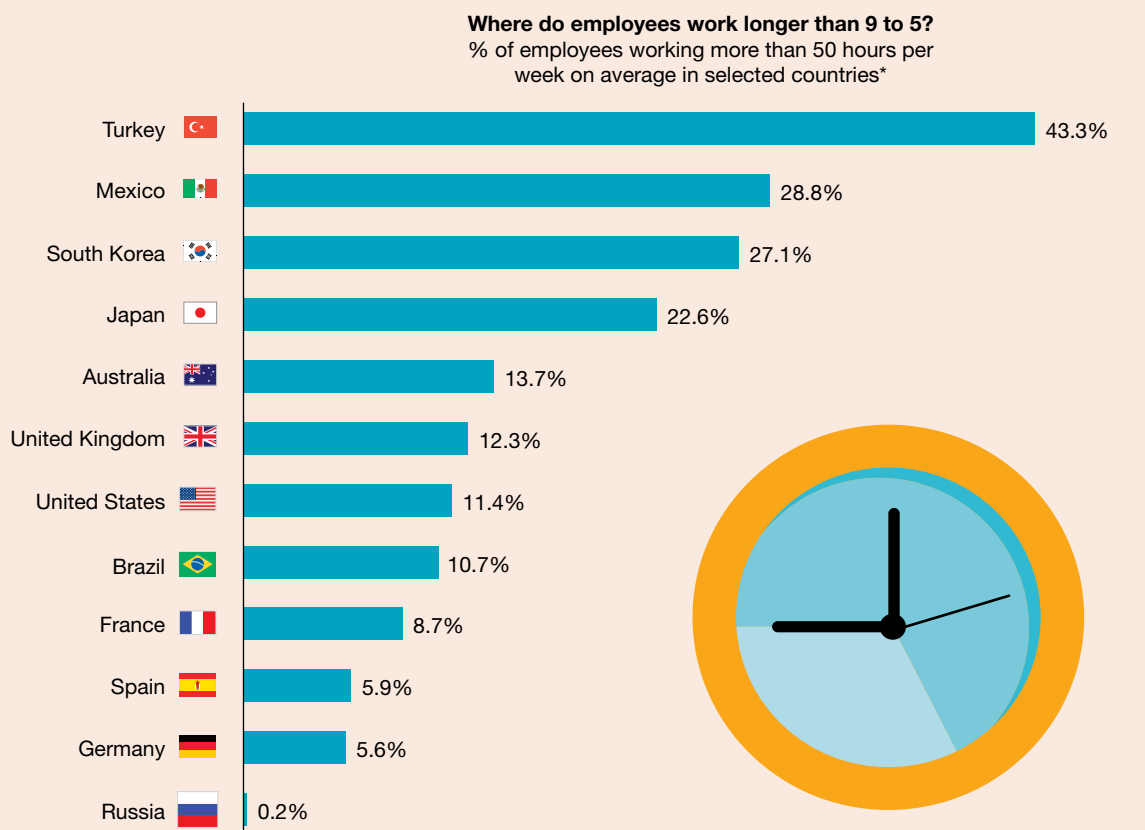
iii. Climate change is an example of a negative externality associated with economic growth. How does economic growth accelerate climate change and increase the incidence of severe weather events? **(2 marks)**

iv. How can climate change and severe weather events affect the material and non-material living standards of Australians and people living in other parts of the world? **(4 marks)**

v. What are common access resources? Give examples of these. **(2 marks)**

- (e) Economic growth has also been associated with a reduction in some aspects of *non-material* living standards, including the amount of leisure time. Examine figure 3.40.

FIGURE 3.40 Comparison of hours of work in selected countries as an influence on the amount of leisure time



*Latest available year

Source: OECD

Source: Image copied directly from <http://www.tutor2u.net/economics/reference/measuring-the-standard-of-living>, graph from Statista Charts using OECD data.

For some people, growing national production and income have meant longer hours of work.

- Which two countries work the longest hours on average, and which two work the shortest hours?
- Identify and explain *three* ways this could reduce our non-material living standards.

(2 marks)

(3 marks)

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3.13 Trade-offs and compatibility between economic growth and environmental sustainability

KEY CONCEPT

- Trade-offs and compatibility between economic growth and environmental sustainability

In this subtopic, we are going to explore the various relationships that might exist between economic growth and environmental sustainability. Are trade-offs inescapable or can they be avoided? We will seek to answer the question: ‘Does economic growth share a conflicting or a compatible relationship with environmental outcomes?’ Unfortunately, as we shall see, this question is not easily answered. Opinion on this is divided in at least three ways.

3.13.1 There is indeed a trade-off between economic growth and environmental sustainability

First, during the later 1960s and the 1970s, there was a growing awareness and belief by some pressure groups (made up of economists, scientists and environmentalists from high-income countries) that continued economic growth was certainly environmentally unsustainable.

Perhaps the most influential investigation of this trade-off was released in a book called *The Limits to Growth* (1972). Here it was argued that there is a definite trade-off or *conflicting relationship*. Economic growth associated with the production, consumption and disposal of goods and services usually creates a range of negative externalities or environmental costs that are paid by third parties, present and future.

Possibly the main *trade-off* or sacrifice resulting from pursuing economic growth and higher incomes is that this diminishes the quality of environmental resources including rivers, oceans, forests and air on which we all depend. Growth also contributes to an even faster rise in environmental pollution, including higher CO₂ emissions that in turn add to global warming, rising sea levels and population displacement and migration, severe weather events, and the loss of life and property. These outcomes would seem unsustainable environmentally, and in other ways.

3.13.2 There may ultimately be a trade-off between economic growth and environmental sustainability, but this can be deferred for some time

Second, however, some critics of *The Limits to Growth* (see above) argued that its conclusions were based on many untested, unrealistic and overly pessimistic assumptions. Fortunately, so far most of their forecasts have proved to be exaggerated or false (e.g. the dire prediction about the end of oil). This discredited those who believe there is a negative trade-off between economic growth and environmental sustainability. Some commentators noted that we do not suddenly wake up one day and find that a particular resource is gone. When a natural resource is running out, its price would normally rise, making it more costly. This operation of market forces then creates signals or incentives for innovation and its substitution by another resource that is cheaper or less scarce. If this is the case, economic growth and environmental sustainability may share a compatible relationship, at least for some time to come.

Additionally, critics have highlighted the adverse social effects of slow or zero economic growth that may cause unemployment, social unrest, and lower incomes and living standards, especially in low-income countries. So even if resources were being depleted and there was a trade-off, some argue that it would be politically impossible to sell the alternative of zero economic growth at this point in time.

3.13.3 With the right strategies, economic growth need not involve an environmental trade-off

Finally, given growing concern about human-induced climate change and resource depletion as negative trade-offs for economic growth, there has been renewed interest in trying to find ways of making economic growth more *compatible* with environmental sustainability, through the use of new technology and other strategies.

- **How much is enough?** A change of mindset is needed in high-income countries like Australia. We need to recognise that, as revealed in recent studies, consuming more goods and services beyond a certain point does *not* improve our happiness or wellbeing. Some suggest that although we are already beyond that point right now, we remain to be convinced of the need for a change in our thinking. By contrast, in low-income countries, poverty reduction and improved happiness will still require high levels of economic growth for some years to come.
- **Recycling resources.** One important change that would help to reduce environmental externalities, such as climate change and the depletion of natural resources, is to make most manufactured goods recyclable. Although there is always some loss in this process, it allows materials to be reused and waste disposal problems to be reduced.
- **Increased use of renewable energy.** Goods and services would need to be made, transported and disposed of using renewable sources of energy like solar, geothermal, wind and tidal power. Putting a price on carbon emissions can make clean alternatives relatively cheaper.
- **Government policies.** Government environmental policies are required to help reduce negative externalities or the trade-off that currently exists. We need policies that put a price on pollution and the disposal of other waste products (to be paid for by both businesses and consumers). Effective laws are needed to limit pollution. Possibly, taxes could be used to impose an extra cost for products that are single use, have limited durability, cannot be repaired and are not recyclable.

FIGURE 3.41 People seek to be better off through economic growth. Unfortunately, the world's resources are scarce and increased consumption is not sustainable in the long term.



FIGURE 3.42 People's efforts to increase their material possessions can sometimes undermine society's current and future non-material living standards. In recent times, for instance, economic activities in Queensland have had a detrimental impact on the health of the Great Barrier Reef, oceans and sea life, preventing current and future generations from enjoying nature's beauty.



- **International collaboration.** Rich countries especially need to adopt a more ethical stance and show greater environmental leadership to reduce emissions. They also need to find equitable ways to protect the world's environment, without increasing the burden on low-income countries.
- **Change how we measure economic progress.** Instead of simply using the rise in real GDP as the measure of economic progress (where external and environmental costs are not taken into account), better indicators are required that expose the actual change in society's wellbeing. This point will be pursued shortly.
- **Switch to reusable goods that have a long lifespan and can be recycled.** Some goods that are produced and contribute to our GDP are mostly single-use goods like bathroom tissues and, until recently, thin plastic supermarket bags that are then generally thrown in the bin. This wastes our resources. Switching to more durable, reusable goods made from renewable resources that last for years would allow growth to be more sustainable.

While these sorts of solutions are a start, unfortunately some trade-off between economic growth and environmental sustainability is likely to continue, ultimately undermining our prosperity and wellbeing.

Resources



Weblinks The circular economy

Rethinking progress: The circular economy

3.13 ACTIVITIES

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Check your understanding

1. In economics, what is meant by the term **trade-off**?
2. Can economic growth have a compatible relationship with environmental sustainability, or must there always be a trade-off? Explain.

Applied economic exercises

1. People have different views about whether economic growth can be compatible with environmental sustainability.
 - (a) Define what is meant by *long-term environmental sustainability*. **(2 marks)**
 - (b) How might our resources limit future rates of economic growth? **(2 marks)**
 - (c) Are there ways that economic growth can have a more compatible relationship with environmental sustainability? Discuss some of the possibilities. **(2 marks)**

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3.14 Alternative economic indicators of living standards

KEY CONCEPT

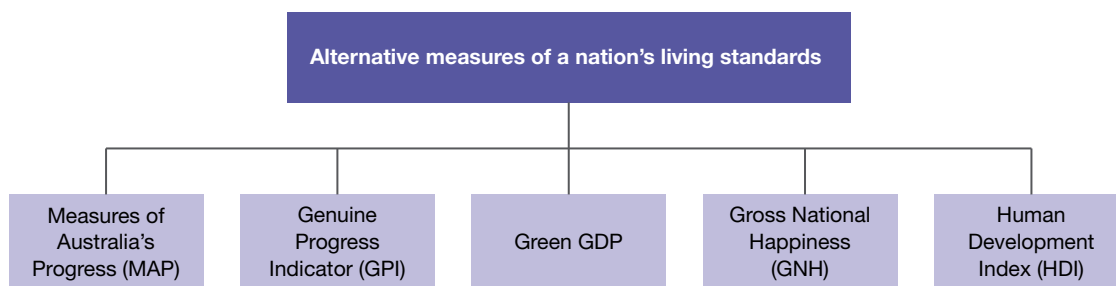
- Alternative economic indicators of living standards

Our overall living standards reflect both our material wellbeing (the quantity of goods and services each person consumes) and non-material wellbeing (the ‘quality’ of our daily life or existence). The most commonly used indicator of Australian living standards or general wellbeing is the annual level of real GDP per person. This is calculated annually by dividing GDP by the country’s total population. Sometimes too another measure is used such as the average disposable income per person per year, which is derived from the GDP figures. However, as mentioned previously, *real GDP per capita* as a measure of overall living standards is flawed. For example:

- It is a single average number that cannot possibly measure all the dimensions of our wellbeing.
- It unrealistically assumes that the goods and services produced are shared evenly among all individuals.
- It fails to include some goods and services that have been produced, and only inaccurately guesstimates the value of others.
- It says nothing about non-material living standards. For instance, it ignores the negative externalities associated with economic growth — costs like climate change, the environment, reduced leisure time, rising crime rates and reduced happiness — that clearly have a large impact on our wellbeing.

With these shortcomings in mind, economists started to investigate alternative indicators of living standards such as MAP, GDH, GPI and HDI. Some of these are summarised in figure 3.43.

FIGURE 3.43 Other measures of a nation’s living standards



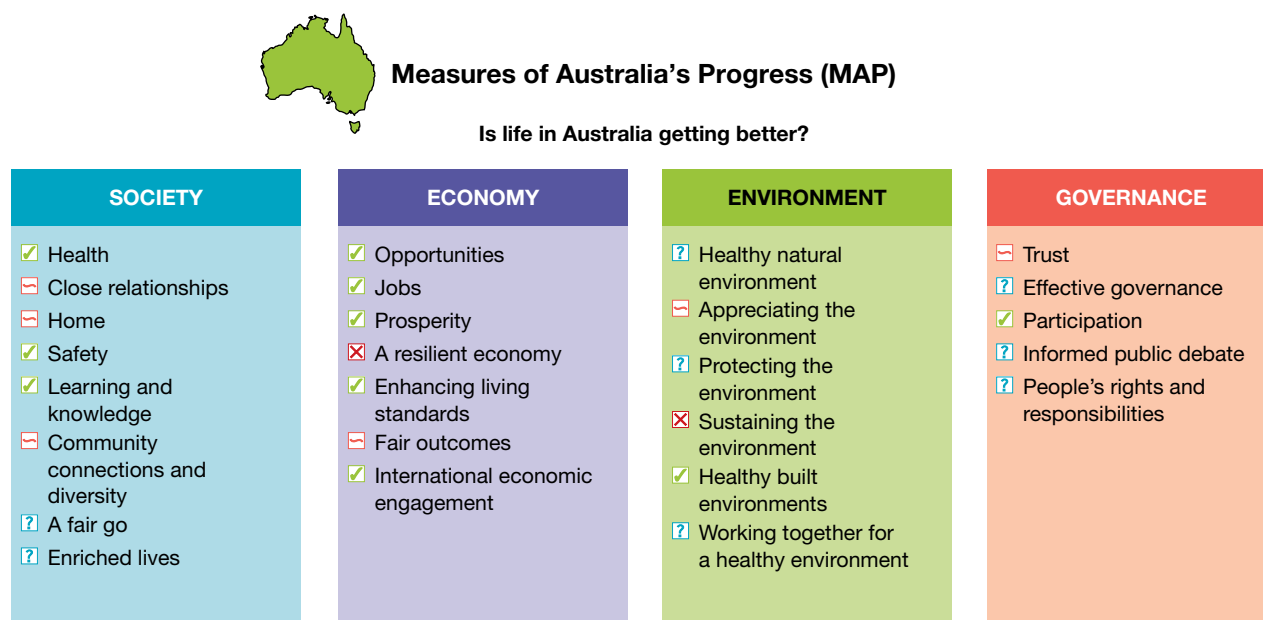
3.14.1 Measures of Australia’s Progress (MAP) as an indicator of living standards

Unlike GDP, **Measures of Australia’s Progress (MAP)** is not a single statistical indicator of overall welfare. Rather, it is a suite, or collection, of measures published periodically by the Australian Bureau of Statistics (currently ABS 1370.0, last updated January 2015). It arose partly out of public interest, over the last decade or so, in whether ‘life in our country is getting better’ and whether this can be sustained indefinitely. In addition, many felt that GDP alone was far too narrow as a measure of economic progress or wellbeing.

There are *four* main categories of measures used by the ABS to compile this impressive publication:

- society
- the economy
- governance
- the environment.

FIGURE 3.44 Measures of Australia's Progress (MAP)



What do these symbols mean?

- ✓ The headline progress indicator for this theme has shown **progress**.
- ✗ The headline progress indicator for this theme has shown **regress**.
- ✗ The headline progress indicator for this theme has **not changed greatly**.
- ? There is a **data gap** for this theme as there is currently no headline progress indicator.

Source: ABS 1370.0: Measures of Australia's Progress, 2013, see <http://www.abs.gov.au/ausstats/abs@.nsf/mf/1370.0>. There is also a video that is worth checking out.

It is important to realise that not every reader of this publication will feel that all measures are important to their personal definition of progress, but the hope is that the data will be used to support opinions and perhaps shape government policy. Indeed, looking at the evidence and scorecard, particular indicators appear to show progress, while others show regression or deterioration.

Most commentators believe that MAP is a superior approach to indicating changes in Australia's living standards. This is because unlike real GDP or income per capita, which only focus on some limited influences on our wellbeing, MAP also factors in elements that say something about non-material wellbeing associated with changes in our environment, society and governance.

3.14.2 Genuine Progress Indicator (GPI) as an indicator of living standards

Another alternative to using real GDP per head as a measure of living standards is the **Genuine Progress Indicator (GPI)**. This indicator basically uses GDP data but then makes both *negative* and *positive* adjustments to values, so as to better reflect the good or bad effects of some types of economic activity on society's material and non-material wellbeing:

- GPI may better indicate *material living standards* by adding an estimation of the value of unpaid community work, home duties like housework and parenting duties, and making a deduction for income inequality and reliance on debt to finance our consumption and way of life. These items are ignored by GDP.
- In addition, GPI tells us a bit more about *non-material living standards* by making deductions for environmental destruction or some externalities, including the loss of leisure time to work, family breakups and rising crime rates. These items are ignored by GDP, and in fact some of these costs are actually seen as good for GDP — car accidents and use of ambulances, rebuilding following a cyclone, or defensive spending on home security to combat crime.

Of course, one problem here is accurately estimating a dollar value for each adjustment. This issue aside, when we compare Australia's GPI and our GDP, the striking feature is that GDP appears to greatly exaggerate how well off we are by around 30 per cent.

3.14.3 Green GDP as an indicator of living standards of living standards

As another alternative measure of living standards, **green GDP** is calculated by using data for real GDP and subtracting the estimated value or cost of environmental damage (e.g., depletion of resources, the costs of climate change and the loss of biodiversity) in producing a nation's GDP. One attempt at this measures the real value of goods and services or GDP produced (converted to common US\$) per ton of carbon emissions. This also reveals information about a nation's contribution to climate change. Not surprisingly, low-income countries usually have the greenest GDPs. Overall, the hope is to reveal a broader picture of our general wellbeing, rather than simply using real GDP.



3.14.4 Gross National Happiness (GNH)

For the first time, in 2011 the United Nations invited member nations to measure their happiness. This was known as the World Happiness Report. Essentially, **Gross National Happiness (GNH)** is a composite index made up of several indicators including GDP per head, social support, health and life expectancy, freedom to make life's choices, generosity and trust. It is updated annually.

Figure 3.45 uses data to rank the highest and lowest countries based on their score (near 10 represents excellent happiness, near 0 represents great unhappiness.) In addition, the change in score between one year and the next is also shown. Notice that Finland ranks highest, Australia is in tenth place and Burundi scores lowest.

FIGURE 3.45 Gross National Happiness (GNH) scores and ranks for the happiest and most unhappy countries.

Overall Rank	Country/Region	Score	GDP per capita	Social support	Healthy life expectancy	Freedom to make life choices	Generosity	Perceptions of corruption
1	 Finland	7.632	1.305	1.592	0.874	0.681	0.192	0.393
2	 Norway	7.594	1.456	1.582	0.861	0.686	0.286	0.340
3	 Denmark	7.555	1.351	1.590	0.868	0.683	0.284	0.408
4	 Iceland	7.495	1.343	1.644	0.914	0.677	0.353	0.138
5	 Switzerland	7.487	1.420	1.549	0.927	0.660	0.256	0.357
6	 Netherlands	7.441	1.361	1.488	0.878	0.638	0.333	0.295
7	 Canada	7.328	1.330	1.532	0.896	0.653	0.321	0.291
8	 New Zealand	7.324	1.268	1.601	0.876	0.669	0.365	0.389
9	 Sweden	7.314	1.355	1.501	0.913	0.659	0.285	0.383
10	 Australia	7.272	1.340	1.573	0.910	0.647	0.361	0.302
147	 Malawi	3.587	0.186	0.541	0.306	0.531	0.210	0.080
148	 Haiti	3.582	0.315	0.714	0.289	0.025	0.392	0.104
149	 Liberia	3.495	0.076	0.858	0.267	0.419	0.206	0.030
150	 Syria	3.462	0.689	0.382	0.539	0.088	0.376	0.144
151	 Rwanda	3.408	0.332	0.896	0.400	0.636	0.200	0.444
152	 Yemen	3.355	0.442	1.073	0.343	0.244	0.083	0.064
153	 Tanzania	3.303	0.455	0.991	0.381	0.481	0.270	0.097
154	 South Sudan	3.254	0.337	0.608	0.177	0.112	0.224	0.106
155	 Central African Republic	3.083	0.024	0.000	0.010	0.305	0.218	0.038
156	 Burundi	2.905	0.091	0.627	0.145	0.065	0.149	0.076

Source: Copied from Wikipedia, the free encyclopaedia, see https://en.wikipedia.org/wiki/World_Happiness_Report. Data from Helliwell, J., Layard, R., & Sachs, J. (2018). *World Happiness Report 2018*, New York: Sustainable Development Solutions Network.

3.14.5 The Human Development Index (HDI) as an indicator of living standards

These days, the **Human Development Index (HDI)** is one of the most widely used indicators of economic development and general wellbeing. It is an index created by combining a range of economic and social indicators. However, it does not incorporate environmental considerations. Each year, the United Nations Development Program calculates an HDI for most countries, and then ranks these from highest to lowest (using a scale where 1 equals the highest and 0 the lowest level of development). Data is published annually in the *Human Development Report*. As outlined below, the HDI is constructed to reflect both economic and social indicators:



- **Indicator of material living standards in the HDIs.** The main economic indicator of wellbeing in the HDI is real national income per capita. This figure is adjusted to remove variations in the actual purchasing power of money in different countries (called **purchasing power parity** or PPP, expressed in US\$), as well as adjusted downwards for inequality in the distribution of goods and services.
- **Indicators of social or non-material living standards in the HDI.** Two key social measures used in the HDI are life expectancy (calculated at birth and expressed in years) and education standards (shown by both the mean and expected years of schooling).

Figure 3.46 shows international comparisons of the HDI for selected countries. Here, Australia is ranked third while Kazakhstan is in fifty-ninth place. (*Note:* Excludes countries in the ‘very high human development’ group for which no inequality-adjusted HDI is available.)

FIGURE 3.46 International comparisons of living standards using the Human Development Index (HDI), countries in the top quartile

HDI				HDI				HDI			
1.		Norway	0.953	21.		Luxembourg	0.904	41.		Latvia	0.847
2.		Switzerland	0.944	22.		Israel	0.903	42.		Portugal	0.847
3.		Australia	0.939	23.		Korea (Republic of)	0.903	43.		Bahrain	0.846
4.		Ireland	0.938	24.		France	0.901	44.		Chile	0.843
5.		Germany	0.936	25.		Slovenia	0.896	45.		Hungary	0.838
6.		Iceland	0.935	26.		Spain	0.891	46.		Croatia	0.831
7.		Hong Kong, China (SAR)	0.933	27.		Czechia	0.888	47.		Argentina	0.825
8.		Sweden	0.933	28.		Italy	0.880	48.		Oman	0.821
9.		Singapore	0.932	29.		Malta	0.878	49.		Russian Federation	0.816
10.		Netherlands	0.931	30.		Estonia	0.871	50.		Montenegro	0.814
11.		Denmark	0.929	31.		Greece	0.870	51.		Bulgaria	0.813
12.		Canada	0.926	32.		Cyprus	0.869	52.		Romania	0.811
13.		United States	0.924	33.		Poland	0.865	53.		Belarus	0.808
14.		United Kingdom	0.922	34.		United Arab Emirates	0.863	54.		Bahamas	0.807
15.		Finland	0.920	35.		Andorra	0.858	55.		Uruguay	0.804
16.		New Zealand	0.917	36.		Lithuania	0.858	56.		Kuwait	0.803
17.		Belgium	0.916	37.		Qatar	0.856	57.		Malaysia	0.802
18.		Liechtenstein	0.916	38.		Slovakia	0.855	58.		Barbados	0.800
19.		Japan	0.909	39.		Brunei Darussalam	0.853	59.		Kazakhstan	0.800
20.		Austria	0.908	40.		Saudi Arabia	0.853				

Source: Data copied from Table 3: Inequality-adjusted Human Development Index <http://hdr.undp.org/en/composite/IHDI>.



Weblinks How can countries measure the wellbeing of their citizens?

Measuring Australia's Progress (MAP)

The Human Development Index (HDI)

3.14 ACTIVITIES

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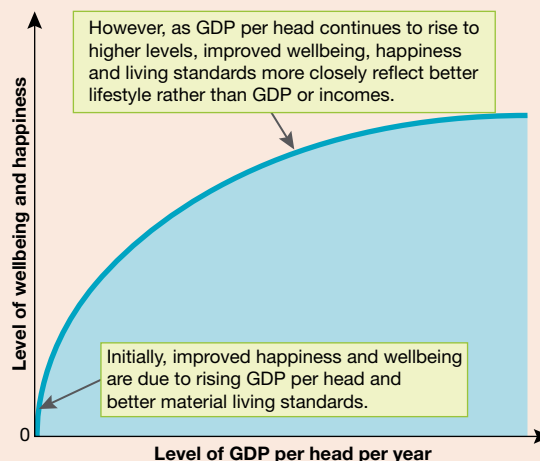
Check your understanding

1. What are the two main aspects or dimensions affecting our living standards?
2. List and briefly outline the important limitations of using changes in real GDP per head as a measure of living standards.
3. Identify three alternatives to using real GDP per head as a measure of a country's living standards, and explain how each might represent a more reliable guide.

Applied economic exercises

1. Real GDP per head is the most common indicator of our living standards. However, we know it has *weaknesses* that limit its usefulness and accuracy, not just as a measure of *material* wellbeing, but it also completely ignores *non-material* aspects affecting our daily lives. For this reason, other measures have been developed.
 - (a) Describe the main features of the approach developed by the ABS called *Measures of Australia's Progress* (MAP, see ABS 1370.0). You may like to use the **Measuring Australia's Progress (MAP)** weblink in the Resources tab to view the video about this measure. In which areas within the four categories of measure has Australia seen progress or regression in wellbeing? **(4 marks)**
 - (b) Another alternative to real GDP per head as an indicator of wellbeing is *Gross Domestic Happiness (GDH)*. This indicator attempts to compare the happiness of people living in different countries, since perhaps the bottom line of living standards is happiness. Figure 3.47 is a diagrammatic representation of what some economic research has discovered about the growth in national production and average incomes per head on the one hand, and the perceived wellbeing including happiness of people on the other. By reference to the graph, does a continued rise in the level of real GDP per head lead to an equal rise in wellbeing including happiness? Explain what the graph shows. **(2 marks)**

FIGURE 3.47 The apparent relationship between real GDP (GNP) per head and perceived level of wellbeing including happiness



Source: Diagram based on one from *Beyond GDP: The Need for New Measures of Progress* by Robert Costanza, Maureen Hart, Stephen Posner and John Talberth, figure 6 (GDP versus wellbeing), p. 16, quoting the diagram source as Inglehart, 1997, see <https://www.bu.edu/pardee/files/documents/PP-004-GDP.pdf>.

- (c) Outline how wellbeing is measured by each of the following indicators, and note why these may be superior to using real GDP per capita:
- i. Genuine Progress Indicator (GPI) (2 marks)
 - ii. Green GDP (2 marks)
 - iii. Human Development Index (HDI). (2 marks)
- (d) Examine table 3.19 showing hypothetical data for a country over a two-year period:

TABLE 3.19 Hypothetical data for a country

Indicator	2020	2022
Annual value of real GDP (\$ billion)	5000	6000
Annual percentage rise in the population size	1	2
Estimated value of environmental damage including pollution (\$ billion)	1000	2000
Annual percentage change in the crime rate	1	4
Index (on a base of 100 points) measuring the change in inequality in the way income is shared or divided	100	100

- i. Explain which of these data might be used to determine *how* overall living standards might have changed during the two-year period from 2020 and 2022. (2 marks)
- ii. Showing your working, try to accurately calculate how average *material* living standards have changed during the two-year period from 2020 and 2022. (2 marks)
- iii. Try to accurately calculate how average *non-material* living standards in this country have changed during the two-year period from 2020 to 2022. (2 marks)
- iv. Try to accurately calculate how overall living standards in this country have changed during the two-year period from 2020 to 2022. (2 marks)

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Resources



Weblink Measuring Australia's Progress (MAP)

3.15 The effect of policy response to address environmental effects of economic growth

KEY CONCEPT

- The effect of policy response to address environmental effects of economic growth such as market-based approaches, direct actions and regulation

In the decade to 2020, much alarm has been expressed about negative externalities associated with economic growth and worsening environmental issues such as:

- rising greenhouse gas emissions, including CO₂
- global warming
- destruction of the ozone layer
- extreme weather events including prolonged drought, floods, cyclones and bushfires
- melting of the polar ice caps
- rising sea levels (by between 0.5 and 1 metre) endangering island and coastal communities
- acid rain (where carbon and other emissions into the atmosphere cause rain to become dangerously acidic)
- deteriorating air quality
- deforestation
- lack of healthy environmental river flows
- toxic substances entering our food chain
- waste disposal issues
- destruction of biodiversity (where some plant and animal species become extinct).

In addition, we now know that environmental damage causes great loss of life, damages the economy through reduced production (e.g. farm, mine and export output) and weakens the government's financial position through lower tax revenue and the need for higher government spending on infrastructure repairs and assistance to those affected. Clearly, failure to adequately respond to this harm threatens our survival and undermines our living standards.

As a result of growing concern, various *environmental policies* have been introduced, both by the Australian government and through international government cooperation. These measures are designed to help reduce environmental damage and global warming resulting from economic activities.

3.15.1 International cooperation to protect the environment and its effectiveness

Early in 2008, the Australian government signed the **Kyoto agreement**. This was an international agreement initiated in 1997 through the United Nations, aiming to stabilise the concentration of greenhouse gases in the environment which are adding to climate change and global warming. By 2011, over 190 countries supported this agreement. In order to reach the agreed emissions targets, several countries committed to a *carbon tax* including Denmark, Finland, Germany, Italy, the UK, South Africa and India, while some nations relied on *emissions trading schemes* to determine the cost or price of carbon pollution (see explanation below) and reduce their emissions.

From Australia's point of view, signing the 2008 accord initially committed us to limiting our greenhouse gas emissions, for the period 2008–12, to a target of 108 per cent of the 1990 emissions level. More recently, our new target is a reduction of 5 per cent on 2000 levels by 2020.

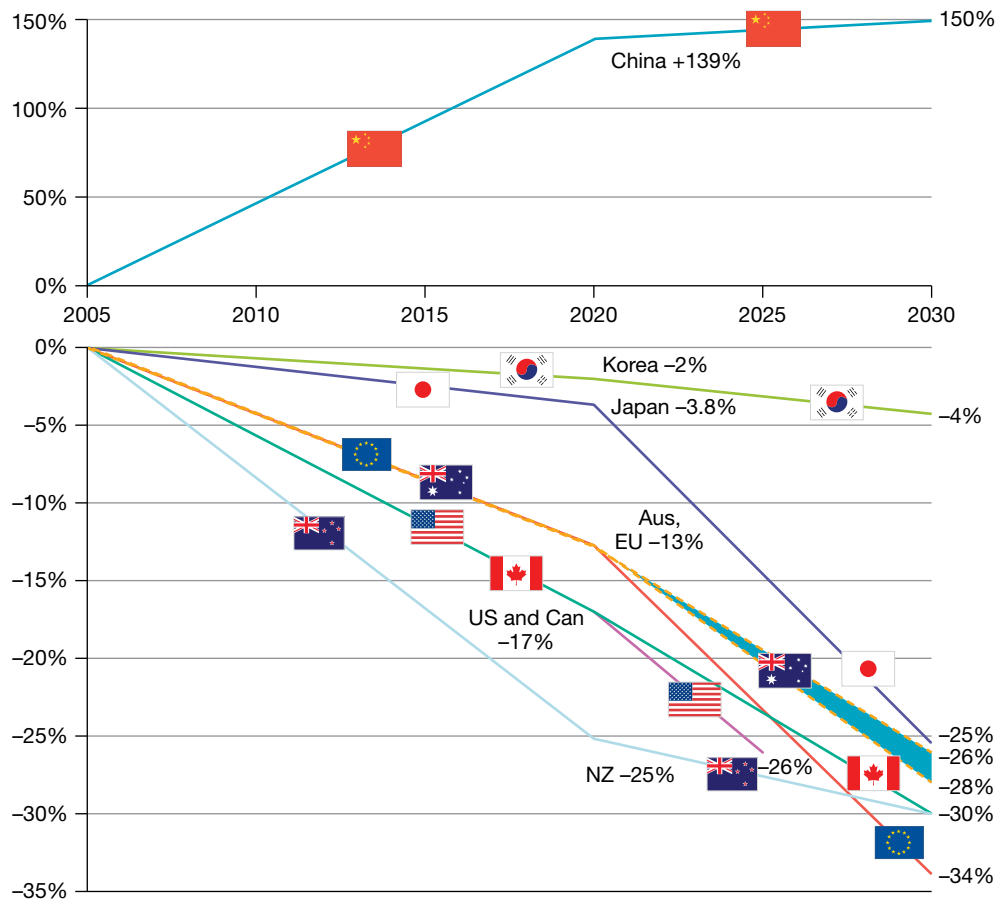
In late 2015, the *Paris Climate Summit* was held. Here, Australia agreed to a 26–28 per cent reduction (compared with levels in 2005) in carbon emissions by 2030.

Figure 3.48 shows the progress and projected cuts to emissions for selected countries for 2005–30.

- Notice that by 2020, Australia hopes to reduce its emissions by 13 per cent. This seems to be achievable based on current modelling. However, meeting the 2030 target will be far more challenging.
- Notice too that Australia's reduction is smaller than that for New Zealand, the European Union and Canada.
- China's emissions are likely to keep on rising to 2030 by 150 per cent of 2005 levels, while those for South Korea's may fall by a mere 4 per cent. Japan too will find it hard to reach its 2030 target, given the little progress to 2020.

No country can achieve emissions reduction targets without a range of government environmental policies. We now turn to consider Australia's environmental policy responses.

FIGURE 3.48 Percentage change in carbon emissions in selected countries, 2005–30



Source: Graph copied directly from the Australian Government, Department of the Environment, see <http://www.environment.gov.au/climate-change/publications/factsheet-australias-2030-climate-change-target>.

FIGURE 3.49 French President Francois Hollande at the Paris COP21, the United Nation's conference on climate change



3.15.2 The Australian government's environmental policies

Despite our relatively small population, Australia accounts for over 1 per cent of global carbon emissions. In addition, our annual carbon emissions per person are the *highest* in the world (27.3 metric tons of CO₂ per person per year). This contributes disproportionately to global warming and extreme weather events.

Over the past ten years, some Australian governments have made an effort to limit carbon emissions, climate change and global warming. As outlined below, a number of approaches have been tried.

The proposed Carbon Pollution Reduction Scheme (CPRS) 2008 — a market-based approach

The idea of the **Carbon Pollution Reduction Scheme (CPRS)** was first floated by the Rudd Labor government following the release of the *Garnaut Climate Change Review* in 2008. Essentially, it sought to reduce emissions by putting a market price or cost on the release of carbon dioxide (CO₂) by businesses that produced goods and services.

- This scheme involved the government's sale of pollution permits for each tonne of CO₂ emissions. By making it more expensive and less profitable for firms to generate greenhouse gases, it was expected that *businesses* would gradually switch to cleaner products and technologies. This would slow climate change.
- *Consumers* too would respond to dearer prices for high-emissions goods by switching to cheaper and cleaner alternatives.

This scheme proposed that the cost or price of pollution permits would be decided by the forces of demand and supply in a *carbon emissions market*. Here, the carbon price would move up and down, mainly as a result of changed conditions of demand by polluters.

In the end, with an election looming, lack of numbers to pass the necessary legislation in the Senate and uncertainty surrounding this complex scheme, the Rudd government's CPRS was abandoned. However, a similar scheme has not been ruled out by the federal Labor Party if it is eventually returned to power.

The use of the carbon tax, 2012–14

In 2012, the Gillard Labor government, with support from the Greens and Independents, decided to introduce the **carbon tax** to reduce pollution. The tax seemed a far simpler way to put a cost or price on carbon emissions than the proposed CPRS (also called an emissions trading scheme or ETS). Again, it was designed to affect the behaviour of both *producers* and *consumers*.

- With the carbon tax, Australia's 500 worst-polluting companies (typically in electricity generation, waste disposal by councils, and in steel and aluminium smelting) faced higher production costs. This made pollution less profitable for *producers*, encouraging firms to adopt cleaner and cheaper technologies. The starting price for the tax was \$23 for each tonne of carbon emissions. This cost was then planned to rise annually by 2.5 per cent until 2015, when the then government hoped to introduce the CPRS or ETS.
- Higher relative prices for some goods meant that *consumers* too were encouraged to reduce their consumption of now more expensive, environmentally dirty goods and services, switching instead to cleaner substitutes (e.g. electricity generated from wind, hydro or solar) on which there was no tax.

While the carbon tax helped to promote new green industries and a more efficient use of resources in the long term, unfortunately it was a *regressive tax* where the *tax rate* or burden (expressed as a percentage of an individual's income) was heavier for low-income earners than it was for those on higher incomes. The tax drove up electricity charges, along with the price of transport, food and other goods and services. In response, the government decided to compensate low-income earners (and some businesses) through a cut in the base rate of personal income tax (paid out of the \$7 billion in government revenue from the sale of the pollution permits). However, by easing the pain of higher prices caused by the carbon tax, this compensation probably reduced the effectiveness of the tax in changing the ways household and business behaved, slowing the switch towards greener alternatives relative to what may have occurred without the tax relief.

FIGURE 3.50 Angry Anderson at a 2011 Canberra rally protesting against the Gillard Labor government's proposed carbon tax



The 'Direct Action' climate change policy of the Coalition, 2014–

During late 2014, the Coalition Liberal government abolished the carbon tax, abandoned the planned move to an emissions trading scheme (ETS) originally scheduled by the previous government for 2015, and introduced a new **Direct Action** emissions reduction policy. Essentially, this policy involves *two* main parts:

1. It relies on *financial incentives* for firms to reduce their emissions. This is centred on the \$2.55 billion *Emissions Reduction Fund* (ERF). Firms bid for this money in a reverse auction system, by proposing new projects where there is the greatest reduction in emissions for the lowest possible cost to the government and taxpayer.
2. There are also disincentives. Businesses are required to limit their *emissions below a current set baseline*. Firms exceeding their baseline are required to purchase carbon credits or offsets from the *carbon market*, where the price would be set by the operation of demand and supply for credits.

In 2019, the federal government made some changes to this policy, including the creation of the \$2 billion Climate Solutions Fund (an updated version of the ERF) to help reduce emissions and meet our Paris Climate Summit targets.

In addition, following successful negotiations with Labor, the federal Coalition government in May 2015 set a new renewable energy target (RET) under which 33 000 GWh of power are to be generated from renewable sources such as wind, solar, geothermal and waves by 2020. However, this would represent just 23 per cent of Australia's energy needs, and it is below that set by some other developed nations.

FIGURE 3.51 If the costs of carbon emissions resulting from the generation of electricity using coal were internalised and paid directly by power companies and consumers, there would be reduced pollution and improvements in non-material living standards.



The Labor Party's proposed policy to reduce carbon emissions

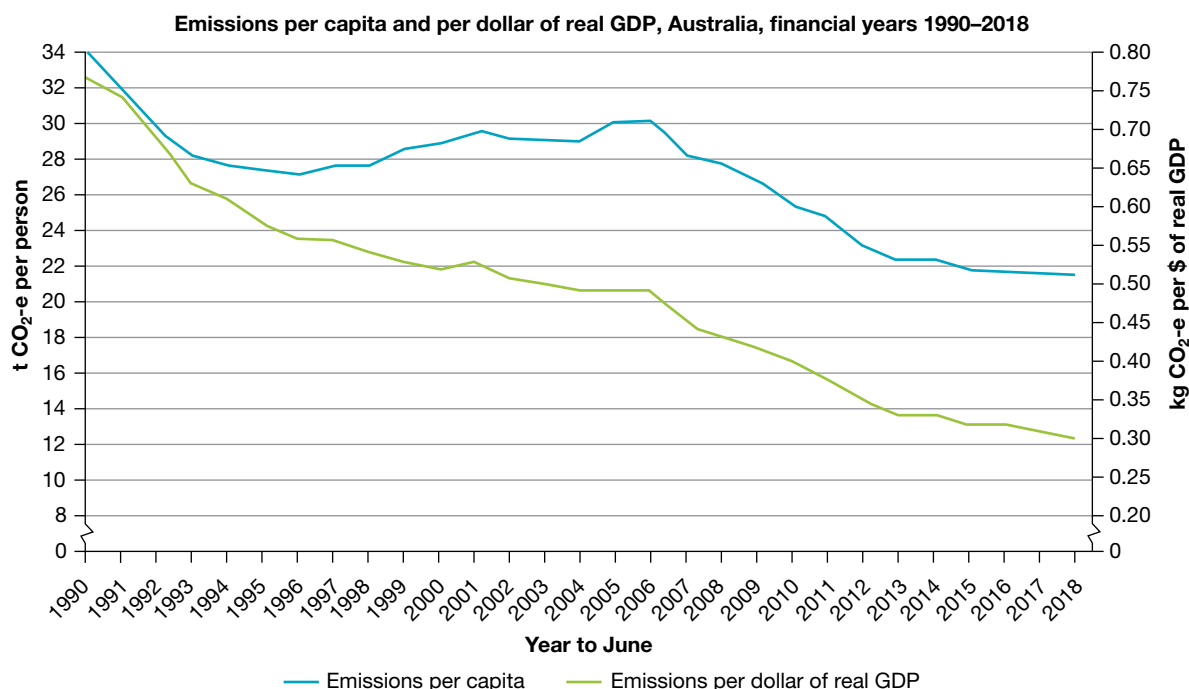
During both the 2016 and 2019 federal elections, the Labor Party promised to introduce a broad-based *carbon trading scheme* by 2030, to allow for a far greater reduction in emissions of 45 per cent by 2030, rather than the Coalition's target of 26–28 per cent that was agreed at the Paris Climate Summit in late 2015. However, as they lost both these elections, they have been unable to implement this policy proposal.

3.15.3 The results of Australia's efforts to reduce greenhouse emissions

Figure 3.52 shows the impacts of Australia's efforts to reduce per capita greenhouse gas emissions over more than one quarter of a century to 2018. Note that although there has been around a 35 per cent overall reduction in emissions per person since 1991, with emissions per dollar of GDP falling by more than 55 per cent, emissions reductions appeared greater under the carbon tax (i.e. 2012–14) than with the more recent government policy of Direct Action (i.e. since 2014).

Critics of the Coalition's Direct Action policy claim it may end up being more expensive and less effective than the proposed ETS or the carbon tax in meeting our agreed emissions targets. In addition, some businesses feel that the incentives to access government funding to help reduce emissions appear insufficient to be worthwhile.

FIGURE 3.52 Australia's carbon emissions reduction per capita and per dollar of GDP



Source: Graph copied from Australian Government, Department of the Environment, quarterly update of Australia's National Greenhouse Gas Inventory: June 2018, see <http://www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/publications/quarterly-update-australias-national-greenhouse-gas-inventory-june-2018>.



Resources



Weblinks Carbon price — say yes
Carbon trading simplified
How does the emissions trading scheme work?

3.15 ACTIVITIES

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Check your understanding

1. What type of international cooperation has been used to help limit the environmental costs of global economic growth? Is there any evidence that these measures have been successful?
2. Explain how the operation of a carbon market might affect relative prices and profits and hence reduce pollution.
3. How might the policies of the Australian government involving a carbon tax, and more recently, Direct Action, help to reduce carbon pollution?

Applied economic exercises

1. During the last decade, there has been international collaboration on trying to reduce climate change by limiting carbon emissions. At the UN *Climate Summit in Paris* in late 2015, various countries set emissions reduction targets for the period to 2030 (as a start, see figure 3.48 in section 3.15.1).

(a) Which countries committed to the largest reductions, and which to the lowest?

(2 marks)

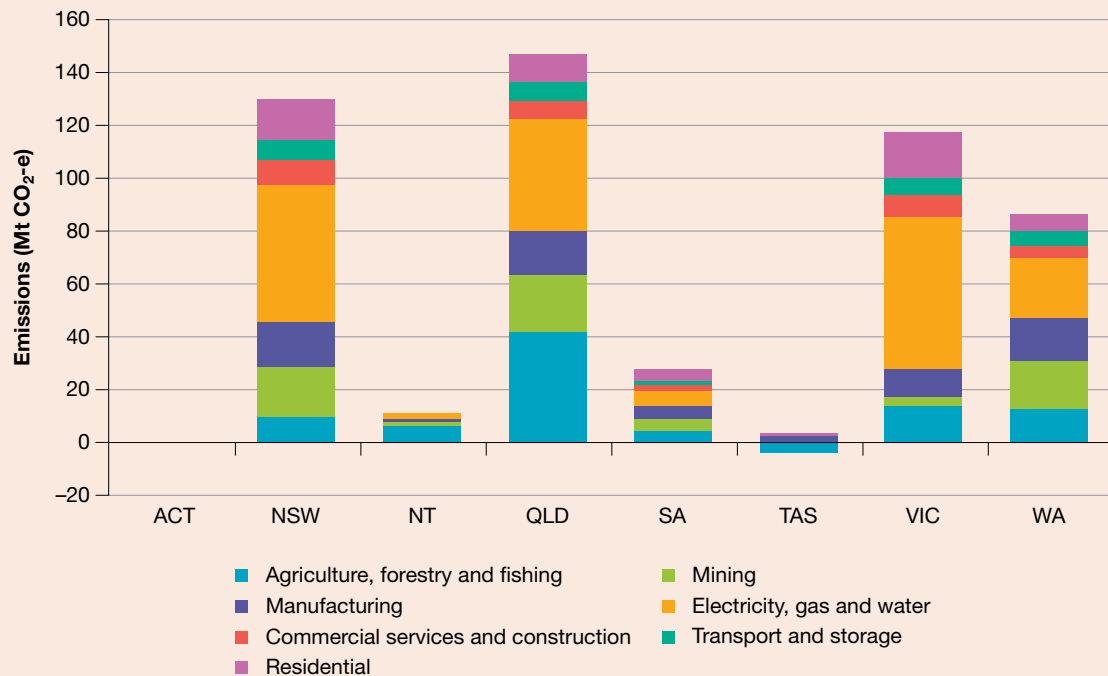
(b) What is Australia's target for emissions reductions by 2030, against the levels in 2005?

(1 mark)

(c) Examine figure 3.53 showing the source of Australia's carbon emissions by activity and by state.

- What are the most common sources of carbon emissions in most states? (2 marks)
- Which states and territories have the highest emissions? Suggest the likely reasons for this. (2 marks)
- Which state has the lowest emissions? Suggest the likely reasons for this. (2 marks)

FIGURE 3.53 Australia's carbon emissions by activity and state



Source: Copied from the Australian Government, Department of the Environment, National Inventory, 2014, p. 7 (figure 3), see <https://www.environment.gov.au/system/files/resources/248188d2-376e-4831-af8b-e995fd585fb0/files/national-inventory-economic-sector-2014.pdf>.

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3.16 Review

3.16.1 Summary

The nature and meaning of trade-offs in economics

In economics, *trade-offs* are often expressed in terms of *opportunity costs* — what is forgone to use limited resources to produce or satisfy the next best alternative.

The meaning of economic growth

- Economic growth exists when there is a rise in a nation's volume of goods and services produced over a period of time, usually one year.
- In the long term, economic growth can be represented as an outward shift of the PPF on a production possibility diagram.
- If the PPF grows faster than the country's population, it is likely that on average incomes will rise, allowing each person to enjoy higher consumption levels and hence material living standards.

The measurement of economic growth and the limitations of using real GDP to measure changes in living standards

- Living standards are affected by both *material* factors (including annual per capita incomes, purchasing power or quantity of goods and services consumed per person) and *non-material* aspects (factors affecting the quality of daily life, perhaps including happiness, crime rates, congestion, the environment, freedom).
- The annual rate of change in real GDP (also called chain volume GDP) is the most common general measure of changes in the nation's total output of goods and services produced each year. It is also equal in real value to AD and total incomes.
- For several reasons, however, real GDP on its own as a measure of the size of our economy lacks accuracy and may not tell us much at all about actual changes in our living standards.
 - GDP excludes some production (e.g. the value of the cash and black market economies, and DIY production), making it inaccurate.
 - GDP is forced to 'guesstimate' some aspects of output (e.g. the net rental value of owner-occupied dwellings), making it inaccurate.
 - GDP fails to take account of how unevenly production, incomes and goods and services are distributed or shared among individuals in society.
 - GDP fails to take into account population size or the number of people sharing the goods and incomes.
 - GDP fails to take into account negative externalities and tells almost nothing about non-material wellbeing (e.g. happiness, leisure time, crime rates).

The economic benefits of economic growth

Economic growth results in both *benefits* and *costs*. Economic growth can help to:

- create jobs and lower unemployment rates as firms expand production
- raise personal incomes, consumption and material living standards
- increase government tax revenue and lower welfare outlays, strengthening the government's financial position and making the provision of welfare benefits for the needy more affordable and sustainable.

The business cycle and recent trends in Australia's economic growth

- The rate of economic growth speeds up and slows down over a period of years in a cyclical way. This is called the business cycle.
- The business cycle consists of four key phases — the expansion, the peak (possibly a boom), the contraction and the trough (possibly a recession). The ideal situation called domestic economic stability can also be shown on this diagram. Each phase experiences different economic conditions of output, unemployment and inflation.
- *Domestic economic stability* is the ideal situation and is midway between a boom and a recession. Here there is strong and sustainable economic growth (where GDP rises by around 3 per cent), unemployment is low (at around 4.0–5 per cent) and inflation is slow (between 2–3 per cent a year).
- The Australian economy has gone through a long period of economic expansion that peaked in mid-2008 in boom-like conditions. Since then, there was a sharp slowdown during late 2008 and into early 2009 during the global financial crisis (GFC), followed by a general recovery during 2009–11. More recently in the last few years to 2019, the rate of economic growth has been well below trend.
- Another feature of the business cycle diagram is the *long-term trend line*. This represents the average sustainable rate of economic growth made possible by the rise in a nation's productive capacity.

Factors that may affect Australia's rate of economic growth

The rate of economic growth is determined by *two* key sets of factors — aggregate demand and aggregate supply factors:

- *Aggregate supply factors or conditions*. Most important in the medium and longer terms, the sustainable potential rate of economic growth is governed by aggregate supply-side factors. These factors affect Australia's level of aggregate supply, productive capacity and size of our PPF. Aggregate

supply factors or conditions often affect the ability and willingness of suppliers to produce. They are often connected with the volume or quantity of resources, and how efficiently these resources are used (i.e. the output gained from each unit of input). In turn, aggregate supply is affected by the following:

- growing our natural resources, perhaps through mineral exploration
- growing the volume and efficiency of our labour resources, through immigration, natural births and a higher work participation rate
- stronger worker productivity, through increased spending on training and education
- drought, floods and changing climatic conditions
- increasing business investment spending on new plant, equipment and technology
- increased government investment spending on national economic and social infrastructure (e.g. roads, railways, power generation, hospitals, schools, and water supply)
- government aggregate supply policies (e.g. labour market deregulation to lift efficiency, cutting tariff protection, competition policy, cuts in tax rates and immigration policy).
- *Aggregate demand factors or conditions.* In the short to medium term, changes in aggregate demand factors affect national spending (AD) and hence national production and the rate of economic growth. Key aggregate demand-side factors include the following:
 - changes in consumer confidence about future employment and income prospects
 - changes in business confidence about future sales and profits
 - changes in disposable income per head after tax
 - changes in monetary policy (RBA interest rates) and budgetary policy (taxes and government spending)
 - changes in the exchange rate for the A\$
 - changes in the level of economic activity overseas among our major customers including China.
- The *five sector circular flow model* is a handy tool for looking at how changes in demand-side conditions can impact on the levels of AD, economic growth and activity (GDP), employment and incomes. It helps us to logically organise the sequence of ideas and to step out our explanations.
- For instance, during 2015–19 there were *generally weaker aggregate demand conditions* (e.g. due to a slowdown in China and elsewhere, weaker or flatter consumer and business confidence locally, and falling disposable income per head in some years). Falling sales caused stocks to rise and firms to cut prices and production. This led to a slowdown. Businesses reduced their demand for resources, contributing to rising unemployment and falling incomes.
- By contrast, *generally stronger aggregate demand conditions* during 2009–11, helped to accelerate the economy's rate of growth in real GDP.

Using government economic policies designed to influence the rate of economic growth

There are *two* main branches of government policy to affect Australia's rate of economic growth —*aggregate demand* policies and *aggregate supply* policies:

Government aggregate demand policies to affect economic growth

- Aggregate demand measures involve the use of *monetary policy* (RBA changes in interest rates) and *budgetary policy* (changes in tax rates and government spending and other outlays). In the short to medium terms, these policies are applied *countercyclically* to help stabilise the level of AD and therefore maintain steadier economic growth.
- *Monetary policy.* Monetary policies involve the RBA altering the level of official interest rates, either up or down, to help pursue a strong and sustainable rate of economic growth where inflation and unemployment are in check. When the rate of economic growth *slows* too much (e.g. 2012–19) or a recession occurs, the RBA will usually cut interest rates and keep them low, to help boost spending by slowing savings and encouraging borrowing, consumption spending and investment. In reverse, when the level of economic activity is too strong and inflation threatens, the RBA will raise interest rates to discourage spending and encourage saving, thereby improving stability.
- *Budgetary policy.* Budgetary policy involves changing the levels of government budget receipts relative to its outlays (thus changing the size of the budget deficit or surplus) to pursue the ideal

situation of domestic economic stability. When the rate of economic growth is too weak, the government typically seeks to cut taxes and raise its outlays, typically causing a rise in the size of the budget deficit. This is an *expansionary* policy designed to accelerate AD or spending. In reverse, if economic growth is too strong (causing inflation) budgetary policy typically becomes more *contractionary* by raising receipts relative to outlays, typically leading to a budget surplus, slowing AD to maintain a sustainable rate of GDP growth without a rise in inflation.

- *Applying expansionary or contractionary budgetary and monetary policies to help flatten out the business cycle.* This is called a *countercyclical* approach. In theory, it can help to maintain a sustainable rate of economic growth, while avoiding severe inflation (boom) or high unemployment (recession).

Government aggregate supply policies to affect economic growth

- *Aggregate supply* policies are also used to lift efficiency, improve the willingness and ability of businesses to produce, boost productive capacity and the PPF, and lift the potential rate of economic growth. Government aggregate supply policies typically include:
 - cutting personal and company tax rates to create incentives
 - labour market reforms and deregulation to lift efficiency
 - the promotion of stiffer competition between firms to strengthen efficiency
 - education spending to lift labour productivity
 - infrastructure projects to increase efficiency, lower production costs for firms and grow the economy's productive capacity
 - trade liberalisation involving reducing protection of local firms by tariff cuts on imports and the signing of free trade agreements.
- By lifting efficiency (the level of output produced from the input of each unit of resource) and productive capacity, it is likely that recent aggregate supply policies have enabled the Australian economy and GDP to grow faster than would otherwise have been the case.

The meaning of long-term economic prosperity and environmental sustainability

- We normally associate *economic prosperity* with improved access to goods and services and higher incomes, plenty of jobs, low inflation and better living standards.
- However, *long-term* economic prosperity is a desirable situation where these conditions can continue indefinitely in a world facing limited natural and environmental resources. It is not just a matter of maximising production today without thinking about what we might be doing to the prosperity of future generations.
- Unfortunately, economic growth today creates *trade-offs* and may not be environmentally sustainable.

The economic and environmental costs of economic growth

Sometimes economic growth can bring economic, social and environmental *costs*. For instance:

- Improvements in efficiency designed to boost production (e.g. the use of new technology like robotics in manufacturing) may cause a short-term rise in the level of structural unemployment.
- Sometimes not everyone in the community shares the benefits that result from economic growth and higher incomes, causing economic and social inequality.
- Economic growth can lead to increased inflation if the economy expands too quickly, causing it to overheat. In turn, general shortages of goods and services can cause inflation to rise, reducing purchasing power and material living standards.
- Strong economic growth today can reduce the opportunities for future economic growth through the depletion of resources.
- Economic growth can cause environmental problems including negative externalities (i.e. where costs associated with the production and consumption of goods are transferred to third parties not directly involved with the activities) such as pollution, global warming and climate change, destruction of native habitat, urban crowding and waste disposal problems, all of which lower our quality of life.

Trade-offs and compatibility between economic growth and environmental sustainability

- Opinion is divided about whether economic growth is sustainable.
- Some say that the limits to economic growth are fast approaching due to the depletion of non-renewable and other natural resources, the inability of the planet to support more people at high levels of income, and the acceleration of environmental problems including climate change. Here, economic growth and environmental sustainability are seen as incompatible or conflicting.
- Others say that technological breakthroughs will delay the onset of problems by substituting one scarce resource for another.
- Some are looking for ways of making economic growth more sustainable through re-evaluating whether increased economic growth in rich countries actually makes us happier or better off. In addition, they propose measures like improved recycling, product durability, use of renewable energy and special government policies, along with finding new and more relevant measures of society's wellbeing, to provide us with better information about our conditions.

Alternative economic indicators of living standards

- Real GDP per head (chain volume GDP) is a very narrow and limited indicator of society's wellbeing. It does not accurately reflect our material welfare, and it tells us almost nothing about our non-material living standards.
- For this reason, various *alternative measures* have been proposed that provide more information about our wellbeing. These include:
 - Measures of Australia's Progress (MAP)
 - Genuine Progress Indicator (GPI)
 - Green GDP
 - Gross National Happiness (GNH)
 - Human Development Index (HDI).

The effect of policy response to address the environmental effects of economic growth

- Especially in the last decade to 2020, there has been growing concern about environmental problems.
- This concern has led to increased international cooperation to find ways of limiting global carbon emissions associated with global warming, climate change and severe weather events that are increasingly having negative effects on our wellbeing. The 2008 Kyoto agreements led to the setting of national emissions reduction targets, as did the Paris Climate Summit in late 2015. Some countries have set more ambitious targets than others.
- Concern has also led various Australian governments to plan and introduce policies to reduce emissions and meet their agreed reduction targets. These measures have included:
 - the proposed *Carbon Pollution Reduction Scheme* (emissions trading scheme), where the market would put a cost or price on carbon pollution to make it less attractive
 - the *carbon tax* (2012–14), where the tax made it costly and less attractive to pollute or consume products with high emissions
 - *Direct Action*, where businesses bid for government funds — those that gain the greatest reduction in emissions for the lowest possible cost get the government's money to help finance the cost of reducing emissions.
- Between 2005 and 2030, Australia hopes to meet its target of a 26–28 per cent reduction in carbon emissions, but some feel that the most recent policy of Direct Action is not sufficiently effective, causing us to fall short.

on Resources

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3.16.2 Key terms

Aggregate demand (AD) represents the total value of all spending each year on Australian-made goods and services ($AD = C + I + G + X - M$).

Aggregate demand factors are the conditions affecting total spending or demand for a nation's goods and services such as consumer or business confidence.

Aggregate supply (AS) represents the total volume of goods and services that the nation's producers are collectively prepared to make available over a period of time.

Aggregate supply factors can alter the total volume of goods and services supplied by affecting the general *willingness* and/or *ability* of individuals and businesses to produce goods and services, especially in the long term. These might include factors like labour productivity, tax rates on firms and new discoveries of resources.

Aggregate supply policies involve government measures designed to cut production costs, improve efficiency in our use of resources and expand our productive capacity. They increase the size of the PPF and help to grow the nation's capacity and potential rate of economic growth.

Budgetary policy involves the federal treasurer using changes in the level of taxes and government outlays to help regulate the level of total spending, economic activity and GDP.

The **business cycle** is used to describe how GDP typically changes upwards and downwards over a period of years. Typically, the economy passes through four main phases — a boom, slowdown, recession and recovery. In addition, the ideal economic situation is domestic economic stability can be located on the business cycle, mid-way between a boom and a recession.

The **Carbon Pollution Reduction Scheme (CPRS)** sought to reduce emissions by allowing the carbon market to determine the price or cost of carbon dioxide (CO_2) emissions. This would make pollution less profitable and encourage firms to adopt cleaner technologies and products.

The **carbon tax** (during 2012–14) was levied on Australia's 500 worst-polluting companies (typically in electricity generation, waste disposal by councils, and in steel and aluminium smelting) at the starting rate of \$23 for each tonne of carbon emissions. This meant that pollution was less profitable, bringing about a change in business decisions affecting the environment. External costs became internal costs.

Common access goods are those things we all share and depend on - like air, rivers and oceans.

The **contraction** or downswing phase is where the rate of growth in GDP is slower. Typically, this is caused by a slowdown in national spending. Usually unemployment rises and inflation slows.

Contractionary policy involves measures by the government (e.g. higher taxes, reduced government spending and higher interest rates) designed to slow spending, AD, the level of economic activity and GDP growth.

Countercyclical policy involves changing government policies to increase total spending during a downturn and decrease total spending during an upturn to help promote better economic stability by ironing out the ups and downs in the levels of AD and economic growth.

Cyclical unemployment is when individuals lose their job due to weak spending and a slowdown or recession.

Depression is a large economic downturn, such as those that occurred in 1889–93 and 1929–33, caused by a significant fall in the level of aggregate demand. This results in large cutbacks in production, in turn resulting in high levels of unemployment and on occasions falling prices.

The **Direct Action** emissions reduction policy relies on a \$2.55 billion Emissions Reduction Fund (ERF) or more recently, the government's new Climate Solutions Fund. Firms bid for this money in a reverse auction system, by proposing new projects where there is the greatest reduction in emissions for the lowest possible cost to the government and taxpayer.

Domestic economic stability is the ideal economic position for an economy to be in. Conditions do not get better than this, where simultaneously there is a strong and sustainable rate of economic growth (around 3 per cent rise in GDP per year), full employment (around 4.5–5 per cent unemployment rate) and low inflation (an annual rise in general prices averaging 2–3 per cent). With national production growing by an average of around 3 per cent a year, economic growth is neither too fast (causing an inflationary boom) nor too slow (causing recession).

Economic growth exists when a country's economy gets bigger and there is a rise in the volume of goods and services produced between one year and the next.

Economic prosperity is taken to mean having high incomes per person and being able to consume or purchase more goods and services, now and into the future.

Environmental sustainability would mean that increasing economic prosperity can be continued indefinitely into the future.

The **expansion** or recovery phase is where the level of real GDP is rising and growth rates are quite fast, perhaps around 3 per cent per year.

Expansionary policy involves measures by the government (e.g. lower interest rates and taxes and increased government spending) designed to boost spending or AD, lifting the level of economic activity or GDP.

The **five sector circular flow model** is a diagram that shows how the various parts of an economy interact. The five sectors include the household, business, financial, government and overseas sectors.

Genuine Progress Indicator (GPI) basically uses GDP data but then makes both *negative* and *positive* adjustments to values, to better reflect the good or bad effects of some types of economic activity on society's material and non-material wellbeing.

The **goal of full employment** is a desirable situation when unemployment is low, at around 4.5–5 per cent of the labour force.

The **goal of strong and sustainable economic growth** is an Australian government objective involving the fastest possible rate of growth in national production each year that does not undermine the achievement of other government goals such as low inflation, or jeopardise the living standards of future generations by creating environmental and other problems. Some suggest that this represents a growth in real GDP around 3 per cent a year.

Government spending (G) represents government outlays that are designed to help satisfy the needs and wants of the community and industry for goods and services (e.g. roads, schools, telecommunications).

Green GDP is a measure of a nation's economic growth adjusted downwards for the environmental impacts of producing goods and services such as the depletion of resources, environmental degradation and loss of biodiversity.

Gross National Happiness (GNH) is a composite index made up of several indicators such as GDP per head, social support, health and life expectancy, freedom to make life's choices, generosity and trust.

Human Development Index (HDI) is one of the most widely used indicators of our economic development and wellbeing. It is an index created by combining a range of economic and social indicators. However, it does not incorporate environmental considerations.

Import spending (M) is expenditure by Australians on foreign-made goods and services, which is designed to help satisfy our needs and wants (e.g. oil, electronics, travel).

Income is the payment of money, generally to those who have sold productive resources to firms.

Inflation refers to a situation where most prices paid for a basket of consumer goods and services are rising over a period of time, causing a drop in the purchasing power of money. It may be the result of higher production costs or general shortages of goods and services due to too much spending.

Infrastructure represents capital resources like roads, ports, power, hospitals, railways and water supply that enable businesses to produce goods and services. Often this is provided by governments, sometimes in partnerships with private firms. There is economic infrastructure (e.g. the construction of the NBN, the new airport in Western Sydney) and social infrastructure (e.g. schools and hospitals).

Injectors are elements in the circular flow model (e.g. investment spending, government spending and export spending), which act like an accelerator and add to the total value of spending on Australian-made goods and services.

Interest rates are the price or cost of borrowing credit from banks.

The **Kyoto agreement** was initiated through the United Nations and aimed to stabilise the concentration of greenhouse gases in the environment, which are adding to climate change and global warming.

Labour market deregulation means reducing the level of government regulation over the setting of wages and conditions. There is increased flexibility for firms and a greater reliance on enterprise bargaining to set wages that increasingly reflect changes in worker efficiency.

Labour productivity or efficiency reflects the rise in the value of GDP produced per hour worked. It is seen as a favourable aggregate supply condition that grows a nation's productive capacity and keeps prices lower.

Leakages are elements in the circular flow model (e.g. savings, taxes and spending on imports) that act like a brake and slow down the total value of spending in our economy.

Long-term economic prosperity means that all future generations are also able to enjoy high incomes and consumption levels.

Market deregulation is the reduction of unnecessary government controls and restrictions limiting competition and efficiency in various markets.

Material living standards are dependent on a person's level of income and consumption of goods and services over a period of time.

Measures of Australia's Progress (MAP) is not a single statistical indicator of overall welfare but is a collection of measures within four areas — society, the economy, governance and the environment.

Monetary policy involves the Reserve Bank of Australia (RBA) using changes in interest rates to help stabilise the level of total spending, economic activity and GDP.

Negative externalities are the costs resulting from production and consumption of goods and services that are transferred to third parties who are usually not directly involved with the particular economic activity.

Non-material living standards are not related to the quantity of goods and services that we have but are elements of our wellbeing that affect the quality of our daily lives, and may perhaps involve levels of freedom, happiness, quality of family life, justice, amount of leisure time, crime, and the state of the natural environment.

The **peak** or **boom** phase occurs when GDP reaches its maximum level and the rate of growth usually starts to ease off. Normally there is rapid inflation and very low unemployment.

Private consumption spending (C) represents household spending that is designed to help satisfy our immediate needs and wants for goods and services (e.g. food, holidays and clothing).

Private investment spending (I) is spending by businesses on machinery, technology and buildings (e.g. a tractor, a robot or a factory) used to help make other goods and services. It is designed to help grow efficiency and expand a firm's productive capacity by growing its physical capital resources.

Purchasing power parity (PPP) is used to adjust the purchasing power of money in different countries to allow comparisons of incomes.

Export spending (X) or **spending on Australian made exports** represents expenditure by people overseas on Australian-made goods and services, which is designed to help satisfy their needs and wants (e.g. wool, minerals, travel).

Structural unemployment can occur when firms change their production methods and use new technology to become more efficient (such as robots on an assembly line, ATMs for banking, automated warehouses, online shopping and so on). It can also occur when firms relocate or there is a mismatch between the skills possessed by workers and the requirements of the jobs that are available.

Sustainable economic growth is commonly defined as a method of expanding the economy's production levels to meet the needs for goods and services of the present population without undermining the ability of future generations to meet their own needs.

Tariffs represent a form of industry protection and involve taxes added onto the price of imported goods designed to make them more expensive than the locally produced item.

Total income is made up of wages, interest and rent and is paid to those households that sell resources to businesses.

A **trade-off** is a cost based on what has to be sacrificed or given up following a decision or choice

The **trough** or **recession** phase occurs when production reaches its lowest level. A recession involves at least two negative quarters in the rates of economic growth, high unemployment and low inflation.

Resources

-  **Digital documents** Key terms glossary (doc-31528)
 - Crossword (doc-31576)
 - Wordsearch (doc-32654)
 - Match-up definitions (doc-32659)

3.16 Review questions

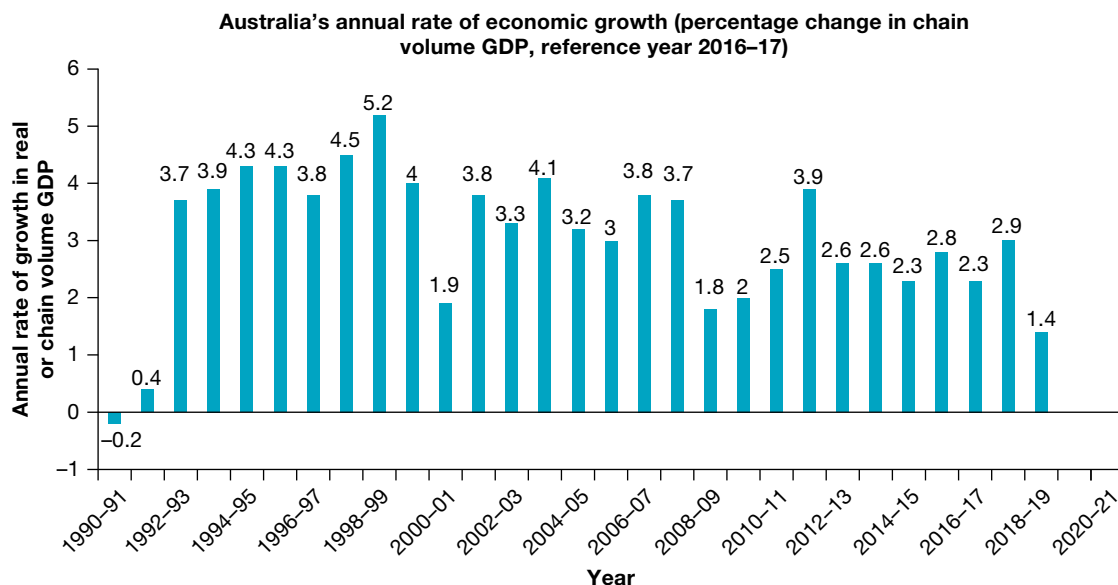
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3.16 Exercise 1: Multiple choice questions

1. In an economy, *economic growth* always occurs when:
 - A. there is more spending on goods and services between one year and the next.
 - B. there is more production of goods and services between one year and the next.
 - C. there are more resources available between one year and the next.
 - D. business activity is steady between one year and the next.

2. Concerning GDP (chain volume) as a measure of economic growth or the size of the economy, which statement is generally *false*?
 - A. It measures the annual value of most goods and services produced.
 - B. In the circular flow model, it can also be estimated by measuring AD or the total incomes paid to producers.
 - C. It has had to be adjusted to help remove the effects that inflation or deflation has on the value of production.
 - D. Its value includes all goods and services produced in the country (including washing the dog, home-grown vegetables, trade in illegal guns) and it makes a downward adjustment to allow for negative externalities.
3. The Australian government seeks to achieve the *goal of a strong and sustainable rate of economic growth*. This is currently defined as an annual long-term rise in GDP averaging around:
 - A. 1–1.5 per cent.
 - B. 2–2.5 per cent.
 - C. 3 per cent.
 - D. above 4–5 per cent.
4. From figure 3.54, which of the following is *incorrect* concerning Australia's rate of economic growth (measured by the annual percentage change in GDP)?
 - A. Economic growth and activity generally moved in a cyclical pattern.
 - B. The government's ideal target for economic growth was generally achieved during the years shown.
 - C. There is no evidence at all that there may have been a recession during these years.
 - D. There were at least two slowdowns in the rate of economic growth over the period shown.

FIGURE 3.54 Trends in Australia's rate of economic growth (annual percentage change in real or chain volume GDP)



Source: Data derived from ABS 5206.0.

5. Which *one* of the following would have an effect on the rate of economic growth that is *different* from that of the other three?
 - A. The government announces a cut in income tax.
 - B. Households feel pessimistic about future employment prospects and fear that they may soon become unemployed.
 - C. The rate of economic growth in the United States and Japan strengthens, combined with a lower exchange rate for the A\$.
 - D. Interest rates fall following an announcement by the RBA.

6. Given the hypothetical data in table 3.20, predict what might be happening to the country's rate of economic growth. Assume that the country has been enjoying a 3.1 per cent annual rate of economic growth with fairly low unemployment.
- The rate of economic growth will probably tend to accelerate.
 - It is impossible to predict anything about the rate of economic growth.
 - The rate of economic growth will probably tend to slow.
 - There will tend to be a boom.

TABLE 3.20 Hypothetical data relating to percentage changes in AD for a country

Component of AD	Annual percentage growth last year	Annual percentage growth this year
C	5	1
I	4	2
G	2	1
X	7	4
M	9	9

7. Referring again to table 3.20 from question 6 and the two-year trend in the components of AD ($C + I + G + X - M$), which one of the following causes is most likely to be a *correct* explanation?
- Businesses became more optimistic about sales and profits.
 - Economic activity overseas must be rising.
 - There is a slower rate of rise or even a fall in household disposable income.
 - The government has recklessly increased budget spending on public works and community services such as health and education.
8. In the long term, an economy needs more than just increased spending to sustain rapid economic growth. Which of the following is *not* a correct explanation of this statement?
- Strong spending or AD cannot make an economy grow any faster once it has reached its productive capacity or potential GDP.
 - The lack of access to extra resources restricts production levels and economic growth in some economies.
 - Some economies cannot lift the growth in output because of low efficiency in production.
 - In the long term, spending is always too low for the economy to fully use its capacity.
9. Which *one* of the following developments would tend to affect Australia's long-term rate of economic growth in a different way from that of the other three?
- The use of genetically modified crops by farmers
 - Successful measures to help drought-proof Australian farmers
 - Legislation that lowers the minimum retirement age for workers
 - Legislation that raises the minimum school leaving age to 17 years
10. Which of the following would *not* tend to lift Australia's long-term sustainable rate of economic growth?
- A fall in the female participation rate in the labour force
 - Government microeconomic efficiency reforms including deregulation of the labour market and the encouragement of savings to provide cheaper finance to help increase the level of business investment
 - The adoption of best work practice by local firms, managers and employees
 - Encouragement of mineral exploration and R&D

11. Concerning the effects of economic growth, which of the following is *false*?
- A. Economic growth usually causes cyclical unemployment to fall as economic activity rises.
 - B. Economic growth that emphasises greater efficiency and cost cutting by firms can lead to higher structural unemployment in the short term.
 - C. Without special government policies, such as progressive income taxes or welfare benefits for the needy, there is the danger that economic growth may increase inequality in personal income levels.
 - D. Strong economic growth that results in a rise in household income may reduce spending on imports of goods and services, possibly improving our trade balance with overseas nations.
12. Increased economic growth:
- A. can sometimes cause the economy to overheat, leading to inflation.
 - B. need not cause inflation if there have been rises in worker efficiency and lower production costs.
 - C. can cause negative externalities such as reduced leisure time, traffic congestion, urban overcrowding and waste disposal problems for cities.
 - D. may cause all of the above.
13. Expansionary government macroeconomic or aggregate demand policies are most likely to *increase* the rate of economic growth when:
- A. there are high levels of unemployment and unused productive capacity in the economy.
 - B. there is a boom.
 - C. there is inflation and the economy is overheating.
 - D. the economy is operating at its ideal level of economic activity and is at its productive capacity.
14. Which of the following government policies would help most to *increase* the rate of business investment spending (I) and hence AD?
- A. A higher rate of personal income tax
 - B. A reduction in the rate of tax on company profits from 30 to 25 per cent
 - C. An increase in the GST from 10 to 15 per cent
 - D. A rise in the top effective rate of capital gains tax made from selling assets at a profit, from 22.5 to 45 per cent of the gains
15. Microeconomic reforms or aggregate supply policies can help to *increase* the potential rate of economic growth by:
- A. reducing incentives to business.
 - B. increasing the output of goods and services gained from each unit of resources used in the economy.
 - C. neither A nor B.
 - D. both A and B.
16. Which of the following is *not* primarily an aggregate supply policy designed to promote rapid economic growth?
- A. Cutting the rates of personal and company tax to increase incentives.
 - B. The government adopting an expansionary budgetary and monetary policy to lift spending
 - C. Measures enforced by the ACCC to promote greater competition among firms operating in various markets
 - D. Trade liberalisation involving tariff cuts, reduced protection and more free trade agreements
17. In the long term, tariff reductions may help to *strengthen* Australia's economic growth by:
- A. forcing local firms to cut costs and become more competitive with imports.
 - B. making it cheaper for local firms to import necessary equipment (e.g. tractors, robots, materials) needed for production.
 - C. improving efficiency in the way resources are used or allocated, shifting resources into areas of competitive cost advantage.
 - D. all of the above.

18. The level of private consumption spending (C) and the rate of economic growth are likely to *fall* if there was a:
 - A. rise in consumer confidence.
 - B. fall in household savings.
 - C. rise in household income.
 - D. rise in government taxation.
19. The level of private investment spending (I) and rate of economic growth would tend to *increase* if there was a:
 - A. rise in business confidence about future sales.
 - B. rise in interest rates on bank loans to businesses.
 - C. fall in business profits.
 - D. rise in the rate of company tax on firms.
20. The value of spending on Australian exports (X) is likely to *rise* if:
 - A. there was a recession overseas.
 - B. they became cheaper or more competitive for overseas buyers.
 - C. the exchange rate for the A\$ rose or became dearer against overseas currencies.
 - D. there was a drought or floods in Australia that destroyed our crops.
21. Which statement about AD is *most* correct?
 - A. Aggregate demand is the total of all types of spending in Australia represented by $C + I + G + X + M$.
 - B. C represents private household consumption of, for example, takeaway food, shelter, cars, holidays and clothes.
 - C. I represents business spending, which would rise if business confidence fell.
 - D. If AD rose, GDP would fall.
22. Concerning the five sector circular flow model of the Australian economy, which statement about the value of aggregate demand and GDP is *true*? The values of aggregate demand or GDP are equal to:
 - A. the total value of $S + T + M$.
 - B. the total value of $C + I + G + X - M$.
 - C. the total value of $C + I + G + X$.
 - D. none of the above.
23. Using table 3.21, which of the following statements about AD in the Australian economy in 2016–17 and 2017–18 is *incorrect*?
 - A. AD was higher in 2017–18 than in 2016–17.
 - B. AD was \$1 731 000 million in 2016–17 and \$1 812 000 million in 2017–18.
 - C. Theoretically, the change in private or household C in 2017–18 may have reflected weaker consumer confidence than existed in 2016–17.
 - D. The value of net exports over the period 2016–17 to 2017–18 did not change and was equal to \$2000 million in both years, thereby tending neither to boost nor slow AD and the rate of economic growth.

TABLE 3.21 Estimates for the Australian economy between 2016–17 and 2017–18

Component	2016–17 (\$ millions)	2017–18 (\$ millions)
Private consumption (C)	964 000	1 029 000
Savings (S)	135 000	138 000
Private investment (I)	364 000	353 000
Tax revenue (T)	364 000	364 000
Government outlays (G)	401 000	428 000
Imports (M)	356 000	387 000
Exports (X)	358 000	389 000

Source: Data rounded and estimated from ABS 5206.0 (Tables 3 and 42), 5506.0 and other.

24. Again, using the data contained in table 3.21 from question 23, which statement about leakages and injections is *most* correct?
- A. The total value of leakages rose between 2016–17 and 2017–18.
 - B. The total value of leakages increased from \$855 500 million in 2016–17 to \$889 000 million in 2017–18.
 - C. The total value of injections was lower in 2016–17 relative to the total value of injections in 2017–18.
 - D. All of the above statements are correct.
25. Which of the following would be *least* likely to increase a country's rate of economic growth?
- A. Increased investment levels and the expansion of capital resources
 - B. Farming methods resulting in better soil management and fertility
 - C. Increased concern over environmental matters and Indigenous land claims (which have reduced access to natural resources)
 - D. The accelerated application of new technology in industry
26. The household and business sectors both interact with the natural environment. Which of the following is an *incorrect* assessment of this relationship?
- A. The household sector uses air, water and energy from the natural environment.
 - B. Eventually, the household and business sectors dispose of waste and garbage into the environment, more or less equal in weight to all the goods ever produced.
 - C. The production of more goods and services always helps improve both material and non-material living standards.
 - D. In promoting economic growth, it is important for both households and businesses to realise that environmental resources such as air and water are not free goods and that the world must reduce its waste of these things.
27. Economic growth often results in:
- A. a fall in the quality of air, the extinction of native plants and animals, and the destruction of healthy rivers and oceans.
 - B. greater consumer choice, better health and longer life expectancy.
 - C. the growth of cities and of urban problems such as traffic congestion and waste disposal.
 - D. all of the above.
28. Which statement is *most* correct? Environmental resources include:
- A. all the gifts of nature as well as those provided by people.
 - B. minerals.
 - C. forests.
 - D. air, oceans and the stratosphere.
29. A negative externality is *best* illustrated by which of the following examples?
- A. You clean up and beautify your front garden, which is visible from the street.
 - B. The club near your house runs its noisy and unruly venue each Friday and Saturday night until 3 am.
 - C. A bauxite mining company restores a damaged mine site and replants the native vegetation.
 - D. You pay for the cost of renovating the inside of your house.
30. Environmental problems have become more severe because:
- A. firms seek to maximise profits, minimise costs and exploit natural and environmental resources for which they are not currently charged a price.
 - B. the recycling of waste by households and firms has been inadequate.
 - C. population pressures and materialism mean more production is necessary.
 - D. all of the above are correct.

31. Which of the following government measures would be *least* effective in helping to combat environmental problems?
- A. Government taxes imposed at higher rates on single-use disposable products.
 - B. Building a new freeway to carry more cars.
 - C. Improving public transport quality, reliability, speed, coverage and comfort.
 - D. Encouraging businesses to use more modern, non-polluting production methods by providing tax incentives, and charging companies that emit CO₂.
32. Which of the following is *not* a weakness of using real GDP per head as a measure of a nation's total welfare or overall living standards?
- A. The value of some production — such as home duties, and the output of the cash and black market economies — is excluded, making GDP an underestimation of the economy's real level of output.
 - B. GDP makes no proper allowance for changes in the number of hours worked and the amount of time that parents have left after work to spend with their children.
 - C. Only the direct costs of production are taken into account, rather than considerations such as the full impact on the quality of the natural environment.
 - D. All of the above are relevant problems or weaknesses.
33. Which of the following is *most* likely? If AD consistently grows at a faster rate than the economy's productive capacity, then:
- A. inflation will probably rise.
 - B. unemployment will rise.
 - C. GDP will rise in proportion.
 - D. none of the above will occur.
34. Concerning the business cycle, which statement is *least* correct?
- A. A period of expansion is normally associated with falling employment.
 - B. Domestic economic stability usually occurs when there is low inflation (an average of around 2–3 per cent a year) and low unemployment (around 4.5–5 per cent of the labour force), and a strong and sustainable rate of economic growth.
 - C. A recession is a small depression where output falls over six or more consecutive months.
 - D. Inflation slows during a contraction.
35. Which of the following would be *least* likely to grow productive capacity and aggregate supply in the long term?
- A. Ongoing reductions in tax rates.
 - B. Restrictions on the level of foreign investment in, and ownership of, Australian industry.
 - C. Promotion of workplace or enterprise bargaining as the system used to determine workers' pay (as opposed to the minimum wage system).
 - D. Encouraging greater competition and cost cutting among rival firms in an industry.

Resources



Digital documents Multiple choice answer grid (doc-31555)
Multiple choice answers (doc-31561)

3.16 Exercise 2: Extended response questions

1. a. Clearly distinguish *material* living standards and *non-material* living standards. (2 marks)
- b. If a nation's real value of GDP in 2020–21 was equal to \$1500 billion and its population was 25 million, *calculate* the average value of real GDP per capita. (1 mark)
- c. To what extent can GDP per capita be used to accurately measure a nation's *overall* living standards? (3 marks)
- d. Identify and explain an *alternative measure* of a society's living standards, explaining why it may be superior to using real GDP per capita. (3 marks)

2. Accurately *define* each of the following economics terms:
 - a. aggregate demand (AD) (1 mark)
 - b. gross domestic product (GDP). (1 mark)
3. a. Neatly draw and fully label a typical business cycle diagram for an economy. (3 marks)
- b. Distinguish a period of *boom* from a period of *recession*. (2 marks)
- c. What is meant by *domestic economic stability*? (2 marks)
4. Economists use the *five sector circular flow model* to help understand how the economy operates and the impact of various events on macroeconomic conditions.
 - a. Neatly draw and fully label a five sector circular flow model representing the Australian economy. (5 marks)
 - b. Distinguish *injections* from *leakages*. (2 marks)
 - c. Recently, the level of consumer confidence *fell* below 100 points. Use the circular flow model to step through the likely *consequences* of this event on the Australian economy, ensuring that your explanation follows a logical sequence. (3 marks)
 - d. Identify a factor that has tended to *accelerate* Australia's level of aggregate demand during the last two years, and explain its likely impacts on the rate of economic growth. (2 marks)
5. a. What are *aggregate supply factors*? Use a fully labelled production possibility diagram to show how more and less favourable aggregate supply factors might theoretically affect Australia's production possibility frontier. (3 marks)
- b. Identify an example of an *aggregate supply factor* and explain how this factor might have tended to *slow* Australia's sustainable rate of *economic growth* in recent years. (3 marks)
- c. Explain how improvements in *education standards and skills* might affect Australia's potential rate of growth in GDP. (2 marks)
6. The Australian government seeks to pursue the goal of a strong and sustainable rate of economic growth.
 - a. There are often *trade-offs* associated with strong economic growth that affect our living standards. Explain what is meant, giving appropriate examples. (4 marks)
 - b. Giving reasons, explain how you would expect *strong rates of economic growth* to affect each of the following:
 - i. the rate of unemployment (2 marks)
 - ii. overall living standards. (2 marks)
7. Over recent years, the Australian government has gradually *reduced* the rates of tax paid by small and medium-sized companies.
 - a. How would you expect this policy to affect the level of *aggregate supply*? (2 marks)
 - b. How would you expect this policy to affect the level of aggregate demand? (2 marks)
8. Recently, Australia's GDP has grown relatively slowly, with very low inflation and higher levels of unemployment than we would like.
 - a. If you were governor of the RBA, explain how you might use *monetary policy* to strengthen our rate of economic growth. (2 marks)
 - b. If you were the federal treasurer, explain how you might use *budgetary policy* to strengthen Australia's rate of economic growth. (2 marks)

Fully worked solutions and sample responses are available in your digital formats.

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Test maker

Create unique tests and exams from our extensive range of questions, including practice exam questions. Access the Assignments section in learnON to begin creating and assigning assessments to students.

3.16 Practice school-assessed tasks

A REPORT ON AN INVESTIGATION OR INQUIRY

A suitable assessment task is to report on an investigation about 'economic growth, long-term economic prosperity and environmental sustainability'. Below are just a few possibilities.

Task 1: Tracking Australia's economic conditions — where have we been and where might we be going?

Background

In the couple of years leading up to mid 2008, the Australian economy experienced near-boom conditions. However, during 2008–09 this was suddenly interrupted by the global financial crisis (GFC) and there was a sharp contraction. Australia narrowly avoided a recession. This was followed in 2010–11 and 2011–12 by a recovery. More recently in the years to 2019, economic growth has been positive averaging 2.5 per cent per year, but below trend. These changes in the rate of economic growth have affected rates of unemployment, inflation, incomes, the government's budget position and living standards.

Outline of the task

Your task is to prepare a brief report, perhaps in PowerPoint format, that tracks changes in Australia's economic conditions (e.g. GDP growth, unemployment, inflation, incomes, and other indicators). From this, you will try to draw conclusions about how these changes have affected Australia's material and non-material living standards.

In order to prepare the report, you will need access to up-to-date statistical data for each indicator of our economic conditions. This information should then be converted into graphs, each accompanied by a comment that interprets what the data shows about our living standards.

Research resources

There is much economic information available on the internet. Often quarterly or monthly data is most useful for spotting changes in the economy's direction, since it is more up-to-date. You might like to use the weblinks in the Resources tab to start your research.

Task 2: 'How big is my environmental footprint and what could I do to reduce it?'

Outline of the task

Economic growth can bring many benefits, but these often come at a cost. A trade-off exists. Your task is to try and conduct an *environmental audit* of your own household and its consumption patterns (affecting your material living standards). Remember, all goods and services have an adverse environmental impact through making, using or disposing of them. At the conclusion of your investigation, you are required to present a short report of your findings, detailing the environmental impact of your lifestyle and what you could do to reduce its environmental impact. This report could be presented in written form, or as an oral class presentation, illustrated using PowerPoint slides.

To give you some background for this task, start by reading figure 3.55 before attempting to calculate your ecological footprint.

Research resources — ecological quizzes

By following the weblinks in the Resources tab, you can use online ecological quizzes to answer some simple questions about your family's lifestyle and calculate the *size* of your ecological footprint. This information can then be used to help you complete your report.

Task 3: Exploring environmental issues

Outline of the task

Use the internet to conduct some research about the effects of economic growth on the environment. At the conclusion of your research, prepare a report about the effects of economic growth on the Earth's climate. The report could be presented to the class as a talk illustrated by PowerPoint slides. Alternatively, you could design a set of wall posters highlighting the effects of economic growth on the Earth's climate.

Research resources

Use the weblinks in the Resources tab to get started.

FIGURE 3.55 'World footprint — Do we fit on the planet?'

World footprint — Do we fit on the planet?

Today humanity uses the equivalent of 1.6 planets to provide the resources we use and absorb our waste. This means it now takes the Earth one year and six months to regenerate what we use in a year.

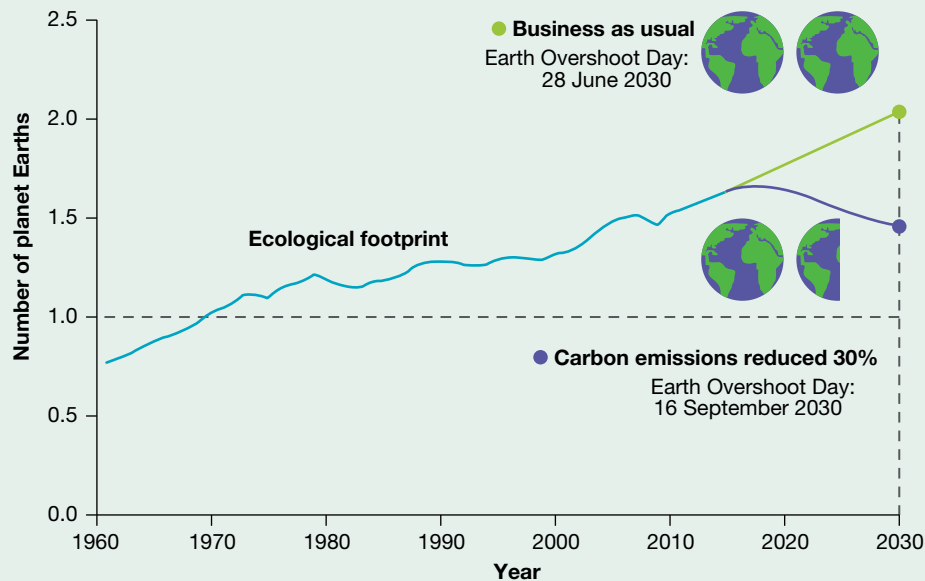
Moderate UN scenarios suggest that if current population and consumption trends continue, by the 2030s, we will need the equivalent of two Earths to

support us. And of course, we only have one.

Turning resources into waste faster than waste can be turned back into resources puts us in global ecological overshoot, depleting the very resources on which human life and biodiversity depend.

Every year Global Footprint Network raises awareness about global

ecological overshoot with our Earth Overshoot Day campaign, which attracts media attention around the world. Earth Overshoot Day is the day on the calendar when humanity has used up the resources that it takes the planet the full year to regenerate. Earth Overshoot Day has moved from early October in 2000 to August 8 in 2016



The result is collapsing fisheries, diminishing forest cover, depletion of fresh water systems, and the build-up of carbon dioxide emissions, which creates problems like global climate change. These are just a few of the most noticeable effects of overshoot.

Overshoot also contributes to resource conflicts and wars, mass migrations, famine, disease and other human tragedies — and tends to have a disproportionate impact on the poor, who cannot buy their way out of the problem by getting resources from somewhere else.

Ending overshoot

The Earth provides all that we need to live and thrive. So what will it take for humanity to live within the means of one planet?

Individuals and institutions worldwide must begin to recognise ecological limits. We must begin to make ecological limits central to our decision making and use human ingenuity to find new ways to live, within the Earth's bounds.

This means investing in technology and infrastructure that will allow us to

operate in a resource-constrained world. It means taking individual action, and creating the public demand for businesses and policy makers to participate.

Using tools like the Ecological Footprint to manage our ecological assets is essential for humanity's survival and success. Knowing how much nature we have, how much we use, and who uses what is the first step, and will allow us to track our progress as we work toward our goal of sustainable, one-planet living.

Source: Global Footprint Network, www.footprintnetwork.org/en/index.php/GFN/page/world_footprint. Updated 19 October 2016.



Weblinks Global Footprint Network
 Ecological Footprint
 Beta EcoCampus
 Island Wood Ecological Footprint Calculator
 Bureau of Meteorology — climate change
 Carbon Pollution Reduction Scheme
 Garnaut Climate Change Review
 Stern review on the economics of climate change

A CLASS DEBATE

Conduct a class debate on *one* of the following topics:

- A.** 'That aggregate supply factors not aggregate demand factors are more important in determining Australia's rate of economic growth.'
- B.** 'That economic growth is more trouble than it is worth.'
- C.** 'The way to fix our massive environmental problems, in both urban and rural areas, is simply to stop economic growth.'
- D.** 'It doesn't take an Albert Einstein to realise that without appropriate policies to limit economic growth, the world will soon run out of resources.'
- E.** 'For environmental reasons, Australia ought to develop nuclear power and use it for generating electricity and water desalination.'
- F.** 'The statistical indicators clearly show that the Australian economy is enjoying the expansionary phase of the business cycle.'
- G.** 'To save the planet, the stark choice facing us is either to reduce material living standards or cut population growth.'
- H.** 'That significant human-induced climate change is a load of nonsense, and attempts by Australia to correct the problem will only harm our living standards and achieve very little globally.'

ECONOMIC SIMULATION ACTIVITY — A ROLE PLAY

The federal government has called a forum to discuss ways of increasing Australia's environmentally sustainable rate of economic growth. Each group listed in table 3.22 is required to deliver a speech (maximum five minutes) in which it makes recommendations.

- In order to start research on your policy proposals, your Economics class should be divided into the various groups that are attending the economic forum.
- After spending a lesson or so preparing your speech, elect a speaker to represent the group.
- At the conclusion of the forum, each student is required to write a media briefing or media article stating the key findings of the forum.

TABLE 3.22 Some possible groups at the economic forum

- | |
|--|
| • The conservationists or 'Greens' |
| • A council representing the interests of immigrants |
| • A union of teachers and educationalists |
| • The business and mining council |
| • Politicians representing the government and opposition |
| • The Australian Council of Trade Unions (ACTU) |
| • Research agencies (e.g. the CSIRO) |

AN ESSAY

Write a 1000-word essay on *one* of the following.

- A. What are the *two* main determinants of the rate of economic growth in Australia?
- B. Discuss whether the benefits of further economic growth are sufficient to outweigh the costs.
- C. Select *three* important personal things that households, businesses or governments can do to help limit the environmental problems associated with economic growth.

A BLOG OF MEDIA COMMENTARIES USING PRINT OR ELECTRONIC MATERIALS

There are millions of bloggers out there and you could be one of them! Setting up a blog can be fun. It will improve your writing, and it allows you to discuss important issues and find out what others think about the topic — *economic growth, economic prosperity and long-term environmental sustainability*.

Once your blog is set up, you could start a discussion related to any number of issues brought to your attention through media commentaries in newspapers and other sources. These might include some of the following:

- the nature of economic trade-offs and opportunity costs
- the latest trends in the Australian or global rate of economic growth
- the drivers or factors affecting the rate of economic growth in Australia and elsewhere
- the economic and non-economic costs and benefits of economic growth
- what is long-term economic prosperity and environmental sustainability
- government policies to affect economic growth
- how useful is real GDP per head as a measure of living standards and wellbeing, and what are the alternatives
- international collaboration and Australian government policies to address environmental issues associated with economic growth.

Use the **Top 100 economics blogs of 2016** weblink in the Resources tab for some samples of economics blogs to get you started.



Resources



Weblink Top 100 economics blogs of 2016

ANALYSIS OF VISUAL EVIDENCE — A CARTOON

There are many cartoons in this topic, as well as those found on the internet, that can be used to extend your understanding of economics. Examine the cartoons using the following questions as a guide.

- What is the economic concept being presented in the cartoon?
- What is the main message of the cartoon?
- What is your reaction to the cartoon? Do you agree with what it is saying?
- Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer.

RESEARCH TASK ABOUT AUSTRALIA'S RECENT RATES OF ECONOMIC GROWTH AND OTHER MACROECONOMIC CONDITIONS.

The task

As you know, the level of economic growth and activity changes, often in a cyclical way. Conduct research and then write a brief report about the following macroeconomic conditions recently found in Australia's economy.

- Using a graph(s), describe the most recent trends in the rate of economic growth (using annual or quarterly changes in real GDP as the measure) as an indicator of the level of economic activity.
- Using a graph(s), describe the most recent trends in a selection of aggregate demand-side conditions or factors (e.g. consumer confidence) affecting AD and therefore the actual level of GDP.
- Using a graph(s), describe the most recent trends in a selection of aggregate supply conditions or factors (e.g. labour productivity) affecting AS and therefore the potential level of GDP.

- Using a graph(s), describe the most recent trends in the unemployment rate (percentage of the labour force).
- Using a graph(s), describe the most recent trends in the rate of inflation (use the annual or quarterly percentage change in the consumer price index or CPI as the measure).

References

The following websites can be used to start your research (remember to footnote each source used):

- Australian Bureau of Statistics (ABS) digital publications
 - number 5206.0 (for real or chain volume GDP); try Tables 1 and 3
 - number 6202.0 for unemployment and employment indicator; try Table 1
 - number 6401.0 for inflation and the CPI; try Table 1
- Trading Economics (data for Australia)
 - Economic growth
 - Unemployment rate
 - Inflation rate
 - Consumer confidence
 - Productivity
 - Business confidence
 - Interest rates
 - The budget deficit
 - Business bankruptcies
 - GDP growth in China
- Reserve Bank of Australia (RBA) Statistics
 - Chart Pack.

Presentation

Your report must include graphs and commentary. You could present this as follows:

- a PowerPoint presentation involving a series of illustrated slides, cartoons, pictures and of course graphs
- a newspaper report or feature article
- a series of graphs with commentary beneath each (perhaps for display on your classroom's pin board).

Resources

-  **Weblinks** Australian Bureau of Statistics (ABS) digital publications
 Trading Economics (data for Australia)
 Reserve Bank of Australia (RBA) Statistics

4 Economic efficiency and equity as contemporary economic issues

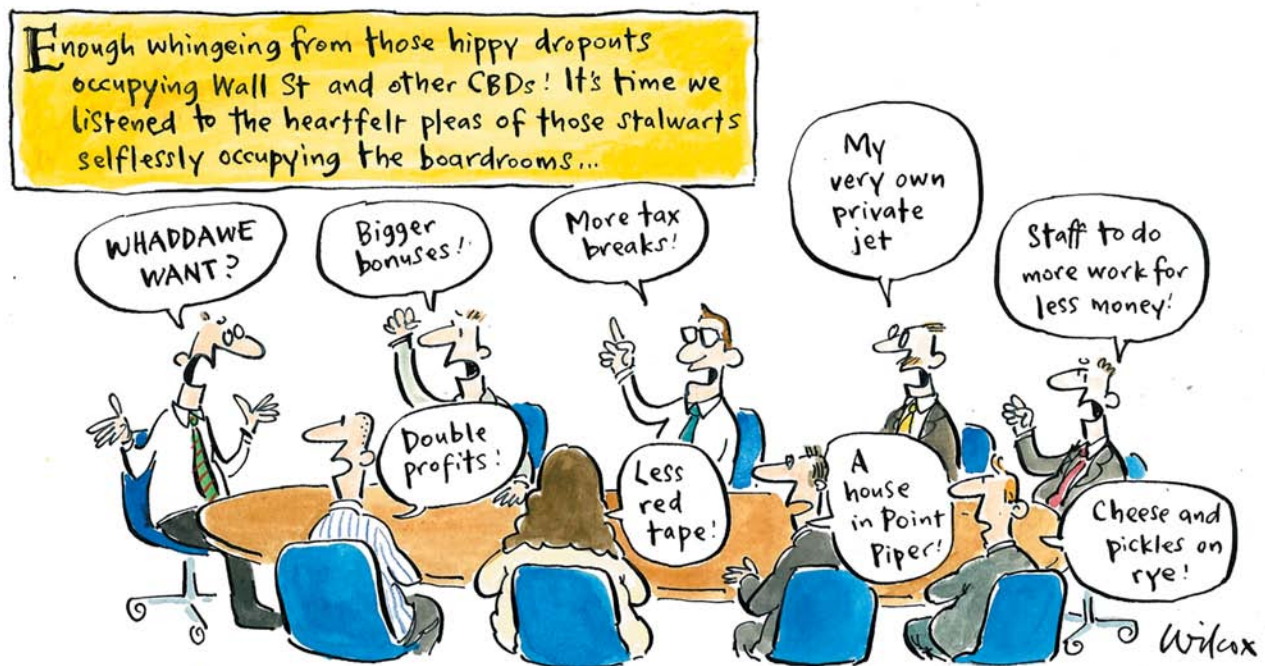
4.1 Overview

Numerous **videos** and **interactivities** are available just where you need them, at the point of learning, in your digital formats, learnON and eBookPLUS at www.jacplus.com.au.

4.1.1 Introduction

The second of five contemporary issues to be explored in Unit 2 is that involving *equity* and *economic efficiency*. On the one hand, efficiency in the use of resources is awfully important because resources are scarce and unless they are put to their most productive use, national output will be relatively low, society's wants will be less satisfied and material living standards undermined. However, unless the goods, services, incomes and opportunities are also shared or distributed fairly or equitably, only some Australians will see improved wellbeing. On this issue, some suggest there is a *trade-off* between the promotion of equity and the advancement of efficiency.

FIGURE 4.1 The 'Occupy' movement (including Occupy Wall Street) is an international movement that focuses on drawing attention to economic and social inequality.





4.1.2 What you will learn

KEY KNOWLEDGE

Use each of the following points from the VCE Economics Study Design as a heading in your summary notes.

- the difference between equity in the distribution of income and equality in the distribution of income
- income: earned and unearned income, transfer income, gross income, disposable income, nominal and real income and social wage income
- measures of income inequality and poverty such as the Lorenz Curve, Gini Coefficient and Henderson Poverty Lines
- the difference between absolute and relative poverty
- causes of income inequality and poverty in Australia and one other nation, such as unequal ownership of factors of production, relative levels of labour demand and labour supply, unemployment, lack of human capital and sovereign indebtedness
- the effect of poverty on material and non-material living standards
- the meaning of economic efficiency and the benefits of achieving allocative and technical efficiency
- economic costs and benefits, and social costs and benefits of achieving equity in the distribution of income
- compatibility and conflict between the goals of equity in the distribution of income and efficiency of resource allocation
- the role of markets in the achievement of equity in the distribution of income and the efficiency of resource allocation
- budgetary policy decisions on the achievement of equity in the distribution of income and the efficient allocation of resources, such as progressive, proportional and regressive taxes, unemployment benefits and subsidisation of merit goods

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- gather and interpret statistical data on income distribution and poverty
- construct appropriate diagrams to represent the degree of income inequality
- identify trends, patterns, similarities and differences in economic data and other information
- identify and discuss factors that influence equity in the distribution of income and efficiency of resource allocation
- discuss the costs and benefits associated with a more equitable distribution of income
- access and synthesise information gathered from a range of sources and draw conclusions.

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.

on Resources

 **Digital document** Key terms glossary (doc-31532)

studyon

To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31544).

4.2 The nature of income and wealth

KEY CONCEPT

- Income: earned and unearned, transfer income, gross income, disposable income, nominal and real income and social wage income

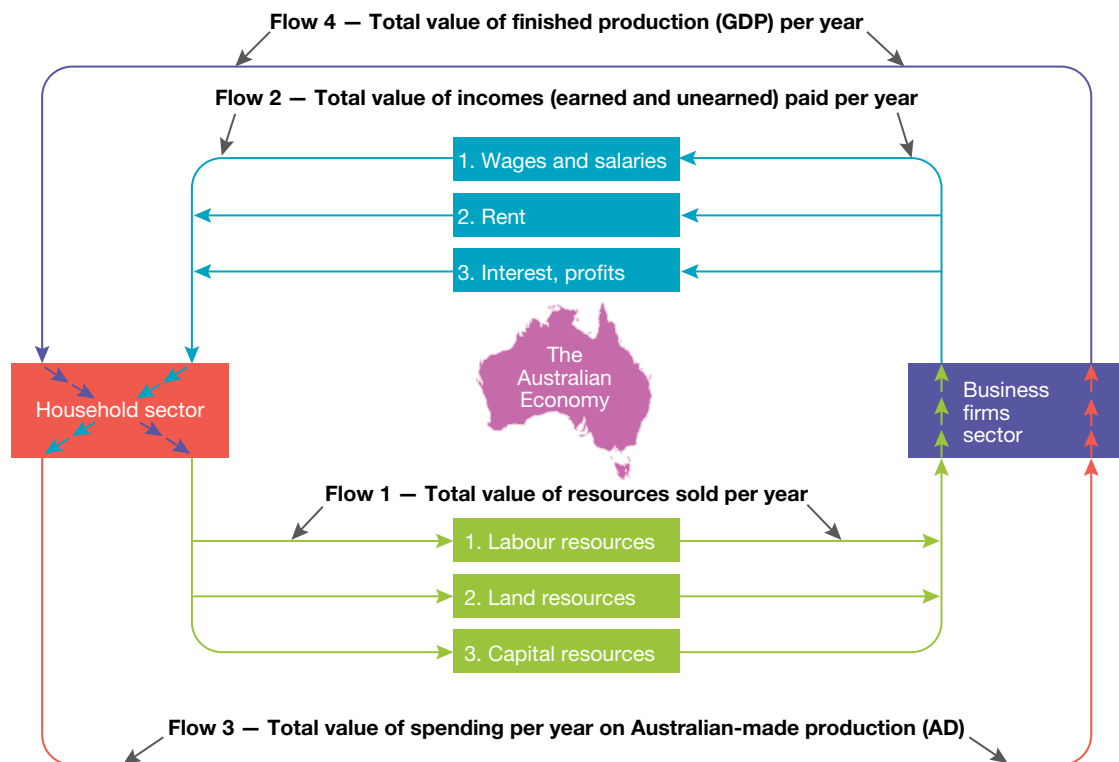
Many people get income and wealth confused. As we shall see, they are not the same thing.

4.2.1 The nature of income

Each year in Australia, a total national income of well over \$1800 billion is generated from the production of goods and services. As shown in figure 4.2, *income* represents the flow of money to households measured over a period of time and is a major influence on consumption levels and our material living standards.

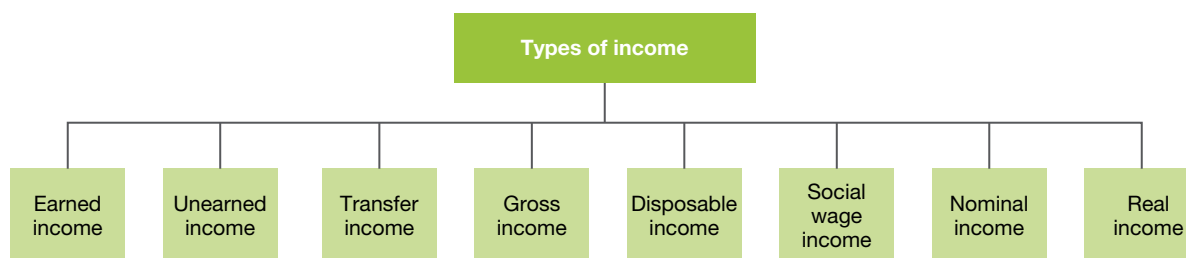
Figure 4.2 also shows that most people gain income from selling their natural, labour and capital resources to the business sector.

FIGURE 4.2 The creation of incomes in the circular flow model of the economy



There are different *types* of income, as shown in figure 4.3.

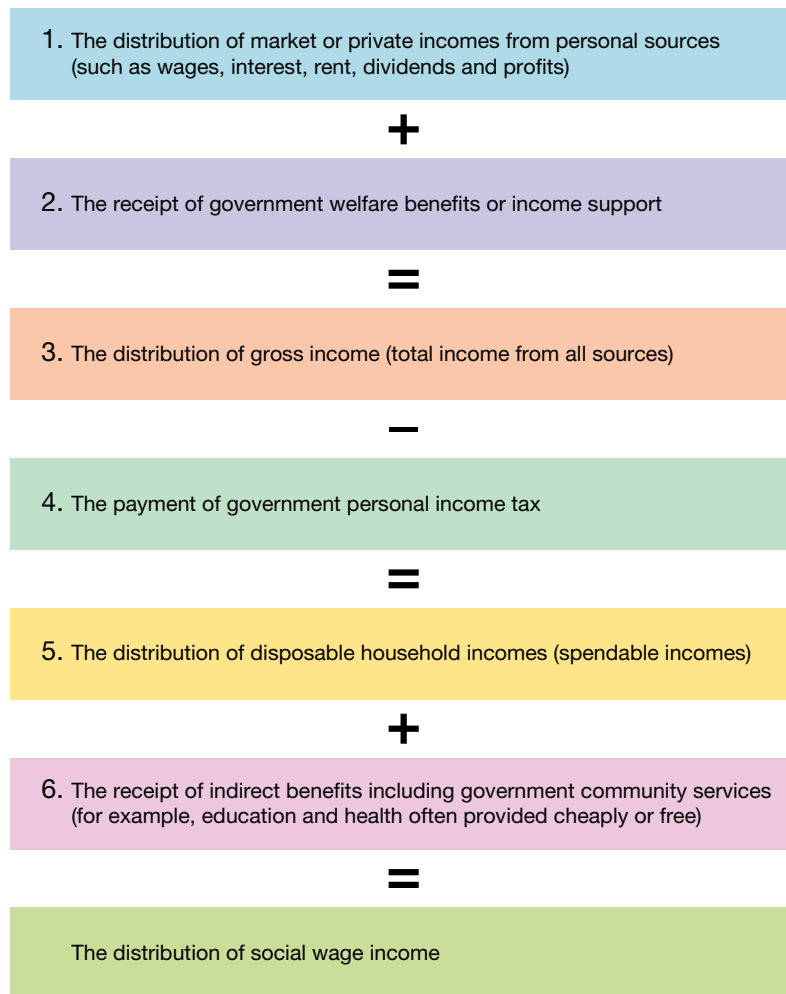
FIGURE 4.3 Different types of income



Type of income	Description
Earned income	Comes from households selling their labour or supplying intellectual talents and physical power to businesses
Unearned income	Includes rent and interest. It is received for allowing others to use your property or savings, or sometimes it represents a reward for risk.
Transfer income and other forms of income	Derived from government welfare payments. This is income mainly collected from taxation and then transferred to the neediest individuals by means of government welfare payments. They are a one-way transaction from the government to individuals where nothing is given in return. These transfers include cash benefits given to the aged, unemployed, families, students, war veterans and the sick. These cash benefits are not available to the relatively rich and higher income earners, since they are based on an assets (wealth) and/or a means (income) test. Finally, there are other types of income — income from superannuation, along with fringe benefits (sometimes referred to as 'perks') such as the provision of a house or car, entertainment or school fees by companies that may be associated with some jobs.
Gross income	The sum of all income received by an individual from various sources such as wages, salaries, rent, interest, dividends and government welfare benefits, but before the payment of taxes
Disposable income	Equals the gross income of a person from all sources including government welfare payments, after the payment of personal income tax
Social wage income	The disposable income received by an individual, including private income and government welfare, after the payment of income tax and following the addition of the value of government services like health care provided free of charge or at a lower, subsidised price. Clearly, the level of a person's social wage income gives a very clear picture of their actual purchasing power or access to goods and services, and hence their material living standards.
Nominal income	The number of dollars of income received by an individual measured over a period of time — perhaps an hour, a week, a month or a year (e.g. \$750 per week). It does not take into account the actual quantity of goods and services that these dollars will purchase (purchasing power), since this depends on the prices that are paid or the general inflation rate that is often measured by the consumer price index (CPI). This is where it is handy to use another measure called real income.
Real income	Equal to a person's nominal level of income measured in so many dollars, after taking into account the inflation rate or change in general level of consumer prices. For example, if the average level of household's nominal incomes went up by, say, 4 per cent during 2017–18 and average consumer prices during the year went up by 3 per cent, then real incomes or purchasing power would have risen by 1 per cent (i.e. 4 per cent rise in nominal income minus 3 per cent rise in inflation equals a 1 per cent rise in real incomes). Normally, the rise in real income would lead to better average material living standards.

The distribution of income is summarised in figure 4.4.

FIGURE 4.4 The distribution of various types of income



4.2.2 The nature of wealth

Wealth is different from income. **Wealth** consists of a *stock* of assets or things of value owned by private individuals or governments, measured at a *point* in time (e.g. at 30 June) while income is a *flow* of money measured over a *period* of time (e.g. one financial year from 1 July one year to 30 June the next year).

In the case of *private wealth*, we normally think of the value of property, houses, shares, bonds, savings, superannuation contributions and antiques or collectables. Government or *public wealth* includes land, buildings, equipment and other infrastructure associated with the provision of collective or public services such as power, transport, health and education.

For most individuals, wealth takes years to accumulate. Those with high incomes can use their surplus income or savings to purchase and expand their assets or wealth and, in turn, increase their level of unearned income. However,

FIGURE 4.5 In February 2019, Australia's rich list was distributed. Gina Rinehart is Australia's wealthiest person (reputedly worth over \$14.8 billion). While some of Gina Rinehart's wealth was inherited from her father's mining company, Hancock Prospecting, many years ago, she has significantly grown these assets, partly through astute decision making.



although it takes a lifetime for most to accumulate wealth, in Australia considerable wealth is inherited or passed from one generation to the next, usually when family members die. These inherited assets can earn extra income for the owner. As a result, inequality in the income–wealth cycle in one generation continues into the next.

4.2 ACTIVITIES

To answer questions online and to receive **immediate feedback** and **sample responses** for every question go to your learnON title at www.jacplus.com.au.

Check your understanding

1. Define the term *income*.
2. Distinguish between the three types of income: earned income, unearned income and transfer income.
3. Define the term *wealth*.
4. Distinguish between income measured as a *flow* and wealth that is measured as a *stock*.
5. Giving examples, what is the difference between *private wealth* and *public wealth*?
6. Explain the *relationship* that exists between income and wealth.

Applied economic exercises

1. (a) What are the main differences between *income* and *wealth*? (2 marks)
 (b) How can income be used to increase your wealth? (1 mark)
 (c) How can wealth help increase your income and material living standards? (1 mark)
 (d) Classify each of the following types of income as *earned*, *unearned* or *transfer income*. (5 marks)

Income	Classification of income
(i) Interest from your savings account	
(ii) Casual wages from your part-time job	
(iii) Dividends from some shares you own	
(iv) The aged pension	
(v) Sales commissions for a job	

- (e) Classify each of the following items as either *income* or *wealth*. (7 marks)

Item	Classification (income or wealth)
(i) Your superannuation account	
(ii) Your at-call savings deposit in the CBA	
(iii) Rent from an apartment you own	
(iv) A small business you own	
(v) The value of your shares in Rio Tinto	
(vi) Your AUSTRALIAN allowance	
(vii) Your old coin and stamp collection	

- (f) Use the information below to calculate:
 - i. the percentage rise in your *real* gross wages between one year and the next (1 mark)
 - ii. the annual percentage change in your real disposable wage. (1 mark)
 - Your annual nominal wage rises by 5.3 per cent.
 - The annual inflation rate is 1.9 per cent.
 - The annual percentage rise in the amount of your total tax is 2.0 per cent.

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4.3 Measures of income inequality and poverty

KEY CONCEPTS

- Measures of income inequality and poverty such as the Lorenz curve, Gini coefficient and Henderson Poverty Lines
- The difference between absolute and relative poverty

It is important that Australia measures changes in income inequality over a period of time, since this affects our wellbeing or living standards.

FIGURE 4.6 The Australian Bureau of Statistics (ABS) helps us monitor changes in the way the nation's 'income cake' is sliced, or divided between different groups, states and occupations. Recent data for Australia and around the world shows a general increase in income and wealth inequality.



4.3.1 Measurement of Australia's income distribution

Income distribution refers to the way the nation's 'income cake' (or 'income pie' as it is often called) is divided or shared between individuals and income units making up the population. The **pattern of income distribution** is regarded as fairly *even* if all people receive similar-sized slices of the income cake. However, in Australia, the distribution pattern is *uneven* because people receive vastly different percentage shares of total national income. Despite this inequality, there would be even more unevenness if the Australian government did not use redistribution policies to reduce inequality.

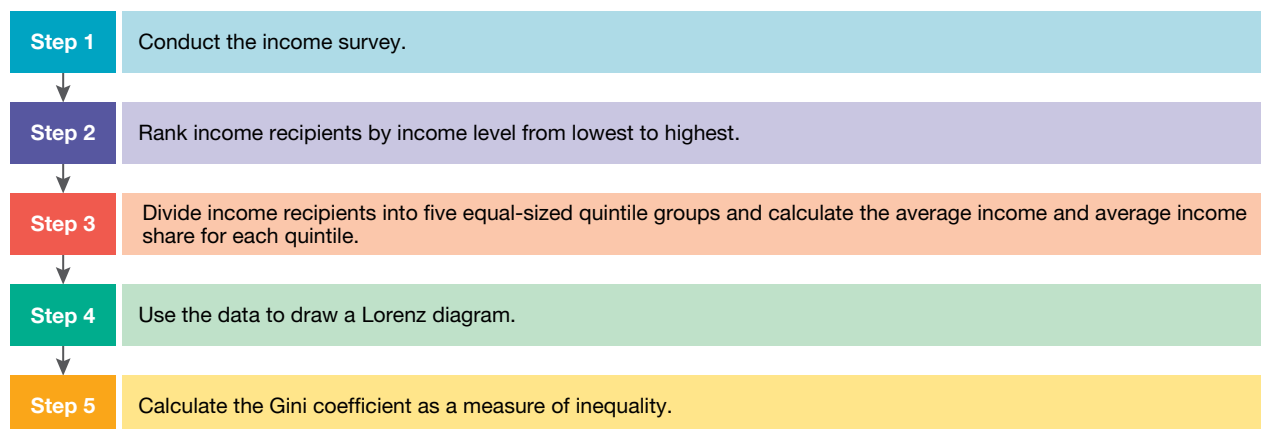
The Australian Bureau of Statistics (ABS) measures *income distribution* every few years (the last in 2017–18, released in July 2019) using a survey of income units (i.e. family or other groupings of people living in the same household) in private dwellings throughout Australia. Trained interviewers go around to a small but representative cross-section of the population (i.e. about 0.2 per cent of the population). Typically, the interviewers collect a range of statistical data that measure the distribution of different types of incomes.

Some common measures of *income distribution* include the following:

- The distribution of **market or private income** refers to how equally or unequally personal incomes of all types (wages, salaries, profits of the self-employed, rent, interest, dividends) are divided, prior to any government efforts to redistribute income more evenly.
- The distribution of **disposable weekly income** refers to how personal or private incomes (wages, salaries, profits of the self-employed, rent, interest and dividends, plus the receipt of government welfare benefits, and *after* the payment of personal income tax) are divided between individuals.
- The distribution of **equivalised disposable income** is a similar measure to disposable income (outlined above), except that special statistical adjustments have been made (i.e. equivalence scales have been applied) to the disposable incomes of households. This allows for clearer comparisons to be made of the economic wellbeing or living standards of households of different sizes and composition. For example, to enjoy the same living standards, a household consisting of three people would normally need more income than a household with only one person. The resulting measure is a far better indicator of actual income distribution, and it is the main one to which we will refer.
- The distribution of **final income** takes full account of the impact of government policies — including the payment of welfare, income tax, provision of free or subsidised services, and the payment of **indirect taxes** such as the GST — on the level of market or private incomes. This measure best indicates how evenly or unevenly incomes are ultimately divided and whether individuals can consume or have access to basic goods and services.

For Australia, the most common measure of how income is shared or divided up is the *distribution of equivalised disposable weekly income*. There are *five* main steps involved in the measurement of this, summarised in figure 4.7.

FIGURE 4.7 The five main steps involved in measuring the distribution of equivalised disposable weekly income



Step 1: Conduct the income survey

The ABS conducts a household survey of income and wealth in which it collects data about the sources and level of weekly income based on a representative cross-section or sample of the population.

Step 2: Rank income recipients by income level

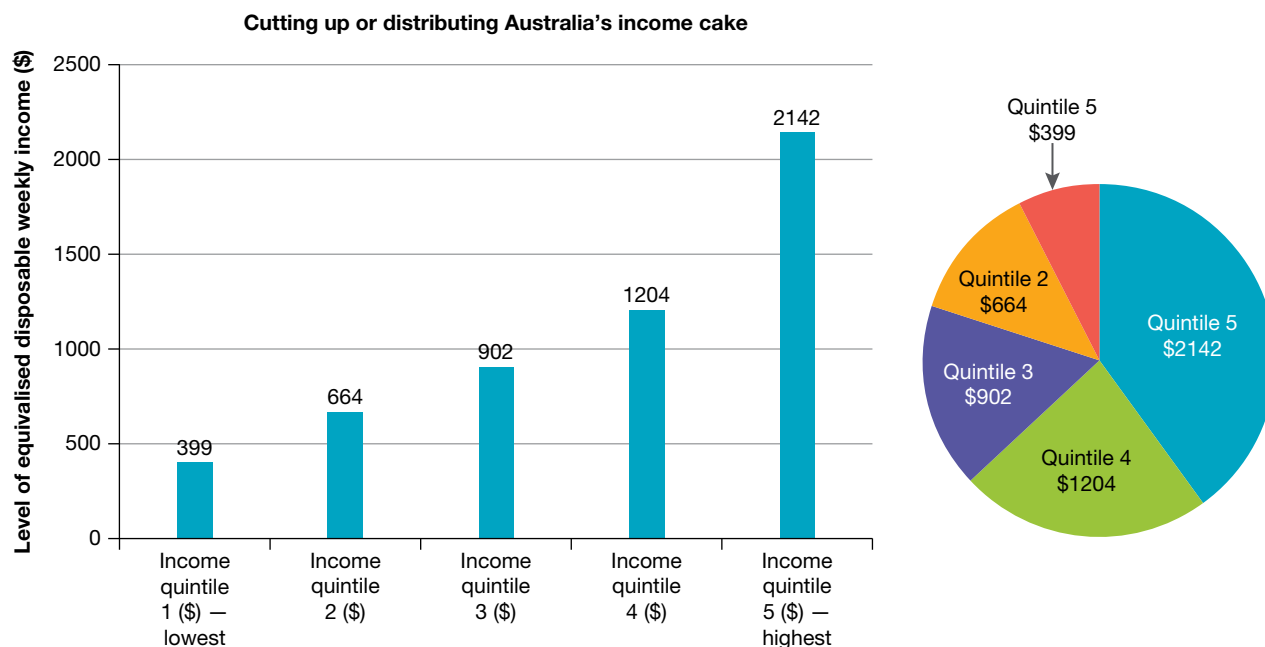
Once the information is collected, the ABS ranks income recipients from the lowest to the highest weekly income in ascending order. This establishes the *spread* or range of all weekly incomes.

Step 3: Divide income recipients into five quintile groups and calculate the average income and average income share for each quintile

The ranked weekly incomes are then broken into *five* equal-sized groups with the same number of income recipients in each group. These five groups are called **quintiles** (each representing 20 per cent of the total number of income recipients).

By adding up the total income of each quintile and dividing this by the number of income recipients, an *average level of income* for that quintile and the other quintiles can be calculated. These results can then be used to draw a pie graph like that in figure 4.8 for 2017–18. This graph for Australia clearly shows that there is significant income inequality between the average income in quintile 1 relative to that in quintile 5. For instance, most recently, quintile 1 receives a mean income of only \$399 per week against \$2142 for quintile 5. Put another way, some people receive a much larger share or slice of the nation's income 'cake' than others.

FIGURE 4.8 Mean equivalised weekly disposable income by quintile, Australia, 2017–18

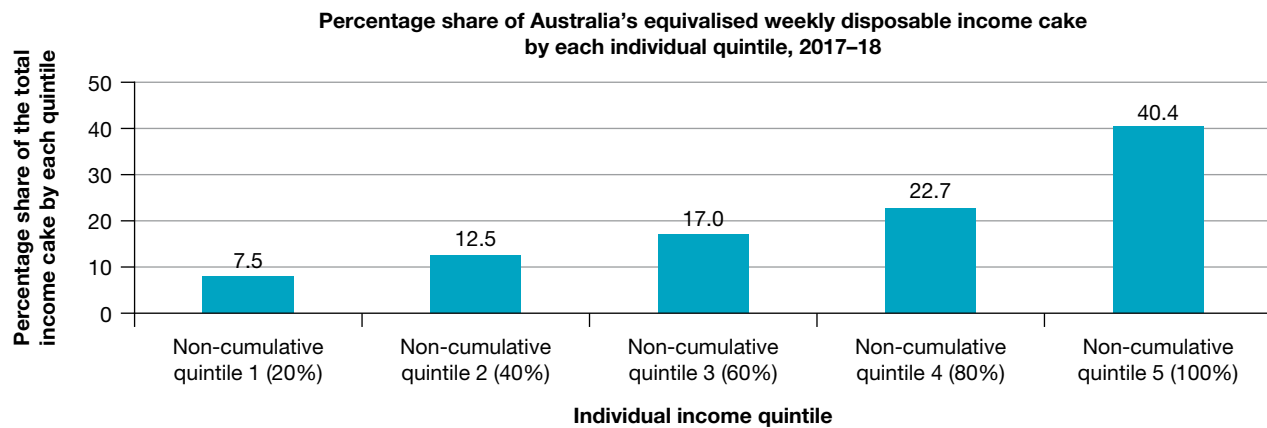


Source: Data derived from ABS 6523.0 (Table 1.1).

In addition, with this data it is also possible to calculate the proportion or *percentage* of Australia's total income cake that is received by each quintile (representing each 20 per cent of the whole population) — those making up quintile number 1 (the lowest 20 per cent of all income units), through quintiles 2, 3 and 4, up to quintile number 5 (the highest 20 per cent of all income units). Naturally, in totally *equal* societies all quintiles would receive exactly the same-sized slice or proportion of the income cake (i.e. 20 per cent). However, as shown in figure 4.9, in *unequal* societies like Australia quintile number 1

would receive a much smaller *percentage* share of the income cake than quintile number 5. Notice that in 2017–18, quintile 1 receives just 7.5 per cent of the income cake, compared with a massive 40.8 per cent for quintile 5.

FIGURE 4.9 Inequality in the share of Australia’s equivalised weekly income received by each quintile



Source: Data derived from ABS 6523.0 (Table 1).

Step 4: Use the data to draw a Lorenz diagram

If we choose to do so, data showing the *percentage* of total income received by each quintile can be used to construct a graph called a **Lorenz diagram**. This can be used to calculate the extent of income inequality in a country. Referring to figure 4.10 (see next page), notice that this Lorenz diagram plots *cumulative quintiles* numbered 1 to 5 along the lower horizontal axis, and the cumulative percentage of equivalised disposable income (i.e. this cumulative figure can be gained by adding up each successive income share) up the vertical axis. Notice, too, that there is a diagonal line representing *total equality* in income distribution where all quintiles receive exactly the same-sized income share and potentially enjoy the same consumption and living standards. The diagram also contains the actual 2017–18 **Lorenz curve** for Australia’s income distribution. Notice that this curve bends downwards away from the diagonal line that represents total equality. The greater this bend or deviation in the Lorenz curve, the greater the degree of inequality, whereas a flatter curve shows more equality in income distribution.

Step 5: Calculate the Gini coefficient as a measure of inequality

Using this data for income distribution, the ABS publishes a general measure of income distribution called the **Gini coefficient**. It is a number between 0 (where there is total equality in income shares) and 1 (where there is total inequality in income shares). This data is shown in the table accompanying figure 4.10. Essentially, the Gini coefficient can be calculated using the Lorenz diagram. It involves measuring the area between the diagonal line of absolute equality and the actual Lorenz curve. The resulting figure is then expressed as a proportion of the total triangular area below the diagonal. This is illustrated in figure 4.11 (see page 250). Gini figures collected over a number of years can also be compared, to determine whether Australia’s inequality in income distribution is increasing or decreasing.

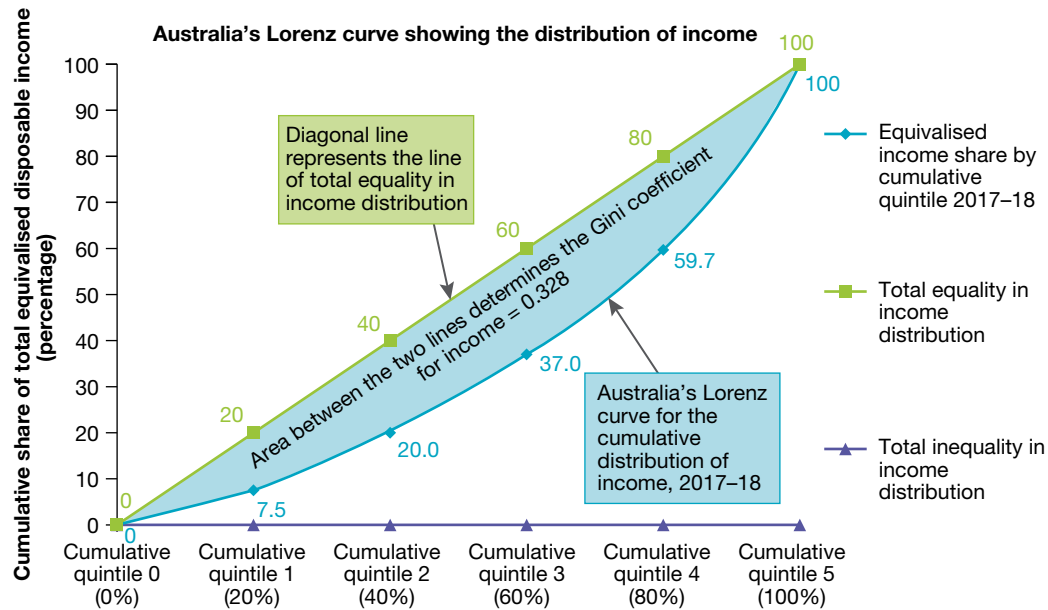
Figure 4.12 (see page 250) shows that between 1994–95 and 2017–18, there was a general upward trend (see the broken trend line marked in green) in Australia’s Gini coefficient for equivalised disposable weekly income. We will investigate the possible reasons for this rise in inequality later in this topic.

Other measures of Australia’s income inequality

Apart from measuring income inequality by quintile, the ABS also measures other aspects of distribution. For example, as shown in figure 4.13 (see page 251), there are at least *three* other Australian measures, and each of these shows considerable income inequality:

- Graph 1 — Australia's distribution of income by *state or territory*; note the higher average income in Western Australia against Tasmania, for example.
- Graph 2 — Australia's distribution of income by *gender*; here, average male weekly incomes in May 2018 are 18 per cent higher than those of females.
- Graph 3 — Australia's distribution of income by *occupation*; for instance, average weekly wages in mining are more than double those in accommodation and food services.

FIGURE 4.10 Lorenz diagram showing inequality in Australia's distribution of equivalised weekly disposable income received by cumulative quintile, 2017–18



Quintile	Cumulative quintile 0 (0%)	Cumulative quintile 1 (20%)	Cumulative quintile 2 (40%)	Cumulative quintile 3 (60%)	Cumulative quintile 4 (80%)	Cumulative quintile 5 (100%)	Gini coefficient
Australia's cumulative equivalised share (percentage) of the total income cake received by cumulative quintile, 2017–18	0	7.5	20.0	37.0	59.7	100	0.328
Cumulative share (percentage) of total income cake if there is total equality in income distribution	0	20	40	60	80	100	0
Cumulative share (percentage) of total income cake if there is total inequality in income distribution	0	0	0	0	0	100	1

Note: Cumulative shares of income are calculated by working out a running total of individual quintiles. Cumulative quintile 2, for instance, is the sum of the individual percentage shares for quintiles 1 and 2.

Source: Data derived from ABS 6523.0 (Table 1.1).

FIGURE 4.11 Calculating the Gini coefficient using a Lorenz diagram

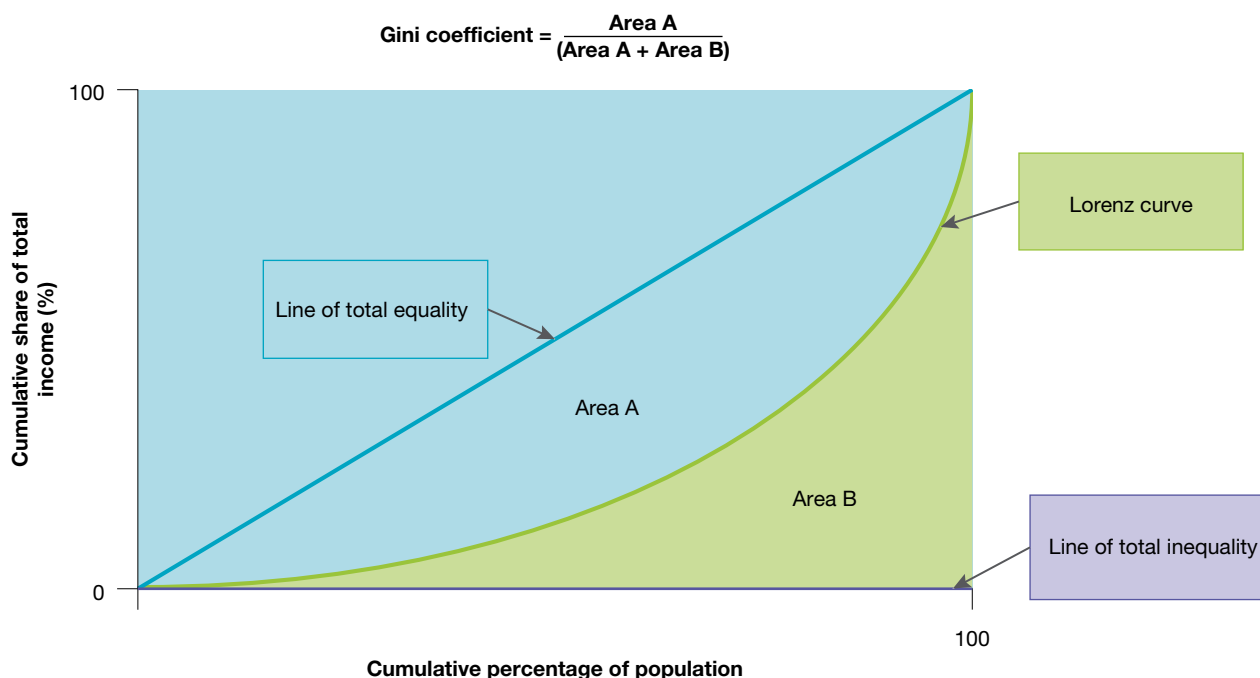
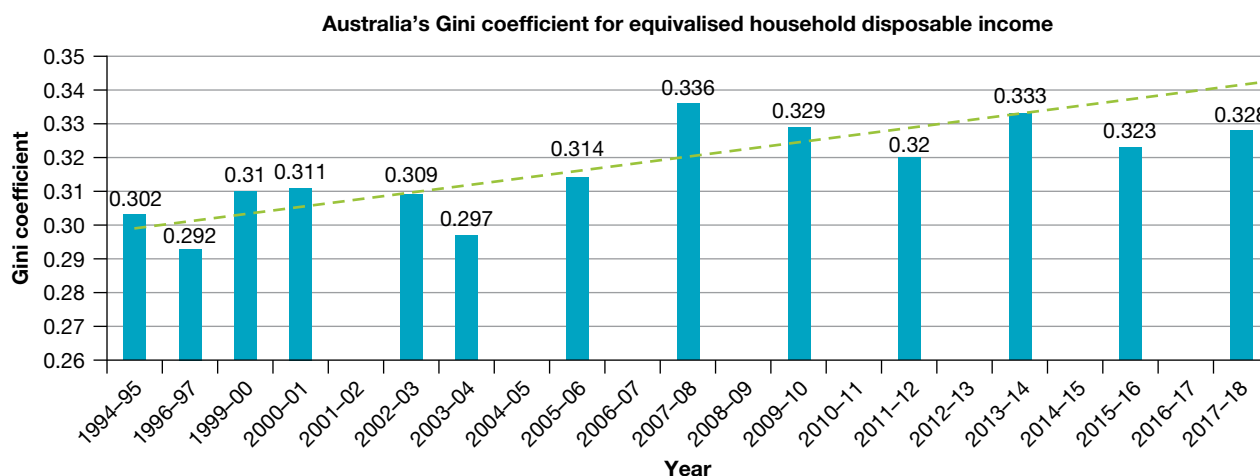


FIGURE 4.12 Trends in Australia's Gini coefficient, 1994–95 to 2017–18



Source: Data derived from ABS 6523.0, Table 1.1.

Note: Another easy way to calculate the Gini coefficient is to use the **Gini coefficient calculator** weblink in the Resources tab, following its instructions and applying the data calculated for income share (%) by quintile.

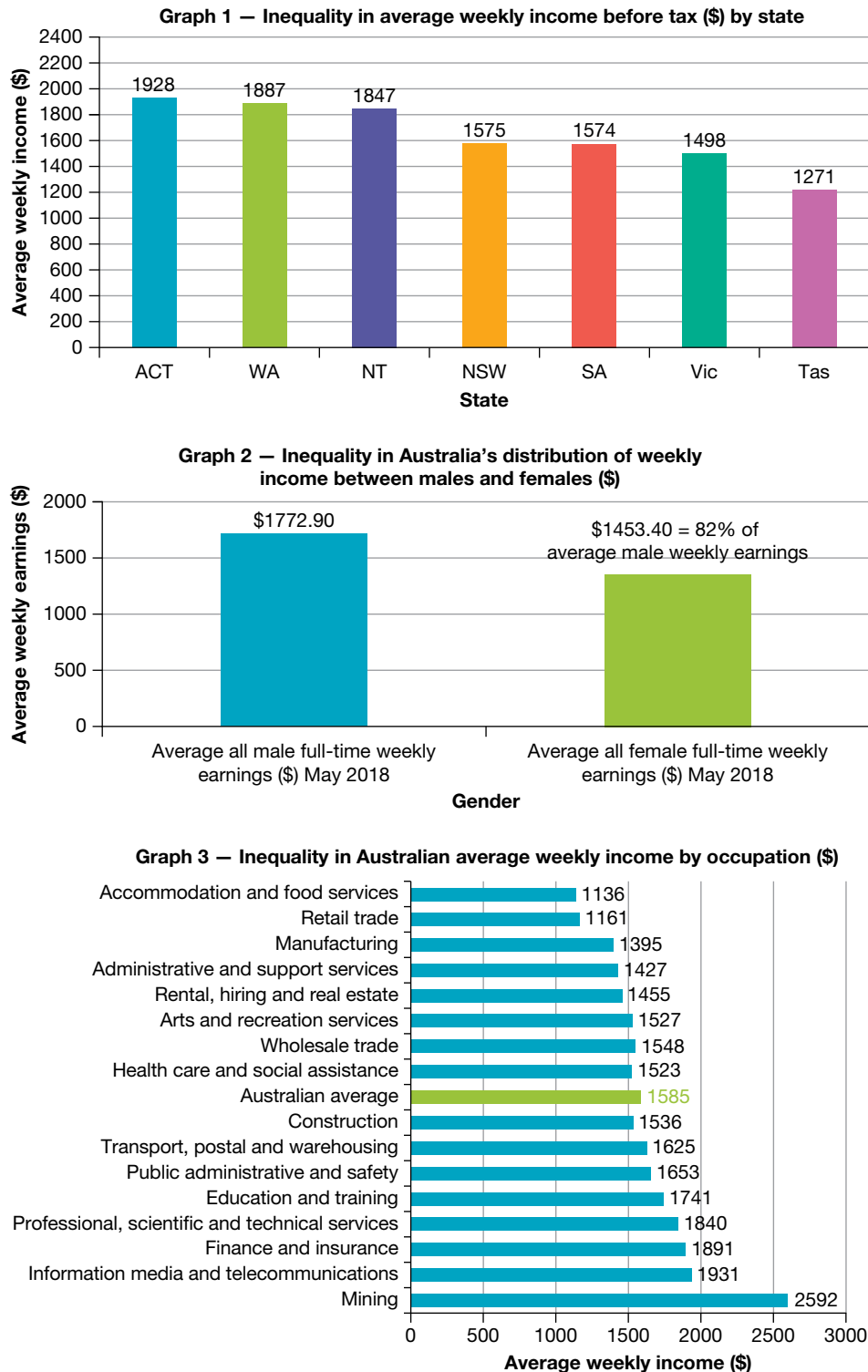
4.3.2 Measurement of Australia's wealth distribution

Every couple of years, the ABS also estimates the distribution of Australia's *wealth*, which is called **net worth**. Net worth is positive when there is an excess of assets owned by households over their liabilities. These data are compiled in the same way as those for the distribution of income by quintile.

As shown in figure 4.14 for 2017–18 (see page 252), a Lorenz diagram and curve for the distribution of Australia's wealth can be drawn. You may notice here that the Lorenz curve for wealth deviates further from the diagonal line of total equality than the curve for disposable income. This suggests that Australia's wealth is divided very unevenly. Indeed, the Gini coefficient for wealth is 0.621, whereas that for equivalised disposable income is just 0.328. In our country, the wealthiest 20 per cent own more than 63 per cent of all wealth.

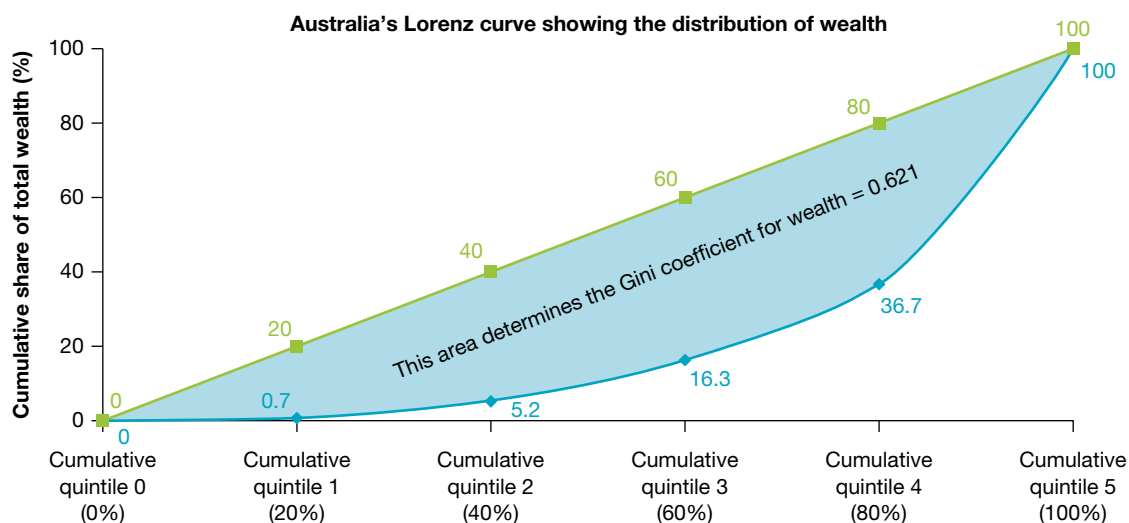
However, while you might think that this seems highly unequal, globally the richest 1 per cent are estimated to own around half of the world's wealth! Surprisingly, a net worth or assets equal to \$100 000 or more (2018) would put an individual in the top 10 per cent of the world's wealthiest. By comparison, it is estimated that the wealthiest 1 per cent of Australian households own around 23 per cent of our total wealth, or more than the bottom 70 per cent of all Australians.

FIGURE 4.13 Three other measures of Australia's income inequality



Source: All data derived from ABS 6302.0 (Table 10G), 6523.0 (Tables 11A to 11 H) and other.

FIGURE 4.14 How evenly does Australia distribute its wealth (net worth) in 2017–18?



Source: Data derived from ABS 6523.0, Table 2.1. **Note:** Cumulative shares of wealth are calculated by working out a running total of individual quintiles. Cumulative quintile 2, for instance, is the sum of the individual percentage shares for quintiles 1 and 2.

4.3.3 Measurement of Australia's poverty rates and the difference between absolute and relative poverty

When most of us think of **poverty** we think of serious material deprivation and the absence of the real necessities to sustain life, as commonly found in Third World nations. However, despite pockets of **absolute poverty** (often in remote Indigenous communities), those measuring Australian poverty usually have **relative poverty** in mind, where people's material living standards are low or austere *relative* to or compared with some changing level deemed acceptable to the community.

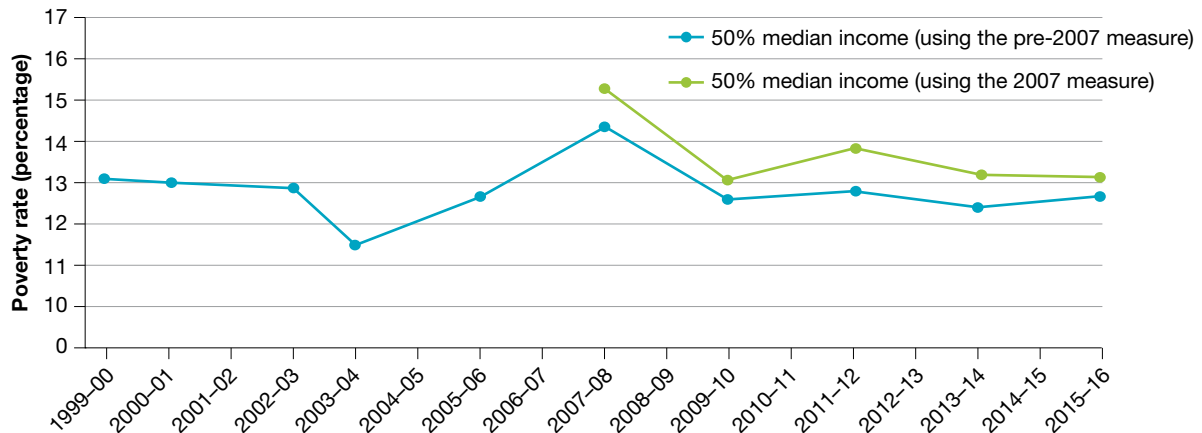
In the 1960s, Professor Ronald Henderson developed a controversial measure called Australia's **poverty line**. This was set at the amount of money required by different-sized **income units** each week to sustain an *austere* or very basic living standard (i.e. to purchase essential food, shelter and clothing, normally set at just 50 per cent of median Australian incomes). For June 2018, for example, the Melbourne Institute for Applied Economic and Social Research estimated that a standard income unit of four (consisting of two parents, one working, plus two dependent children) would need over \$971.05 per week (including housing) to stay above the standard poverty line.

The Australian Council of Social Service (ACOSS) uses the poverty lines to estimate poverty rates:

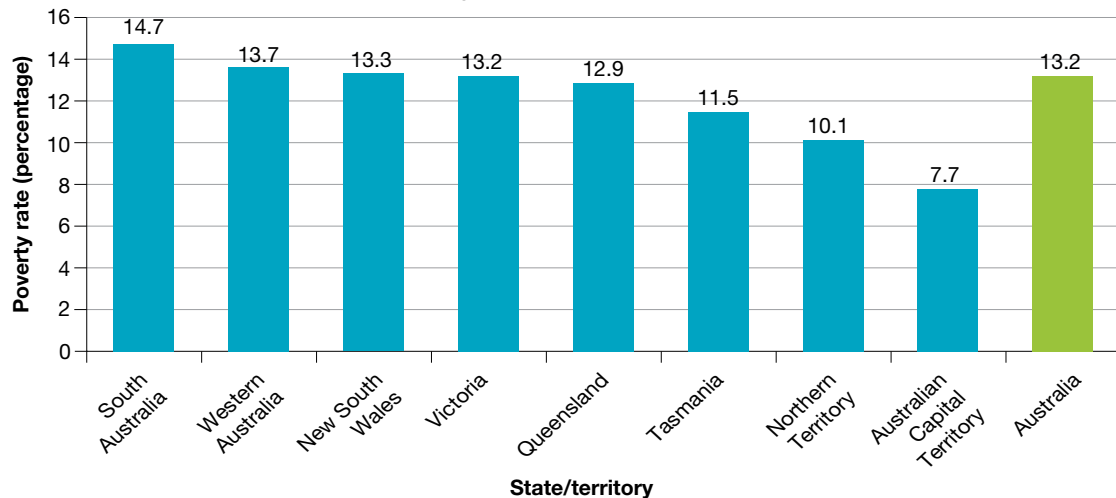
- Graph 1 in figure 4.15 (see next page) shows that, most recently, there are relatively high poverty rates of 13.2 per cent among all Australians, including children. This means that a surprisingly large proportion of the population cannot enjoy even austere living standards. Notice that there are three different years of income data used for comparison and calculating comparable poverty rates.
- Graph 2 indicates that poverty is not distributed evenly among all states. Higher than average rates are found in SA, WA and NSW.
- Graph 3 shows Australian poverty rates among selected groups of individuals. Notice that rates are highest (around 38 to over 67 per cent) among those who are unemployed, on welfare, living in lone parent families, or living in very remote Indigenous communities.

FIGURE 4.15 Some dimensions of poverty in Australia

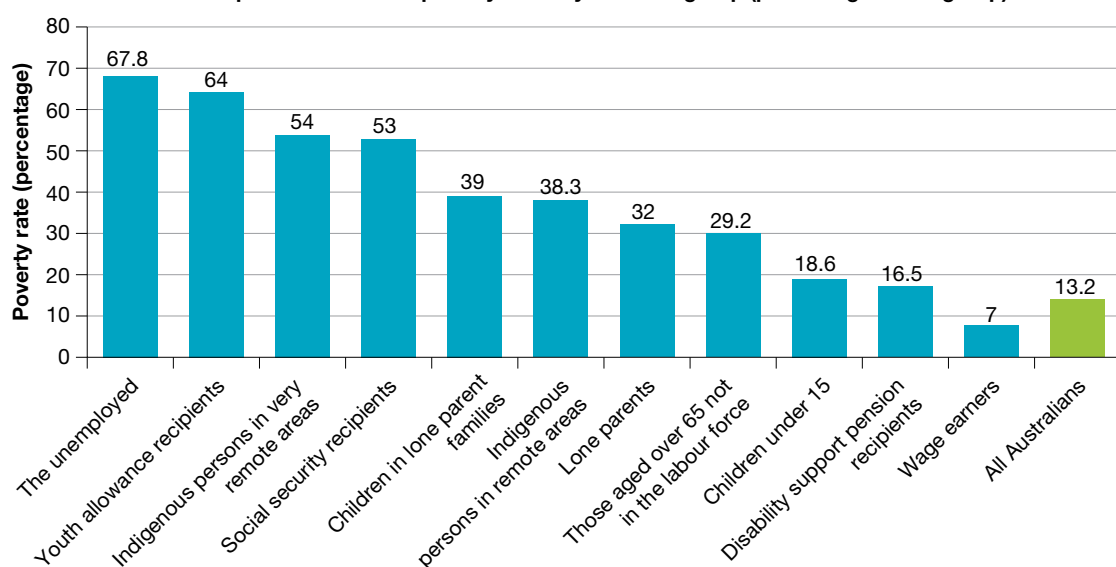
Graph 1 — Trends in Australia's poverty rate (measured at 50 per cent of median incomes after allowing for housing)



Graph 2 — Poverty rate (percentage below the poverty line set at 50 per cent of median income)



Graph 3 — Australian poverty rates by selected group (percentage of the group)



Source: Graph 1 is copied directly from ACOSS & UNSW, *Poverty in Australia, 2018*, p. 32, see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf; graphs 2 and 3 are derived from ACOSS and UNSW, *Poverty in Australia, 2018*, see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf.

-  **Weblinks** Inequality in Australia: A nation divided
 Inequality in Australia
 Wealth inequality in America
 Global wealth inequality
 Gini coefficient calculator

4.3 ACTIVITIES

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Check your understanding

1. What is meant by the *distribution of income*?
2. Outline the extent of income inequality in Australia.
3. How is the distribution of income *measured* by the ABS?
4. What is the Lorenz diagram?
5. Concerning the Lorenz diagram, explain the following:
 - (a) the distribution of income by quintile
 - (b) the line of total equality
 - (c) the Lorenz curve
 - (d) the Gini coefficient.
6. What is meant by the *distribution of wealth* (net worth)?
7. What is relative poverty and how is it commonly measured in Australia?

Applied economic exercises

1. (a) Explain how a nation's pattern of income *distribution* is likely to affect material living standards. **(2 marks)**
 (b) What is the difference between market or *private income* and *equivalised disposable income*? **(2 marks)**
 (c) Explain the steps whereby the ABS measures the *distribution of income*. **(4 marks)**
 (d) Examine the statistics shown in table 4.1 relating to Australia's distribution of equivalised disposable income and wealth (net worth) by individual quintile and cumulative quintile for 2017–18.

TABLE 4.1 The distribution of Australia's equivalised disposable income and wealth by quintile (percentage)

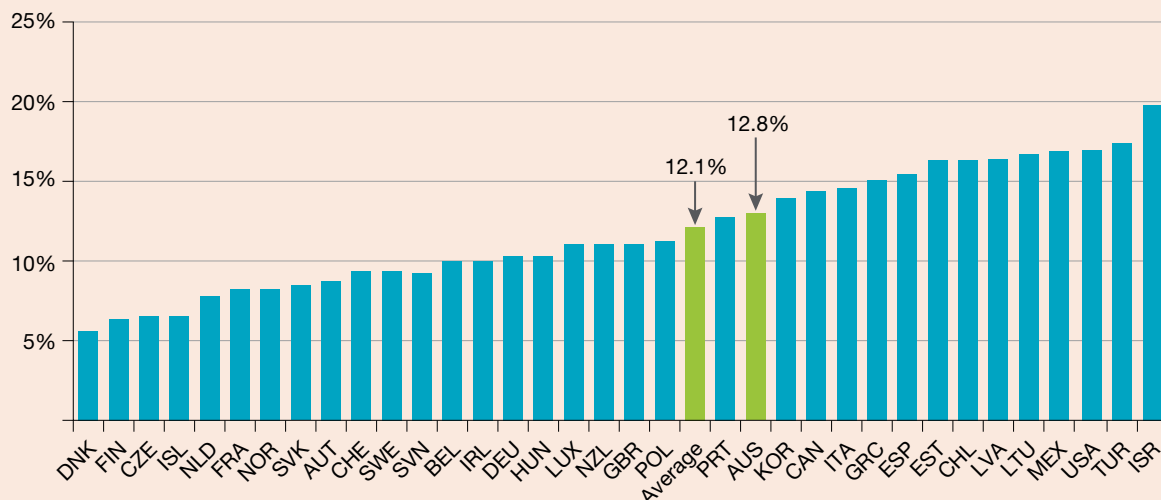
Quintile	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Disposable income share by individual quintile, 2017–18	7.5	12.5	17.0	22.7	40.4
Disposable income share by cumulative quintile, 2017–18	7.5	20.0	37.0	59.7	100.0
Net wealth share by individual quintile, 2017–18	0.7	4.5	11.1	20.4	63.4
Net wealth share by cumulative quintile, 2017–18	0.7	5.2	16.3	36.7	100.0

Source: Data derived from ABS 6523.0 (Tables 1.1 and 2.1), 2017–18.

- Use the data to draw and fully label a Lorenz diagram that shows the following (on graph paper or using Excel and your computer): **(3 marks)**
- fully labelled axes and scales
 - the line of absolute equality in income and wealth distribution

- the line of absolute inequality in income and wealth distribution
 - the two Lorenz curves — one for the distribution of equivalised disposable income and one for net worth or wealth for Australia, 2017–18. (Note: Use the cumulative quintile data for drawing these curves.)
- (e) Quoting statistics from table 4.1 and your Lorenz diagram for different quintiles, describe the *patterns* of Australia's distribution of:
- equivalised disposable income (2 marks)
 - net worth or wealth. (2 marks)
- (f) What is the Gini coefficient and how is it measured? Using the Lorenz graph you have just created, try to estimate the Gini coefficient for the distribution of Australia's equivalised disposable income and one for net worth or wealth in 2017–18. For each, the number will be one between 0 and 1. This can be done roughly by expressing the area between the diagonal and the curve as a proportion of the total triangular area for the lower part of the Lorenz diagram. (2 marks)
- (g) What is the difference between *absolute poverty* and *relative poverty*? (2 marks)
- (h) Explain what is meant by the *poverty line*. Which groups of Australians are most likely to live in poverty? (3 marks)
- (i) Examine figure 4.16 comparing poverty in different countries. Which OECD country has the highest rate of poverty, and which has the lowest? How does Australia's rate compare? (2 marks)

FIGURE 4.16 Comparison of poverty rates in OECD nations including Australia, 2014–15 (as percentage of the population)



Source: OECD (2018): *Poverty rate (indicator)*. doi:10.1787/Ofe1315d-en

Note: Data is for 2015 for all countries except for Australia (2013–14), and Hungary, Israel and New Zealand (2014).

Note: THE OCED uses a different poverty measure to that applied in this research.

Source: Graph copied directly from ACOSS & UNSW, *Poverty in Australia, 2018*, p. 30, quoting the OECD Poverty rate (indicator) data (2018), see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf.

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4.4 Causes of income inequality and poverty in Australia

KEY CONCEPT

- Causes of income inequality and poverty in Australia, such as unequal ownership of factors of production, relative levels of labour demand and labour supply, unemployment, lack of human capital and sovereign indebtedness

As we shall see, there are many factors (including those shown in figure 4.17), causing poverty and inequality in Australia's distribution of income, which in turn lead to large variations in people's material living standards.

FIGURE 4.17 Some causes of income inequality and poverty in Australia



4.4.1 The operation of forces in the labour market causes wage inequality

Perhaps the most important cause of *wage inequality* in Australia is the normal operation of market forces (see demand–supply analysis in topic 2). In our economy, wages are determined in the *labour market* and simply represent the *price* paid for labour. Wage levels in different occupations largely reflect the *relative scarcity of different types of worker*, and are thus determined by the varying conditions of demand (D) for each type of labour relative to its supply (S). This is hypothetically illustrated in figure 4.18.

FIGURE 4.18 How the demand and supply of labour in an unregulated labour market cause wage inequality, reflecting the relative scarcity of different occupations

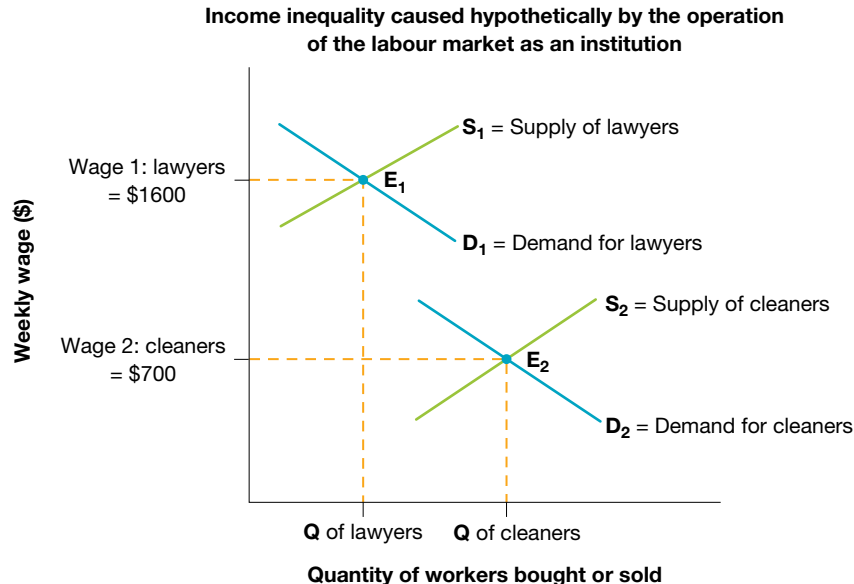


Figure 4.18 shows that wages for lawyers and cleaners (or any other occupation) are set at *equilibrium* where their demand and supply in the labour market are exactly equal (i.e. where $D = S$).

Well-paid jobs (e.g. successful AFL footballers, pop stars, CEOs, lawyers, ICT innovators) are those where the *supply* of labour is relatively *limited*. For example, S₁ shows the supply of successful lawyers or AFL footballers is less than the supply of cleaners, S₂, at a given wage or price. The supply of some types of labour may be limited due to:

- the need for special talent
- high educational or training qualifications
- much skill
- low likelihood of success
- substantial on-the-job experience required
- unattractive working conditions (e.g. long hours, dangerous or unpleasant environment)
- very high levels of personal responsibility and care (e.g. brain surgeons, air traffic controllers).

FIGURE 4.19 Jobs that require high educational or training qualifications generally have a more limited supply of labour and therefore command higher wages.



By contrast, *low paid occupations* (e.g. part-time junior workers at a takeaway food outlet, cleaners) have few special job requirements that limit the number of workers available (S_2 represents the supply of cleaners).

In addition, *high wages* may also reflect a relatively *strong demand* for a person's services at a given wage or price. Here, for example, a relatively high demand for a particular type of labour (D_1 represents the demand for successful lawyers or AFL footballers, for example) may be the result of:

- the value of output produced by the particular worker
- fashions and tastes change in favour of some goods and services (e.g. some pop stars and sporting heroes)
- technological advances that cause increased demand for a new good or service
- effective advertising or promotion of a good or service
- rises in average disposable incomes
- generally improved economic conditions.

Against these strong conditions, a *weak demand* for a given occupation (D_2 represents the demand for cleaners) can cause market wages to be fairly low.

Whatever the reason, wage differences due to the operation of the labour market cause inequality in incomes, consumption levels and material living standards.

4.4.2 Unemployment and reduced hours of work cause income inequality

One of the most obvious causes of inequality in both income and wealth is *high unemployment* (e.g. over 30 per cent in the Great Depression of 1929–33, 11 per cent in the recession of 1992–93, a monthly peak of 5.8 per cent during 2009–10 following the global financial crisis, over 6 per cent in early 2016 and then down to around 5.2 per cent in June 2019).

As we know, unemployment can follow a drop in aggregate demand (e.g. due to a fall in consumer or business confidence or a drop in income) which occurs in a recession, or it may be the result of structural change (e.g. firms restructure operations using new technology, closing unprofitable branches, relocating overseas, a mismatch of worker skills with the jobs available). Whatever the case, when individuals lose their job and cannot sell their labour resources, they are forced onto government welfare benefits. Typically, their income drops sharply from full-time adult average weekly earnings of over \$1700 to perhaps only \$250 to \$350 a week on welfare. For some, this means poverty. Part-time and casual workers also face a greater likelihood of lower incomes and poverty than full-time employees.

In addition, the unemployed run down their wealth and use up their assets, such as savings or shares, just trying to make ends meet. With less interest and dividends received from savings, this also causes their income to fall. In addition, if they are unable to meet home mortgage and other interest repayments, their assets can be repossessed, lowering their share of wealth. As a result, material living standards fall.



4.4.3 Rapid inflation causes income inequality

Inflation (generally rising consumer prices) can also cause inequality in both income and wealth, usually in favour of the better-off sections of society. For example, speculators buying shares and land when prices are low — and selling them when inflation causes prices to rise — often do well from inflation (as in the middle to late 1980s, 2000–01, 2005–08 and 2010–18 when property prices rose significantly). Their share of the income cake tends to increase relative to others. Typically, these people are the rich, with sufficient savings or credit rating to permit speculative activities.

By contrast, ordinary working families and retirees on relatively fixed incomes often find that their wages and incomes rise less quickly than prices. Paying bills and buying food become more difficult. In addition, purchasing a house is less affordable because of higher property prices and interest rates on money borrowed from the bank. This adds to income inequality and erodes living standards.

4.4.4 Ownership and inheritance of wealth cause inequality

Income is not only earned by selling one's labour. Income such as interest, rent, dividends and profits can also come from the ownership and sale of assets or wealth such as property, shares, bank deposits, superannuation and businesses. Because Australia's wealth is distributed very unevenly, it is not surprising that income from these sources leads to inequality.

In addition, the existence of *inheritance* of wealth also leads to inequality in income and wealth. Here, assets are handed down from older to younger generations, now unrestricted by the existence of death duties. Although perhaps 80 per cent of Australia's wealthiest 200 have self-made fortunes, inheritance certainly gives the lucky few a great head-start financially. Their inherited wealth can be used to increase income and savings, and thus generate even more wealth. Here we might think of individuals like Blair Parry-Okeden (media), James Packer (media), Gina Rinehart (mining) and Warwick Fairfax (media).

4.4.5 Overseas economic conditions cause income inequality

Overseas economic conditions can cause income inequality. When there is strong economic growth abroad among our trading partners (e.g. in China, 2009–12), Australian mineral exporters and their workers find that rising commodity prices and sales cause their incomes to increase, often faster than others in the community. For example, during the mining boom to 2013, mining states like WA saw increased employment and rising incomes against those in non-mining and manufacturing states like Tasmania. Interstate income inequality increased. By comparison, the general slowdown abroad seen in 2013–17 ended the mining boom, increased unemployment and slowed incomes, resulting in relatively lower living standards and a decline in asset values in former mining states. For example, Australia's richest person, Gina Rinehart, saw her personal wealth and income fall during the decline in mineral prices in the three years ending 2017.

4.4.6 Age can cause income inequality

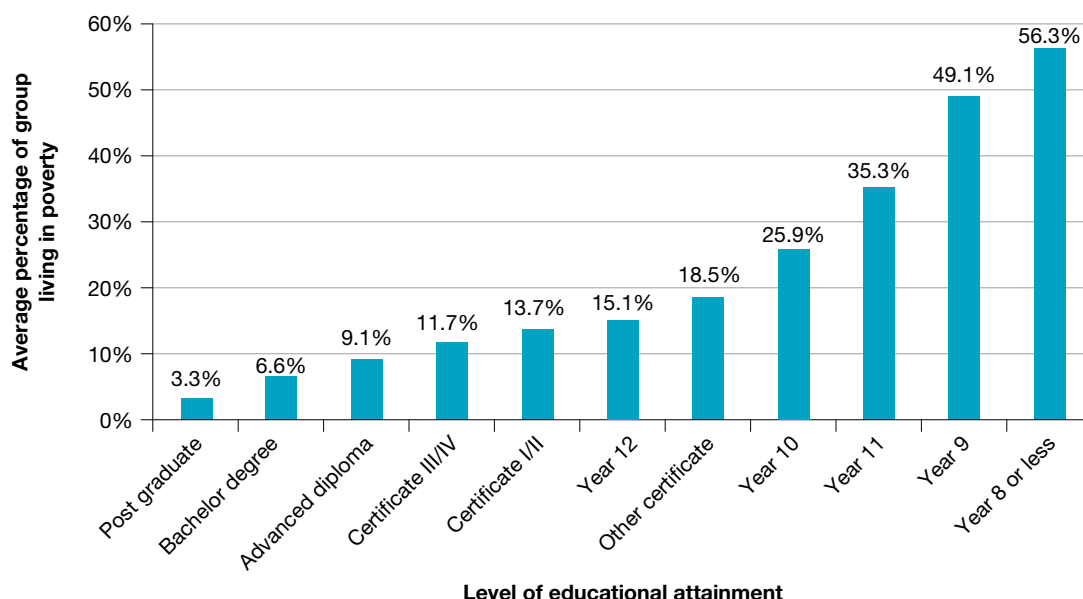
For most people, the peak in their income-earning capacity occurs when they are in the 35–49-year-old age group. In contrast, there are two age groups that often suffer low incomes and a lack of wealth:

- The *very young* sometimes find it hard to get their first job, perhaps because of a lack of work experience, training, skill or, in a few cases, a poor 'work ethic'. Consequently, youth unemployment is relatively high (around 11.9 per cent in 2018–19) and their income share is low. In addition, most of these young people have not yet had time to accumulate assets or wealth.
- The *aged* who can no longer work often depend on welfare benefits (e.g. the age pension), past savings and, for the lucky few, superannuation. Because their assets are inadequate, seniors often endure lower living standards. In addition, those over 50 often find it harder to gain employment, thereby reducing average incomes.

4.4.7 Low educational attainment causes income inequality

Educational attainment has a powerful influence on income, poverty and living standards. Those with no formal education, or who leave school by the age of 15, usually have incomes 40+ per cent lower than those with tertiary qualifications. This is because the labour market usually values educated people more highly than those without such training. Figure 4.20, for instance, shows that while highly educated individuals with post-graduate qualifications are unlikely to experience poverty (just 3.3 per cent), those who left school in Year 8 or earlier were very likely (56.3 per cent) to end up in poverty.

FIGURE 4.20 How lower educational attainment affects poverty rates



Source: Graph copied from NATSEM 2013, *Poverty and Social Exclusion and Disadvantage in Australia*, p. 22, figure 9, see <http://www.natsem.canberra.edu.au/storage/Poverty-Social-Exclusion-and-Disadvantage.pdf>.

4.4.8 Discrimination causes income inequality

Because of the existence of *discrimination* in employment, unfortunately not all groups of Australians are given the same opportunities to earn income and enjoy reasonable living standards. Despite anti-discrimination legislation, this problem is more commonly reported among females, the aged, the young, Indigenous groups, people with a disability and some ethnic groups (e.g. from non-English speaking countries).

More specifically, whether mostly due to discrimination of other causes (such as differences in educational attainment, work ethic, language issues, interruption to employment), for one reason or another, female average income is just 82 per cent of that for males, Indigenous Australians average weekly income was just 64 per cent of other Australians, and income of those with a disability was just 49 per cent of other Australians.

4.4.9 A weaker 'work ethic' and personal choices can cause income inequality

In some cases, a poor 'work ethic' or attitude results in individuals being unable to gain or keep their job. The problems could be rudeness or a negative manner, lateness in arriving for work, lack of effort, or unsatisfactory dress and personal appearance. This can make some people less employable and lead to exclusion from the labour force. This then leads to lower incomes and material living standards.

Of course, some individuals simply do not want to spend their life working, and a better work–life balance is an important consideration for them.

FIGURE 4.21 Because income and wealth are shared unevenly in Australia, some people cannot enjoy reasonable living standards or gain access to basic goods and services at a level that is generally seen as acceptable to society. Indeed, Indigenous Australians sometimes live in Third World conditions and on average, Indigenous incomes are over 40 per cent lower than that of other Australians, life expectancy is 20 per cent shorter, and the Year 12 education retention rate is only about half that of the non-Indigenous rate.



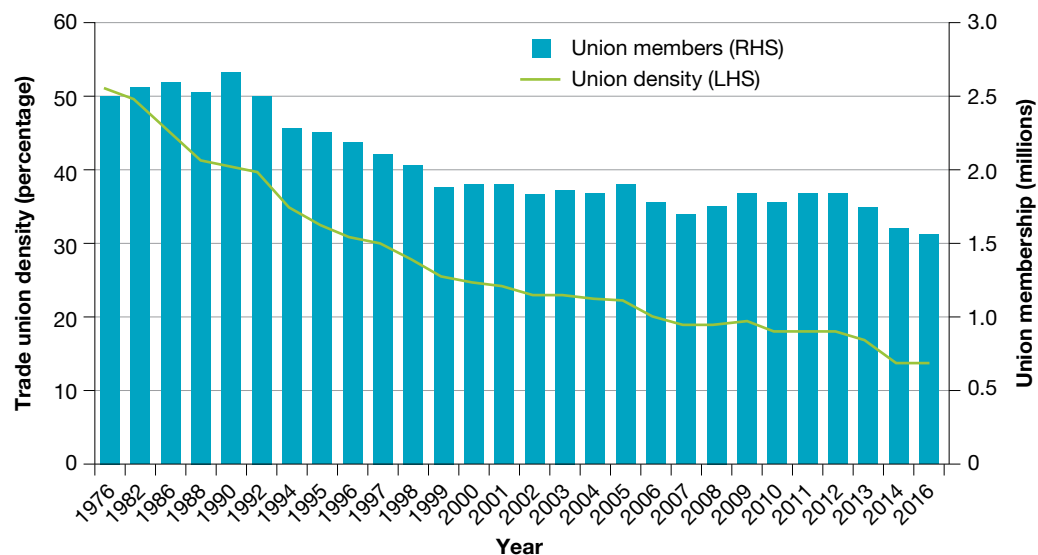
4.4.10 Luck increases inequality in income and wealth

Some people have a ‘lucky streak’ in them and stumble onto a fortune: each week’s lottery winners, successful speculators, chance discoveries of valuable minerals or technical inventions. This results in high incomes and wealth for some.

4.4.11 Declining unionism may increase inequality

Over the past few decades, there has been a dramatic decline of union membership among workers. Figure 4.22 shows that following a peak of 53 per cent in 1990, the overall unionisation of the labour force has fallen to around 15 per cent by late 2018. This means that there is now less protection of workers from wage exploitation and unsafe working conditions. Even so, it is likely that union membership still affects the income difference between unionised and non-unionised workers. There is some evidence that pay rises are faster in occupations that are more highly unionised.

FIGURE 4.22 Trends in Australia’s number of union members and membership rate as a percentage of all employees



Source: Graph copied directly from Parliament of Australia, Trends in union membership in Australia, 15 October 2018, see https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1819/UnionMembership#_Toc527380727.

4.4.12 Some government policies have contributed to income inequality

As we shall see later, the Australian government uses policies like progressive taxes with higher marginal rates for the rich, and welfare payments and free services for the neediest, to help promote the **goal of an equitable income distribution**. An equitable distribution of income would give everyone access to basic goods and services, and every person could enjoy a reasonable standard of living at a level deemed generally acceptable by most in society. There would be no absolute poverty, and the gap between high- and low-income earners would be moderate. However, it is unfortunate that in the short term some government policies designed to increase efficiency may have contributed to income inequality and poverty. Sometimes there is a trade-off. For example:

- *Tariff cuts* (e.g. reduced taxes on imports like those that occurred in 2010 and again in 2015) stiffened competition from imports, added to structural unemployment as some firms closed, and reduced wages and incomes in some industries (e.g. the car and textile industries), at least over the short term.
- Some years ago, the *goods and services tax (GST)* was introduced at a general rate of 10 per cent added onto the price of most (but not all) goods and services we purchase. It makes them dearer. Unfortunately, this tax is regarded as a **regressive tax**. This is because the payment of the tax represents a higher percentage of income for someone on a low income, than it does for a person on a higher income. For example, if the 10 per cent tax added \$1 to the price of a good worth \$10, the \$1 would be equal to say 1 per cent of the income of someone on \$100 per week but only 0.1 per cent for a person on \$1000 per week! Here the tax rate falls as income rises. As a government policy, the GST tends to increase income inequality.
- The government's wider adoption of the *user-pays principle* in the provision of community services like health, transport and education has probably added to the financial stress of some families by making these things more expensive and less affordable for individuals.
- *Deregulation of the labour market*, especially since the 1990s, has involved the promotion of enterprise bargaining between workers and their boss, with less reliance on centralised wage fixing. Wage growth has slowed for employees in a weaker bargaining position, while those with greater bargaining strength have been able to extract higher wages.
- *Making welfare harder* for some needy individuals to access has also added to income inequality and poverty, given that welfare recipients are over-represented in groups living below the poverty line.

Resources



Weblinks Income and wealth inequality

Labour market

Where did a million Chinese millionaires come from?

The manners and morals of high capitalism

Why we look down on low-wage earners

Gina Rinehart: The power of one (Four Corners)

4.4 ACTIVITIES

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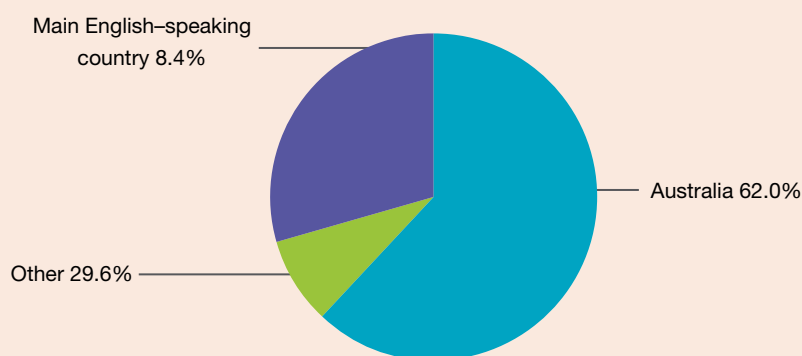
Check your understanding

1. Explain how market forces operate to help explain wage inequality in Australia's labour market.
2. Apart from the operation of market forces, what are the main causes of wage inequality in Australia?

Applied economic exercises

1. (a) Clearly explain *any three* of the following causes of inequality in the distribution of income (and living standards) and perhaps also poverty in Australia: (6 marks)
 - high unemployment and/or low hours of work
 - high inflation rates
 - stronger or weaker economic conditions overseas among our trading partners
 - inheritance
 - some government policies like tax concessions often used by higher income earners, labour market deregulation or reductions in tariff imposed on imports that were designed to increase efficiency.
- (b) The forces of market demand and supply in the labour market play a big part in explaining inequality in Australia's weekly wages. From the following list, select one high- and one low-income occupation (two examples in total), and then identify the specific demand or supply factors in the labour market that are most likely causing income to be either high or low for that particular occupation or person. (4 marks)
 - Basketball player, Andrew Bogut, (reportedly earned \$16.2 million)
 - The manager of the National Australia Bank (reportedly paid over \$5 million per year)
 - A worker at McDonald's (paid around \$18 per hour)
 - A farmer (average income \$134 000 in 2017–18)
 - A childcare worker or nurse in a public hospital
 - A successful heart surgeon (average income around \$380 000 per year)
 - Tennis player Maria Sharapova (reported income of \$27.1 million)
 - A brilliant computer engineer and designer
 - A person with a poor 'work ethic'
 - A car assembly line worker (prior to closure of the industry in 2018, around \$28 per hour)
 - Tennis player Roger Federer (reported income of over \$61 million)
- (c) Examine figure 4.23 showing poverty rates by country of birth, and then answer the questions that follow.

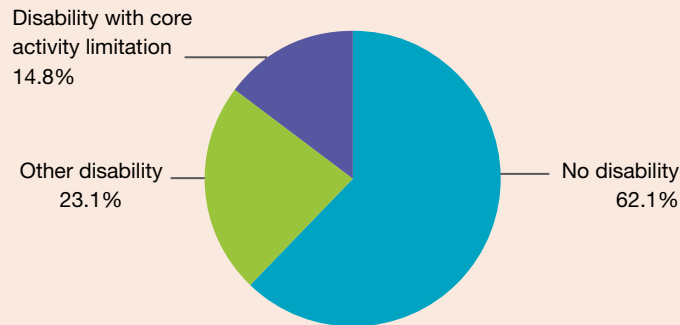
FIGURE 4.23 Risk of poverty (set at 50 per cent of median income) in Australia by country of birth (percentage of adults)



Source: Graph copied directly from ACOSS & UNSW, *Poverty in Australia, 2018*, p. 61, see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf.

- i. Which group is most at risk of poverty in Australia, according to figure 4.23? (1 mark)
- ii. Give likely reasons that explain why this group is most likely to experience poverty. (2 marks)
- (d) Examine figure 4.24 comparing Australian poverty rates by disability status before answering the questions that follow.
 - i. Of those in poverty, quote figures from the pie chart to show the extent to which having a disability, contributes to the overall number in poverty. (2 marks)
 - ii. Explain why having a disability causes significant numbers of people to live in poverty. (2 marks)

FIGURE 4.24 Risk of poverty (set at 50 per cent of median income) in Australia by disability status or situation (percentage of adults)



Source: Graph copied directly from ACOSS & UNSW, *Poverty in Australia, 2018*, p. 59, see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf.

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4.5 Causes of income inequality and poverty in another nation — Nigeria

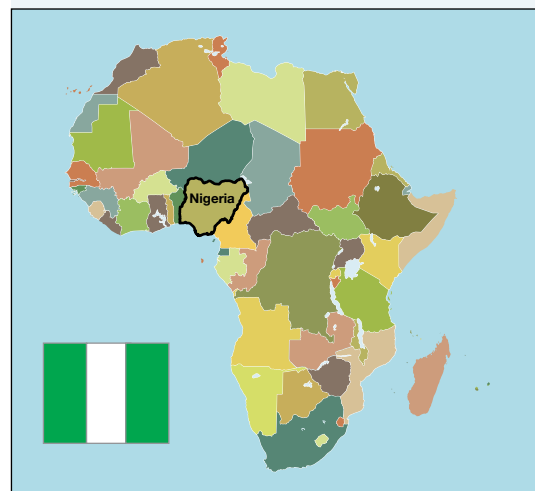
KEY CONCEPT

- Causes of income inequality and poverty ... in one other nation, such as unequal ownership of factors of production, relative levels of labour demand and labour supply, unemployment, lack of human capital and sovereign indebtedness

Nigeria is a relatively large country located in central Africa, just north of the equator. It has an abundance of natural resources, and its GDP has grown quite quickly at an average rate of around 7.4 per cent a year (or more than double Australia's rate) to become Africa's largest economy. Apart from the growth in incomes from oil and mineral production, other less important drivers of economic growth have included agriculture, telecommunications, banking and other services.

However, despite some areas of impressive economic progress, some commentators suggest that 67 per cent of the population of 199 million still lives in absolute poverty, attempting to survive on less than US\$1.90 per day (the recently updated World Bank indicator of severe poverty). By *absolute poverty*, we mean there is serious physical deprivation of some of the things that are essential for life,

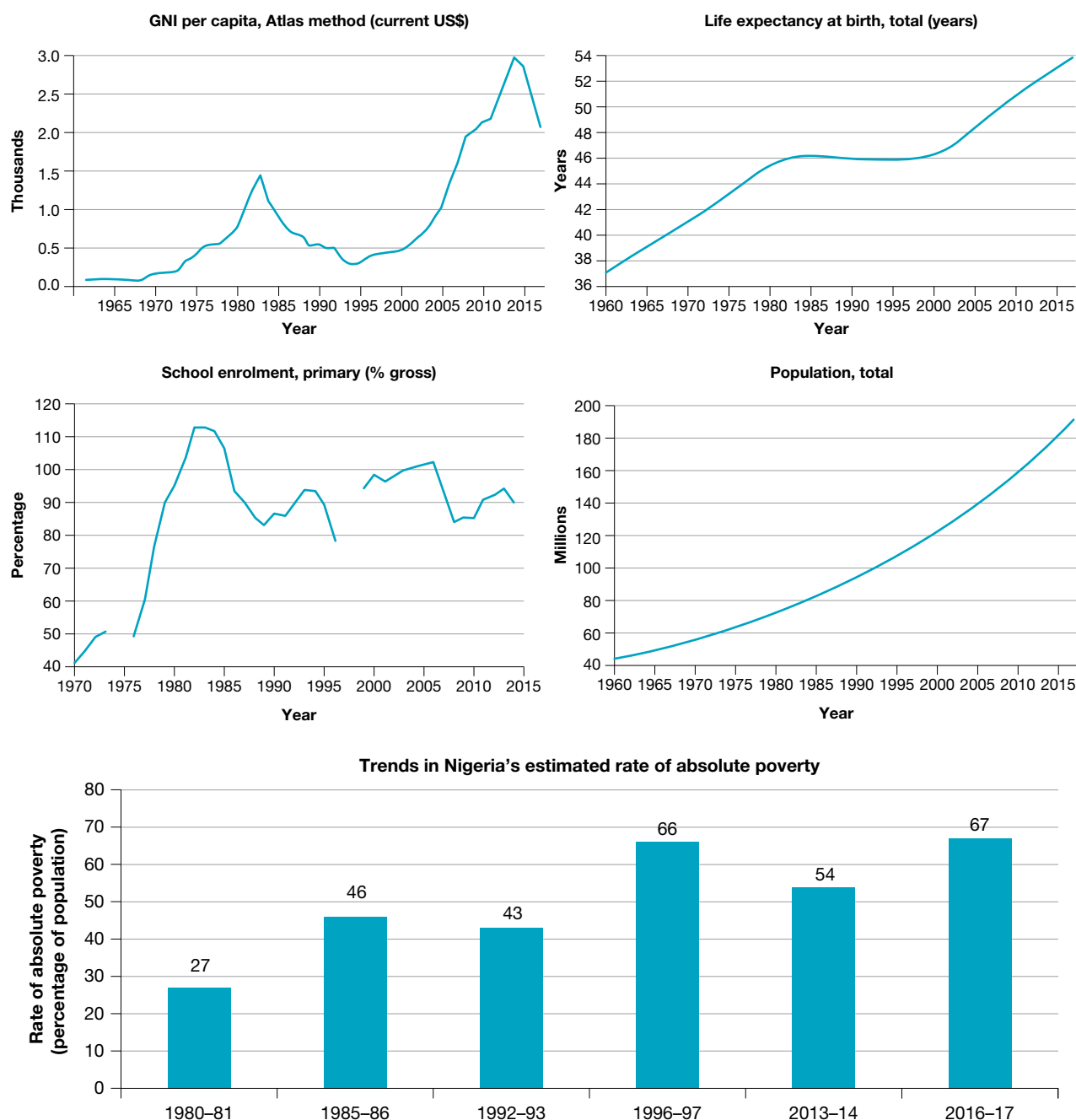
FIGURE 4.25 Where is the Federal Republic of Nigeria located?



such as food, shelter, clothing, clean water, education and health. It also means the absence of opportunities to improve living standards.

Figure 4.26 shows some of the key areas of economic and social change in Nigeria over nearly sixty years. For instance, with strong rates of growth in average gross national incomes per capita and rises in life expectancy, it is therefore reasonable to ask why poverty rates remain stubbornly high with few signs of progress.

FIGURE 4.26 Trends in Nigeria's poverty rates and other indicators affecting poverty



Source: Poverty rate data is derived from various sources including The World Bank, see <http://povertydata.worldbank.org/poverty/country/NGA>; <https://ask.naij.com/economics/causes-of-poverty-in-nigeria-i23669.html> and other. The other four graphs were copied directly from The World Bank, Nigeria, see <https://data.worldbank.org/country/nigeria>.

4.5.1 Great inequality in income and wealth reflects employment patterns

Average annual income in Nigeria is quite high, around \$6400 or over \$17.50 per day measured in **purchasing power parity (PPP)**, which compares what one dollar will purchase in terms of a common currency, the US\$. Yet more than 50 per cent of the population lives below the international poverty line, set now at \$1.90 per day, PPP. This tells us that Nigeria's income and wealth 'cakes' are shared very unequally. Indeed, the Gini coefficient (as a measure of inequality) for income is estimated to be around 0.490 (Australia's is 0.328). A relatively high Gini coefficient like this means that there is much *inequality* in the distribution of goods, services, incomes and wealth, leading to high poverty rates.

Income inequality is often caused by the following:

- The unequal ownership of land and natural resources
- High rates of unemployment and under-employment where people are not working many hours, or to their capacity
- Low education levels and skills due to limited access to affordable education
- Many people have jobs in subsistence farming and agriculture, rather than in the better paid urban jobs in the professions and export sector involving oil. Typically, farming techniques are traditional. Often farmers do not have access to cheap credit to finance the purchase of new capital equipment, causing labour productivity or GDP per hour worked to be low. Combined with small size of landholdings and periodic drought, this means low average incomes and purchasing power, along with material deprivation and high poverty rates for this large group of Nigerians
- Added to this, mention will later be made of corruption as a means of increasing income and wealth. This too leads to inequality and poverty.



4.5.2 High unemployment rates

When individuals are unemployed, they have low or zero income. Unfortunately, unemployment rates in Nigeria are high, averaging around 24 per cent, with perhaps another 20 per cent of workers being classed as underemployed (i.e. individuals are working very few hours despite having jobs). Together, with over 44 per cent of the labour force in these two categories, the Nigerian economy is operating well inside its production possibility frontier, limiting the growth in GDP and contributing to absolute poverty and income inequality. To lower unemployment and poverty in Nigeria, a 2016 World Bank report estimated that 40 million new jobs would need to be created by 2030. Furthermore, female education and work participation rates are very low, contributing to depressed levels of national production, incomes and living standards.

4.5.3 Failure to diversify the economy

Since the 1980s, around 90 per cent of Nigeria's export income (and over 80 per cent of government revenue) comes from oil production, whereas previously it was from agriculture. Unfortunately, an over-reliance on oil has led to the economy's failure to generate sufficient jobs or employment, as well as adding to inequality and poverty.

4.5.4 Low labour productivity

Labour efficiency or productivity is usually measured by the rate of rise in GDP per hour worked. Because Nigeria's annual productivity growth is relatively slow and has been rising by only 1.2 per cent (40 per cent lower than similar countries in the area), this also means that per capita incomes are low and increase very slowly, often failing to keep up with inflation. Purchasing power is eroded and poverty is worsened. One cause of low productivity is the lack of adequate investment in capital resources, especially in areas like agriculture, communications, power generation and transport. Another cause is inadequate spending on health and education.



4.5.5 Long-term ethnic conflict and civil unrest

Conflict between militant religious and ethnic groups has contributed to poverty by discouraging foreign and local investment in industry and infrastructure. This has slowed Nigeria's productive capacity and contributed to lower incomes and poverty. In turn, poverty has aggravated civil and ethnic conflict, creating a vicious cycle.

4.5.6 Corruption and political instability

There are reports from the United Nations Office on Drugs and Crime (UNODC) and other sources of significant political corruption in Nigeria where, apparently, power is sometimes used for private gain. So despite the rise in government revenue, especially from the extraction of oil and minerals, it seems that some of this (one estimate puts the figure at perhaps \$400 billion since independence) has been distributed among government officials and friends, leaving over 50 per cent of the population in poverty without basic education, clean water or adequate health care. To make matters worse, foreign aid targeting the needy often does not reach those who need it most.



Resources



- Weblinks** Why some countries are poor and others rich
Nigeria: Work and jobs for the giant of Africa
Can Nigeria's booming economy lift its poorest people?

4.5 ACTIVITIES

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Check your understanding

1. How is *absolute poverty* commonly measured in low-income countries like Nigeria?
2. How severe is poverty in Nigeria?
3. Identify and outline *four* important *causes* of poverty in Nigeria

Applied economic exercises

1. (a) In Nigeria and other low-income countries, at what level is the absolute poverty line set (PPP) by the World Bank? **(1 mark)**
(b) Given that the annual rate of GDP growth in Nigeria has been quite strong, select and explain any three reasons for the poverty rate still being over 50 per cent of the population: **(3 marks)**

- income and wealth inequality
- high unemployment rates
- failure to diversify the economy
- low labour productivity
- ethnic and civil unrest
- government corruption.

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4.6 The effect of poverty on material and non-material living standards

KEY CONCEPT

- The effect of poverty on material and non-material living standards

Absolute poverty severely damages both our *material* and our *non-material* living standards:

4.6.1 The effect of poverty on material and non-material living standards in low-income countries

Material living standards ultimately reflect an individual's annual level of consumption and the extent to which needs and wants are satisfied.

Clearly in economically poor countries like Nigeria, where the absolute poverty line is set at \$1.90 (in international dollars or PPP), people lack sufficient income to purchase life's necessities. The poorest 10 per cent of households, for example, consume a measly 1.8 per cent of the country's goods and services.

- Adequate food and nutrition cannot be purchased and individuals often have a low body mass index.
- Because of the cost and the lack of educational facilities, few children attend school. Restricted or no access to education causes limited employment and income opportunities and depresses productivity.
- There is a lack of affordable medical treatment available for serious illnesses. Life expectancy is low, perhaps around 50 years, and infant death rates are high
- Without much money, housing is basic and overcrowded, with an average of more than four people living in each room. Sanitation and access to safe drinking water are non-existent.

Non-material living standards relate to the factors affecting the quality of daily life. These might include happiness, the absence of crime and war, the existence of opportunities and experiences



for cultural enrichment, the healthy state of the natural environment and the absence of pollution, and a long life expectancy. However, for Nigeria, the typical consequences of poverty include:

- social unrest, high crime rates, violence and civil war
- the sadness associated with the daily battle to survive
- unhappiness because of the premature death of children and other family members due to poor health and low life expectancy
- the absence of hope and opportunities to escape the vicious cycle of poverty
- environmental damage associated with the rapid growth of the oil and mining industries.

4.6.2 The effect of poverty on material and non-material living standards in Australia

In Australia, for a standard income unit of four people (i.e. one adult, working; one not working; and two dependent children), *comparative poverty* is defined as having an income below \$994.68 per week including housing (in May 2019). Poverty has both material and non-material effects.

Having little money leads to exclusion and limits consumption levels. It significantly reduces the extent to which the *material* needs and wants of individuals can be met and also undermines *non-material* wellbeing. For instance:

- Some of those in poverty will go without one or two meals a day and have insufficient nutritious food. Others will be unable to pay power and gas bills and will be forced to survive winter without hot water or heating.
- Obtaining affordable housing — and paying a bond and rent in advance — is a problem for those in poverty. As a result, some individuals (including children) live on the streets or are forced to reside on the outskirts where there is no public transport, little to do and few jobs are available.
- When people look shabby, lack personal grooming, or have few skills, it is hard to gain employment. This can begin the cycle of poverty and welfare dependency. In addition, at the macroeconomic level, the exclusion of potential workers slows the economy's productive capacity and limits future living standards.
- Children from poor families are often reluctant to go to school without a lunch, books, uniform or shoes. They cannot afford to play sport, go on excursions or camps like the others, and frequently experience bullying. The likelihood of completing VCE and especially a tertiary course is greatly reduced in such circumstances. At the macroeconomic level, this lowers Australia's future labour productivity and erodes our productive capacity, potential GDP and living standards.
- The self-esteem of both parents and children is destroyed and there are feelings of despair and failure resulting in mental illness, possibly substance and alcohol abuse, and violence.
- Poverty results in reduced health outcomes and, according to the ABS, perhaps increased crime rates.
- There is isolation and reduced social contact often because of their disreputable appearance and reluctance to mix with other people or groups. This leads to unhappiness and a lower quality of life.
- Poverty and extreme inequality pose a threat to our democracy, freedom and stability as a result of the alienation and exclusion of some people.



Resources



Weblink The Fringe Dwellers

4.6 ACTIVITIES

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Check your understanding

1. Identify and outline three important effects of poverty in low-income countries.
2. Explain how poverty affects material and non-material living standards in Australia.

Applied economic exercises

1. (a) Imagine you are a single unemployed parent, living in a rented flat with two children aged 12 and 14. Use the **Centrelink** weblink in the Resources tab to find out what you would receive as your welfare benefit per fortnight. Then use the internet to research the cost of renting a flat in your area or city.
(b) Prepare a *fortnightly budget* using the following format: **(4 marks)**

Your income (money coming in) per fortnight	
•	\$
•	\$
•	\$
	\$
Total income per fortnight	\$
Your expenses (money going out) per fortnight	
•	\$
•	\$
•	\$
•	\$
•	\$
•	\$
•	\$
Total expenses or costs per fortnight	\$

- (c) In detail, describe the effects on your material and non-material living standards of your income. **(3 marks)**

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Resources



Weblink Centrelink

4.7 BACKGROUND KNOWLEDGE The difference between equity in the distribution of income and equality in the distribution of income

BACKGROUND KNOWLEDGE

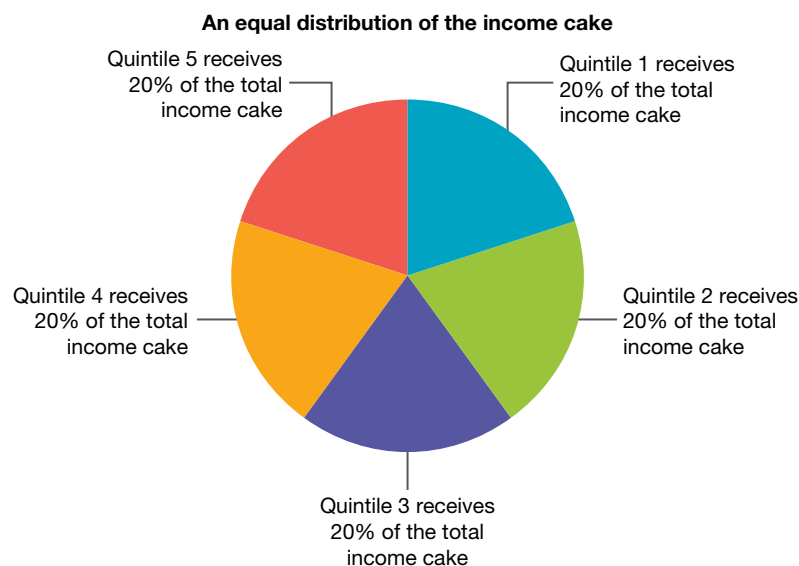
- It's important to understand the difference between equity and equality in income distribution

Many people get the terms *equity* in income distribution and *equality* in income distribution, mixed up. They mistakenly believe they mean the same thing. So, let's see if we can nail the difference.

4.7.1 What is meant by equality in income distribution?

If there was **equality** in Australia's distribution of the income cake, it would mean that every individual would get exactly the same-sized slice of the cake and end up with the same level of income (say \$70 000 per person per year). Looking at the distribution of national income by quintile, hypothetically, it would look like that shown in figure 4.27, where in total the group making up each quintile (i.e. each 20 per cent of the population) would receive precisely the same level of income. By the way, if this information was plotted on a Lorenz diagram, the Lorenz curve would be a diagonal line representing total equality. Here the Gini coefficient for income distribution would be equal to zero.

FIGURE 4.27 A totally equal or even distribution of the nation's income cake



4.7.2 What is meant by equity in income distribution?

The Australian government seeks to promote the **goal of a fair and equitable distribution of income**. This does not mean that the government wants to create total equality. It simply means that all people should have sufficient income to purchase or access basic goods and services (e.g. food, shelter, clothing and medical attention), and enjoy reasonable living standards at a level deemed generally acceptable to society. Clearly, in a high-income country nobody should be living in absolute poverty.

By contrast, an **inequitable distribution of income** refers to a situation where, despite high incomes, these are divided unfairly and in a way in which most people are unable to enjoy acceptable living standards.

Having said this, it is very hard to *objectively* and exactly define what is meant by an *equitable distribution of income*. One problem is that the idea of equity may strangely involve advantaging one group by disadvantaging another and treating individuals differently. Although not exactly the same, it is somewhat similar to a referee or umpire in a competitive sporting game who makes a particular decision against one team. That team may say it is unfair, while the other team may applaud, particularly when there is incomplete agreement or lack of clarity about the ground rules of the game.

To help illustrate the problem of defining *equity*, which of the following opinions do you believe is correct?

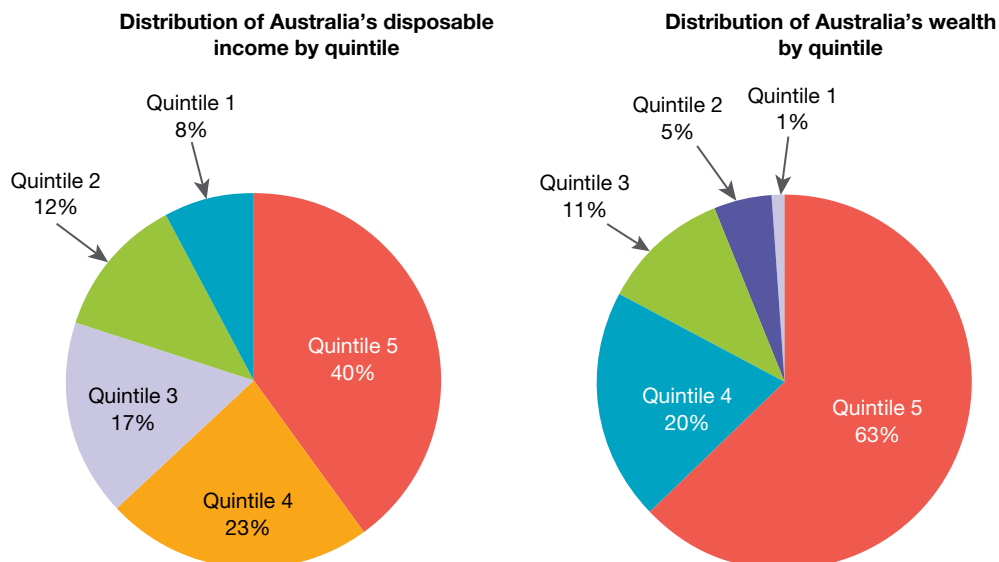
- On the one hand, is it *fair* in a land of plenty that some Aboriginal and Torres Strait Islanders live in appalling conditions that are on a par with those of the Third World, or that there are perhaps 900 000 homeless children in Australia, or that the unemployed and the aged often endure low incomes and poverty?
- On the other hand, is it also *fair* that the skilled, diligent, well-motivated and those who work long and difficult hours be penalised by heavily progressive income tax rates (where marginal tax rates rise with income) and perhaps be deprived of access to the aged pension once they retire?

Indeed, it is difficult to determine exactly where an *equitable* balance *should* be drawn between these opposing views. This is because it involves *normative economics* (not positive economics) and is based on values or opinions. Such differences in beliefs are sometimes reflected in the attitudes and policies of the various political parties — Labor or the Liberal Coalition.

So looking at the distribution of income and wealth for Australia shown in figure 4.28, would you say this is equitable?



FIGURE 4.28 Is the distribution of income and wealth for Australia equitable? You decide.



Source: Data derived from ABS 6523.0, 2017–18, Tables 1.1 and 2.1.

4.7 ACTIVITIES

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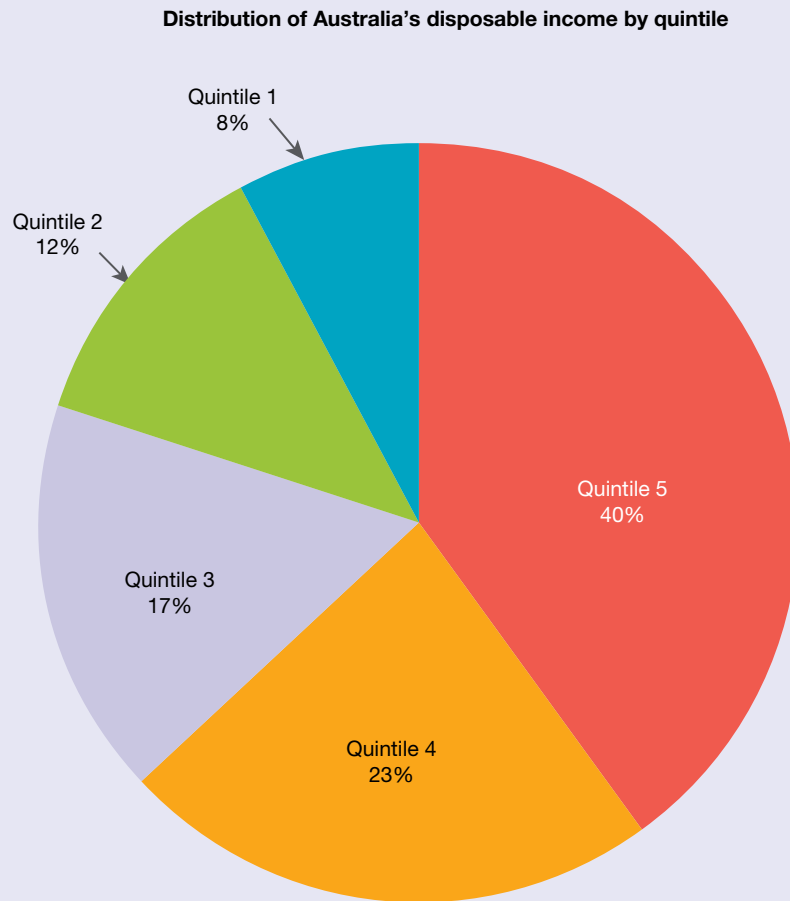
Check your understanding

1. Explain what is meant by *equality in income distribution*.
2. Why is equity in income distribution so hard to define?

Applied economic exercises

1. (a) Distinguish between the terms *equality* and *equity* in income distribution. Provide illustrative examples. **(2 marks)**
(b) Examine figure 4.29.
Describe the degree of income equality or inequality that exists, using statistics from the chart. **(2 marks)**
(c) The Australian government seeks to promote the *goal of an equitable income distribution*. Why is it so hard to define exactly what is meant by an *equitable* income distribution? **(2 marks)**

FIGURE 4.29 Australia's distribution of equivalised disposable income



Source: Data derived from ABS 6523.0, 2017–18.

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4.8 The meaning of economic efficiency and the benefits of achieving allocative and technical efficiency

KEY CONCEPT

- The meaning of economic efficiency and the benefits of achieving allocative and technical efficiency

As we know, Australia's resources are scarce and because of this our capacity to produce goods and services is limited, so not all our wants can be satisfied. However, nations that use or allocate their resources more efficiently are likely to enjoy greater levels of production, higher incomes per person and better material living standards.

4.8.1 The meaning of economic efficiency

When we use the term **economic efficiency**, we generally mean that resources are used to produce particular goods and services that maximise society's general wellbeing. It also implies that goods and services are produced at the minimum cost. When efficiency rises, more output can be gained from the same or smaller quantity of resources. Often, economists distinguish various types of efficiency such as allocative efficiency and *technical efficiency*.

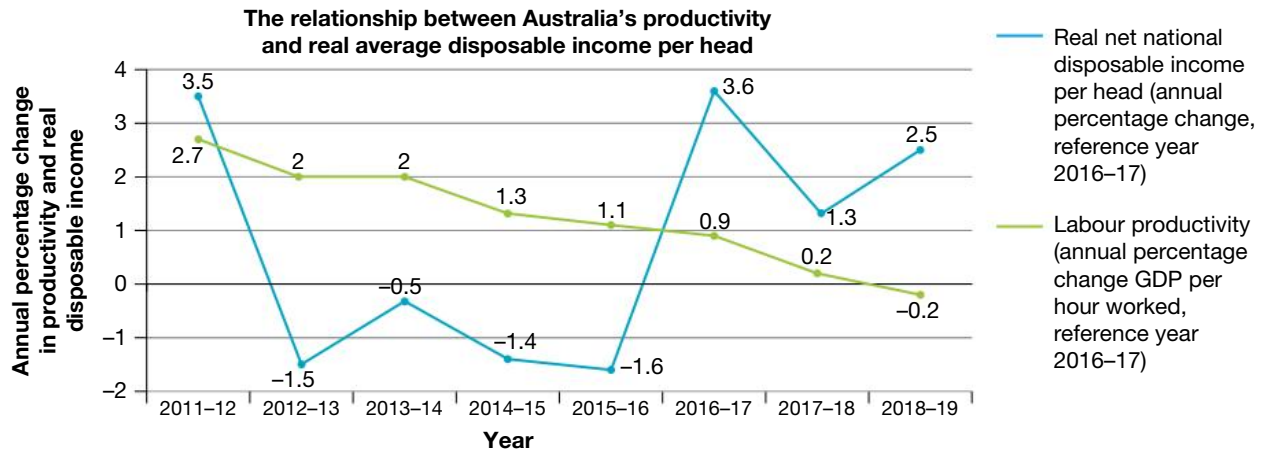
- **Allocative efficiency.** Given the existence of a high level of consumer sovereignty or control in Australia's economy, competing businesses seeking to maximise their profits will generally try to attract the 'votes' or money of buyers by producing exactly what they want. In general, *allocative efficiency* means that resources will be allocated to those goods and services that consumers value most highly. Usually, we rely heavily on the operation of the market or price system to direct scarce resources where they are most wanted. To do otherwise would lead to *allocative inefficiency*. However, there are some instances where the free operation of the market or price system does not optimise the general satisfaction of society's wants. This is called *market failure*. Here, for instance, we might think of markets where buyers or sellers lack sufficient information to make good decisions, or where competition between firms is weak and prices are high due to the existence of monopolies or oligopolies.
- **Technical efficiency.** Technical efficiency is about businesses and managers using the most efficient production techniques or methods available when making goods and services. Generally, the technically most efficient methods mean minimising costs or the use of natural, labour and capital resources, to gain the highest possible output. For instance, if it were cheaper and more efficient to use robots to manufacture cars, then labour on the assembly line would quickly be replaced. Whether one resource such as machinery is cheaper and more efficient to use than another input like labour, depends on its relative scarcity. This will be reflected in the relative level of prices for each resource and determined largely by market forces involving demand and supply.

4.8.2 The benefits of achieving allocative and technical efficiency

As mentioned, greater efficiency in the use of resources helps to lift production and income and improve a nation's living standards, especially its material wellbeing. There are several reasons for this:

- **Increased efficiency leads to faster growth in real GDP and higher average incomes.** When a nation's allocative and technical efficiency grow strongly, more output is gained from the same or fewer resources. This boosts the country's productive capacity (PPF) or potential rate of economic growth. However, only when real GDP rises at a faster rate than population, can there be an increase in average real incomes per person. As shown in figure 4.30, it is no coincidence that following the recent general slowdown in Australia's productivity between 2012–13 and 2018–19, our real average disposable incomes per person fell in four out of the last seven years (by even more years if not for the reductions in income tax rates) by an annual average of 0.3 per cent.

FIGURE 4.30 How weaker growth in labour productivity may have slowed Australia's real average income per head



Source: Data derived from ABS 5206.0 (Table 3).

- **Increased efficiency leads to lower prices.** Improvements in allocative and technical efficiency help to reduce production costs (more output from less inputs) for firms. This leads to lower more competitive prices and a slower inflation rate. It also helps to improve the purchasing power of family incomes and strengthen material living standards.
- **Increased efficiency leads to more jobs and employment.** Greater technical efficiency in particular helps to slow production costs, improve profitability and make Australian firms more competitive here and abroad. This leads to business expansion and, in the long term, the creation of new jobs and a reduction in unemployment.
- **Increased efficiency leads to a stronger trade balance internationally.** Improved efficiency allows firms to cut costs and lower the price at which they can profitably sell their product. Instead of just selling goods and services in the local market, Australian firms can grow their sales in export markets, boosting incomes.
- **Increased efficiency can lead to better non-material living standards.** Economies where there is strong economic efficiency usually have low levels of unemployment. This boosts non-material living standards by improving the health outcomes for those involved, slowing crime rates, reducing family breakups and financial stress, and expanding opportunities for cultural enrichment by international travel or attending sporting, live musical or theatrical performances. In addition, greater technical efficiency places a country in a better position to deal with environmental problems that can also potentially help to improve the wellbeing of current and future generations.



Resources



Weblink Productivity — Investopedia

4.8 ACTIVITIES

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Check your understanding

1. Define what is meant by *economic efficiency*.
2. Distinguish the terms *allocative efficiency* and *technical efficiency*.
3. Identify and explain three important benefits of economic efficiency for a country.

Applied economic exercises

1. (a) Define what is meant by the following terms: (4 marks)
i. allocative efficiency
ii. technical efficiency.
- (b) Giving reasons, classify the *effects* of the following events or developments as to whether they are most likely to influence *allocative* or *technical* efficiency. (4 marks)

Event or development	Allocative or technical efficiency? Briefly justify.
i. A robot replaces workers at a clothing manufacturer.	
ii. Two large cardboard box companies collude to limit competition and fix prices.	
iii. High immigration levels push wage costs down.	
iv. The labour market is further deregulated to promote greater competition and flexibility.	

- (c) Australia's growth rate in productivity or efficiency has slowed dramatically in recent years. Explain clearly how *reduced* economic efficiency is likely to influence each of the following: (4 marks)
i. the growth and level of real GDP and average income per person
ii. the nation's inflation rate
iii. the unemployment rate and the number of new jobs
iv. various aspects of non-material living standards.

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4.9 The economic and social costs and benefits of achieving equity in the distribution of income

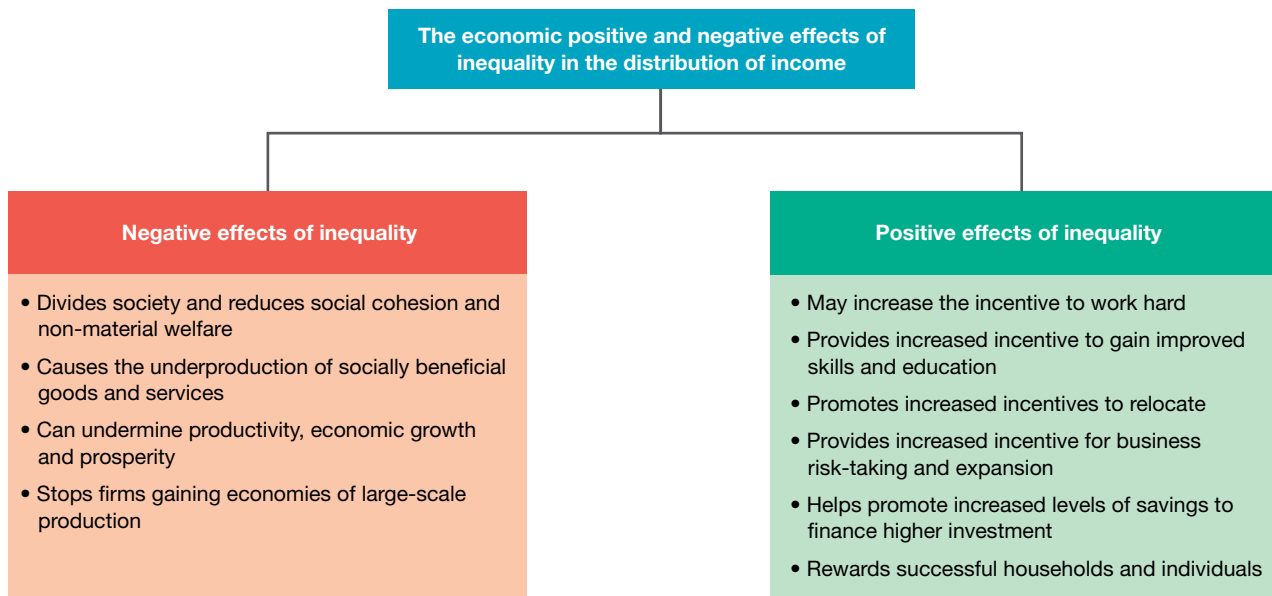
KEY CONCEPT

- Economic and social costs and benefits of achieving equity in the distribution of income

As we shall later see, the Australian government uses a wide range of policies designed to promote the *goal of an equitable distribution of income* (defined as all people having access to basic goods and services, and a reasonable standard of living). In the end, achieving an *equitable distribution of income* is about the Australian government redistributing or re-slicing our income cake by applying the *Robin Hood principle* of taking from the rich and giving to the poor. This avoids inequality becoming too extreme and *partly* narrows the income gap. It means achieving an appropriate *balance* between too much inequality and too little equality. Striking the right balance also needs to take into account the relationships that exist between the need for greater economic efficiency that may sometimes worsen *inequality* on the one hand, and the achievement of *equity* on the other.

As summarised in figure 4.31, both extreme *equality* and *inequality* in income distribution are situations that can have good and bad effects for individuals, society, governments, the economy and general living standards.

FIGURE 4.31 The economic positive and negative effects of inequality in the distribution of income



4.9.1 Some negative effects of inequality

We have already mentioned the dreadful effects of poverty on individuals and on society's general wellbeing. Indeed, high levels of *income inequality* can cause very serious social and economic problems that reduce both material and non-material living standards.

- **Inequality divides society and reduces social cohesion and non-material welfare.** Inequality divides society into the 'haves' and 'have nots'. In some parts of any city, there are families living comfortably in palatial dwellings located on tree-lined streets well away from the filth of factories and the noise of freeways and trains. However, in other areas, there are the overcrowded suburbs that include none of the luxuries of affluence. Here, unemployment, racial ghettos, crime, drugs, despair, poverty and welfare dependence are far more commonplace. The people living in these areas may well resent those who

are better off and start to see the system as unfair. This weakens social cohesion and can lead to great discontent, unrest, crime, violence, political protest and even revolution. For many low-income groups there is social and economic exclusion, and *opportunities* to become rich are limited.

- **Inequality causes the underproduction of socially beneficial goods and services.** Another drawback of vast inequality is that the economy can tend to overproduce luxury goods and services, and underproduce necessities (e.g. affordable food, health, housing, education, public transport, legal services). Those with low incomes cannot exercise their spending power or indicate the types of things

FIGURE 4.32 Severe income inequality divides society, reduces social cohesion and may cause social unrest, violence and crime.



Source: The Economist, see <http://www.economist.com/news/united-states/21660180-what-good-more-unequal-america-might-look-like-inequality>.

they want produced. They are effectively excluded from decision making so their satisfaction is reduced. In other words, inequality can distort the allocation of resources and thereby significantly lower society's average material living standards.

- **Inequality can undermine productivity, economic growth and prosperity.** Mention has already been made that poverty and severe inequality commonly lead to lower levels of educational attainment and higher levels of welfare dependence and economic exclusion. In turn, this represents wasted labour resources and causes the economy's productivity or efficiency rates to be lower than otherwise. As a result, Australia's productive capacity suffers and our potential GDP and incomes are lower. Additionally, low educational outcomes caused by inequality, lead to higher levels of welfare dependence. In some cases, generations of families become stuck on welfare, producing negative impacts for individuals, society and taxpayers (who must foot the bill).
- **Income inequality stops firms gaining economies of large-scale production.** When there is much inequality, purchasing power is not spread around. This limits the demand for locally made goods and services that in turn means that local firms tend to be small-scale operations where some costs of production per unit of output, are higher. This forces firms to charge higher prices. With goods and services being more expensive, material deprivation and poverty are worsened.

4.9.2 Some positive effects of inequality

Some (but not all) economists argue that *modest* levels of *inequality in income and wealth* can be beneficial. They believe that inequality creates *incentives* to improve efficiency in resource allocation and production, promote stronger economic growth, expand employment opportunities, increase general incomes and raise material living standards.

- **Inequality may increase the incentive to work hard.** The promise of higher pay can motivate employees to work extra hours or overtime (and give up some of their leisure or holidays), try harder, and be more productive and efficient on the job. This helps strengthen material living standards. However, if all pay rates were equal, it is likely that there would be no such incentive. Productive capacity and the rate of economic growth would probably be lower and goods and services more expensive, thereby depressing living standards.
- **Inequality provides increased incentive to gain improved skills and education.** More skilled and educated workers usually receive higher pay since they are scarcer, and generally more productive or efficient. An advantage of inequality is that it can provide young people with the incentive to stay at school longer and go into tertiary education. In the longer term, this also helps to promote stronger economic growth and better living standards.
- **Inequality promotes increased incentives to relocate.** Given the desire for self-improvement, income inequality can cause people to move from one job to better paid employment. Here, wage differences act as price signals to allocate labour to areas of greatest need or utility. Pay differences also make it possible for firms to fill job vacancies even if they are in different towns or states or involve unpleasant work. Again, inequality helps promote better living standards.
- **Inequality provides increased incentive for business risk and expansion.** Income inequality provides financial incentives to reward or compensate business people to take calculated risks with their money and undertake investment in new technology and equipment needed for expanding the firm. If there was no opportunity for entrepreneurs to earn extra profits through their decision making, Australia's rate of economic growth would be much slower, employment opportunities reduced, incomes lower and material living standards diminished.



- **Inequality helps promote increased levels of savings to finance higher investment.** Some claim that as a result of income inequality, the rich are more able to save a higher percentage of their income than if it was shared more evenly. In turn, better savings help to increase investment in new technology and equipment, finance business expansion and create improved job opportunities and income for others, even the poor, thereby boosting material living standards.
- **Inequality rewards successful households and individuals.** In some ways, inequality in wealth and income shows success. It allows the fortunate to enjoy more opportunities for a great lifestyle such as living comfortably in pleasant suburbs, gaining personal fulfilment, enjoying social interaction and benefiting from international travel and leisure.

In part, because a little inequality can sometimes be beneficial, governments in former socialist countries today use this as an incentive to change behaviour and improve economic outcomes. It is also interesting to note that the Australian government does not seek to promote total equality in the distribution of income and wealth. Rather, it tries to strike an *equitable* balance as defined by the political party and election outcomes.

FIGURE 4.33 Inequality allows successful individuals on higher incomes to enjoy more varied choices including opportunities for international travel and the purchase of more goods and services.



on Resources

-  **Weblinks** Growing up poor (Four Corners)
 First world problems
 Inequality for all (2013)
 Inequality for all (2015)

4.9 ACTIVITIES

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Check your understanding

1. List and outline *three* important *costs of inequality* in the distribution of income.
2. List and outline *three* important *benefits* of some *inequality* in the distribution of income.

Applied economic exercises

1. (a) Explain how the *failure* to achieve an *equitable* distribution of Australia's income cake is likely to negatively influence each of the following: **(3 marks)**
 - i. the level of social cohesion
 - ii. the allocation of resources towards socially beneficial goods and services
 - iii. overall productivity or efficiency in Australia's use of resources.
 - iv. Sometimes income inequality can have positive effects. Identify and explain *four* important reasons why some income inequality is often seen by governments and economists as *beneficial* for our living standards. **(4 marks)**

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4.10 Compatibility and conflict between the goals of equity in income distribution and efficiency in resource allocation

KEY CONCEPT

- Compatibility and conflict between the goals of equity in the distribution of income and efficiency in resource allocation

In economics, the relationships between the government goals of promoting *efficiency* and *equity* are important issues of debate.

- Here *efficiency* means allocating resources to areas that are most productive, valued and generally wanted by society.
- By contrast, *equity* is about fairness and ensuring that everyone can access basic goods and services and enjoy reasonable living standards at a level deemed generally acceptable to society.

Economists are divided on whether the government's promotion of greater equity (i.e. a bit more equality, or a bit less inequality, so that all can access basic goods and services) reduces economic efficiency (and vice versa: promoting more efficiency reduces equity). Some believe that there is a *trade-off* where promoting one goal undermines the achievement of the other. However, others believe that these two goals can be *compatible* so that we can achieve both simultaneously.

4.10.1 A conflicting relationship — that promoting equity can reduce economic efficiency

Many economists including Arthur Okun (who wrote *Equity and Efficiency — the Big Trade-Off*, 1975) believe that this trade-off or conflict between equity and efficiency is unavoidable. Typically, the explanation goes something like this: government policies to *redistribute* income more evenly generally involve the use of measures such as:

- progressive taxes (where the marginal rate of tax is higher for upper-income earners than for those on lower incomes)
- the payment of generous cash welfare benefits to the neediest individuals
- the provision of free or subsidised government services like health and education
- the setting of a minimum wage in the labour market at a level higher than the market equilibrium.

These measures that seek to promote *equity* mean that not all resources will be allocated to their most valued and satisfying end uses, lowering economic efficiency, slowing the growth of the income cake and ultimately undermining society's living standards. It is claimed that these measures reduce:

- incentives for individuals to work hard and longer hours
- saving that is needed to finance investment and grow productive capacity
- the motivation to improve skills, training and worker productivity
- self-reliance and encourage a welfare dependency that is an economic cost on those who are most productive.

4.10.2 A compatible relationship — that promoting equity can strengthen economic efficiency

However, more recently, many economists believe that the goals of equity and efficiency can often be compatible. Take a situation where there is income inequality as in Australia. In this situation, economic efficiency can be readily strengthened through a range of government equity-promoting policies. For example:

- *Government spending on education and training programs.* Increased government spending on education and skills training for all people (not just the rich), along with more effective educational programs, help to grow employment and income earning opportunities, thereby promoting lower unemployment and therefore less income inequality. However, the exact same policies also enhance the creativeness, innovativeness and productiveness of our labour force. History shows that improving equity and labour efficiency in this way has been one of the most important drivers of strong, long-term rates of economic, employment and income growth.
- *Government spending on health initiatives.* Government policy initiatives and spending designed to improve public health and access to medical treatment also help to improve equity. Measures like the proper funding of Medicare, for instance, allow even the poor to access quality and affordable physical and mental health care. This then allows them to better participate in work and be more productive members of the labour force, thereby growing the nation's productive capacity and potential level of income.
- *Government measures to improve social inclusiveness.* Government measures to improve social inclusiveness clearly help to improve equity. Here we might think of the anti-discrimination laws and measures to improve gender equity in the workplace that clearly help to enhance equity, improve the quality of daily life, and grow employment opportunities and the wellbeing of those who commonly face poverty. Again, these same policies help to grow efficiency by better harnessing and allocating our labour resources, growing the nation's productive capacity.
- *Do lower tax rates on high-incomes and wealth households that reduce equity, actually encourage efficiency?* For years, some have argued that lower tax rates on high income and wealth recipients create greater efficiency. For example, the Australian government provides massive tax concessions for those who salary sacrifice into superannuation, property speculators who take advantage of negative gearing and investors who make capital gains. These government tax concessions are part of supply-side economic policy where these handouts for the rich would help boost efficiency and grow the economy. In turn, it was claimed that these benefits would eventually 'trickle down' to ultimately help those on low incomes. Unfortunately, it is possible that these tax cuts have not delivered all these promised benefits. This is especially likely given that they have necessitated reductions in government spending on education, health, welfare and infrastructure — areas that are usually regarded as essential for boosting both efficiency and equity. In other words, there are significant *opportunity costs* involved with cutting taxes. Furthermore, some economists have even suggested that, up to a point, slightly higher tax rates on upper income and wealth earners might actually encourage these groups to work even harder, thereby lifting both efficiency and equity.



4.10 ACTIVITIES

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Check your understanding

1. Explain why some economists feel that the government's promotion of equity reduces efficiency, making these aims conflicting.
2. In what ways might the promotion of equity using various policies actually help to increase efficiency?

Applied economic exercises

1. (a) Giving examples, *distinguish* between the following terms: (3 marks)
- the goal of *equity* in income distribution and *efficiency* in resource allocation
 - progressive* taxes and *regressive* taxes
 - welfare benefits* and subsidised *government services*.
- (b) Explain how each of the following government policies used to promote *greater equity* could reduce *economic efficiency*: (3 marks)
- steeply progressive income taxes
 - generous welfare benefits
 - free or subsidised government services.
- (c) Thinking about your responses to part (b) of this question, describe the two possible *types of relationships* that may exist between the government's promotion of equity in income distribution and improved economic efficiency in the allocation of resources. (2 marks)

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4.11 The role of markets in achieving equity in the distribution of income and efficiency in resource allocation

KEY CONCEPT

- The role of markets in the achievement of equity in the distribution of income and the efficiency of resource allocation

Australia has a *market* economy. Here, the price or market system usually operates not only to allocate resources efficiently, but also to help distribute income between individuals equitably.

4.11.1 How the market operates to allocate resources efficiently and distribute incomes

As we saw in topic 2, the market is an incredible device that helps to make many of the *economic decisions* confronting society. Essentially, the market or price system involves interaction between the buyers and sellers for each good or service, to negotiate or determine *relative prices*. Over time, these prices change up or downwards, due to new, non-price *conditions* affecting demand and supply. In turn, changes in relative prices and *profits* in each market not only tell producers what consumers want and value most highly, they also provide the necessary information to allow profit-seeking owners of resources to answer the *three* basic questions:

- ‘what and how much to produce?’ (deciding the type and quantities of particular goods and services to be produced)
- ‘how to produce?’ (firms deciding the production methods to be used in making goods and services)
- ‘for whom to produce?’ (deciding how the incomes, goods and services should be distributed or shared among members of society).

Usually, the market makes fairly good decisions and answers these three questions efficiently, as we saw in topic 2. For example:

- Resources will not be wasted producing things that are not wanted or are not highly valued by consumers.
- The market will normally distribute the highest incomes to the most productive or efficient members of the labour force, and lower incomes to those who are less valued or productive. This creates signals to owners of resources to help them use their talents in occupations that are financially most rewarding.

However, it is unfortunate that sometimes the market fails to make good decisions that maximise both efficiency and equity. This is called **market failure**, and when it occurs, society's general level of wellbeing is reduced. In such instances, a case can exist for government intervention designed to reduce the extent of market failure.

4.11.2 When the market allocates resources inefficiently

Market failure can cause resources to be allocated *inefficiently* (where their use is not optimal and society's satisfaction is reduced). Here, we might think of a number of circumstances where market failure often occurs. For example:

- *Weak competition.* Markets can sometimes fail when *competition between rival firms is weak* and there are monopolies and oligopolies that have significant market power to set prices. This can lead to less innovation, reduced efficiency in the use of resources, and lower production and higher prices, undermining society's general wellbeing.
- *Asymmetric information.* Markets fail when there is **asymmetric information** or a lack of adequate *knowledge* by buyers or sellers. For instance, often sellers know more about the product being sold than buyers. Here, we might think of online purchases or buying a used car. In turn, incomplete information on one side of the market leads to poor decisions, wasted resources and inefficiency, reducing our wellbeing.
- *Negative externalities.* Markets fail when some of the costs associated with the production or consumption of a particular good are paid by a third party unconnected with the activity. These costs are called **negative externalities**. Ignoring some of the costs means that profitability is inflated and the good is overproduced even though it lowers society's general wellbeing. One example of negative externalities or costs paid by others is the high level of CO₂ emissions by some firms. Some of these costs — of pollution, climate change, severe weather events, and the destruction of life and business that reduce our wellbeing now and into the future — are paid by others.
- *Income inequality.* The unregulated operation of markets can cause *severe income inequality*. This can reduce efficiency and the general wellbeing of society. Only those with sufficient income can participate in the market and influence the allocation of resources. Therefore, it is likely that the necessities of life (e.g. housing, education, health) needed by everyone, including the poor, will be *underproduced* (unless of course these are provided by the government).



4.11.3 When the market causes inequality and inequity

The free operation of the market (without government intervention) causes some people to receive high wages for their labour (giving them more purchasing power over goods and services), while others receive low wages (or, in the absence of government welfare, gain no income). Essentially, wages or the price of labour in different occupations will be a reflection of the relative scarcity of each occupation.

- On the one hand, well-paid jobs will be those where the quantity of labour supplied is limited relative to its demand. For instance, this may be the result of the requirement of skills, expensive training and experience, unpleasant or dangerous job conditions or long hours of work.
- By contrast, in other occupations there are no restrictions limiting the supply relative to demand for labour. If labour is less scarce, wages will be relatively low.

While this system may cause resources to be allocated efficiently, it also leads to great wage inequality between different occupations, depriving some people of access to basic goods and services and a reasonable living standard, while others live in affluence.

Resources

 **Weblink** Markets, efficiency, and price signals

4.11 ACTIVITIES

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Check your understanding

1. How does the market system work to allocate Australia's resources efficiently and distribute incomes to the most productive?
2. Explain how markets sometimes fail to allocate resources efficiently and cause incomes to be allocated inequitably.

Applied economic exercises

1. (a) Outline how the operation of the *market* and *price system* (involving the forces of demand and supply) can generally allocate resources fairly efficiently between alternative uses, thereby answering the three questions of what, how and for whom to produce. **(4 marks)**
(b) What is *market failure*? Identify and explain three situations where the free operation of the market system commonly fails. **(4 marks)**

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4.12 The effect of government budgetary policy decisions on the achievement of equity in income distribution

KEY CONCEPT

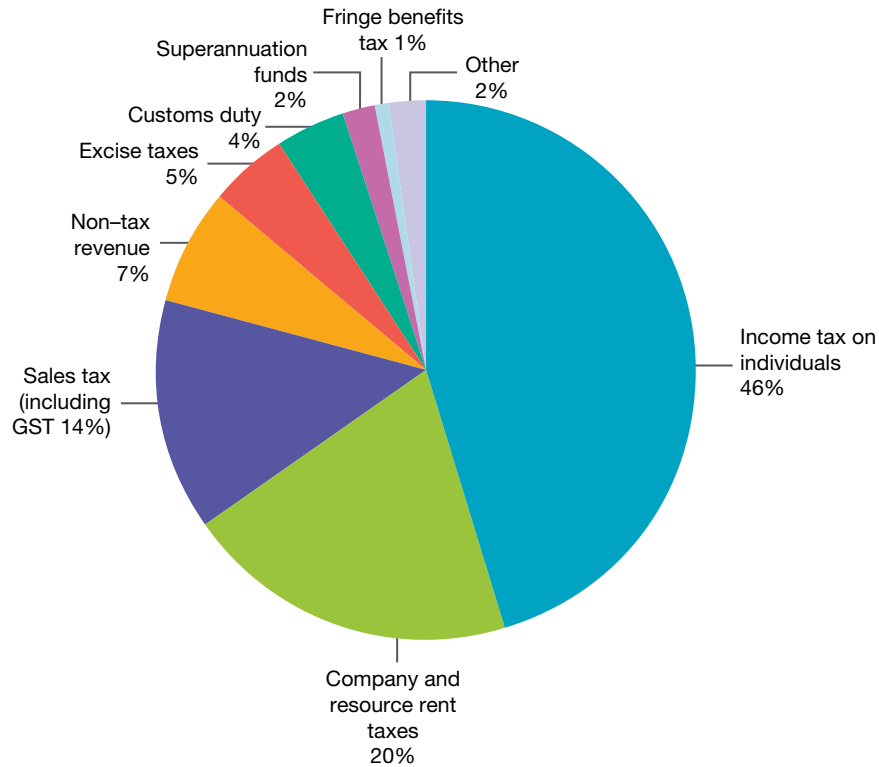
- Budgetary policy decisions on the achievement of equity in the distribution of income and the efficient allocation of resources, such as progressive, proportional and regressive taxes, unemployment benefits and subsidisation of merit goods

The Australian government seeks to promote the goals of an *equitable distribution of income* (i.e. that all people should have sufficient income to purchase or access basic goods and services, and enjoy reasonable living standards), as well as *efficiency in resource allocation* (i.e. that resources are used to gain maximum output and satisfaction of society's wants). It does this using many strategies, particularly those involving **budgetary policies**. These measures involve *budget receipts* (mostly from various taxes) and *budget outlays* (government spending and welfare payments). The breakdown of Australian government's receipts and outlays in the 2019–20 budget is shown in figure 4.34.

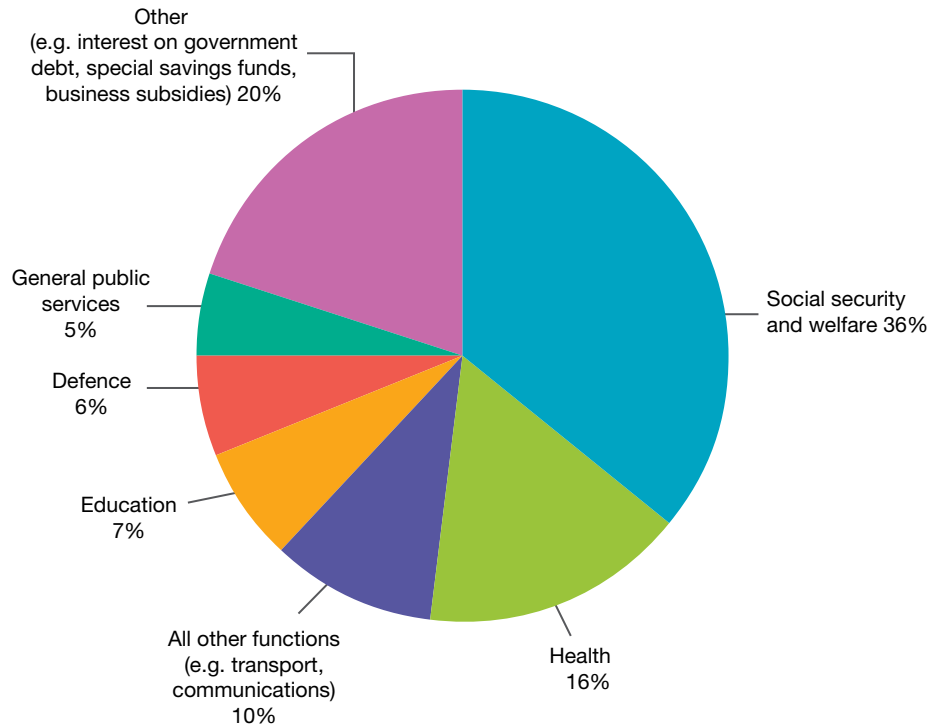
Referring to figure 4.34, notice on the receipts side of the budget the relative importance of income and company taxes, while on the outlays side, welfare and health are clearly government priorities.

FIGURE 4.34 The structure of receipts and outlays in the Australian government's 2019–20 budget

Graph 1 — Australian government budget 2019–20 estimated receipts (percentage of total)



Graph 2 — Australian government budget 2019–20 estimated outlays (percentage of total)



Source: Data derived from AFR and Budget Papers, April 2019 (prior to mid year update), https://www.budget.gov.au/2019-20/content/bp1/download/bp1_bs4.pdf.

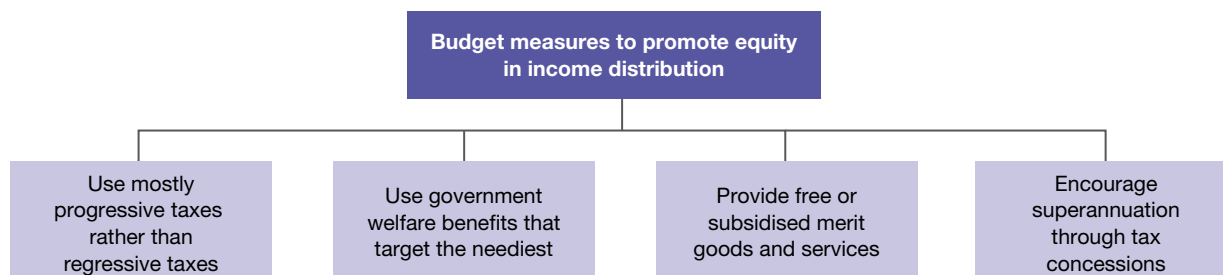
4.12.1 Using budget decisions to help promote the goal of an equitable income distribution

FIGURE 4.35 Income inequality exists, but progressive income tax is used by the Australian government to help reduce the degree of income inequality. By especially targeting higher income earners, the gap between the rich and poor is reduced and the government can use the money raised from taxation to provide assistance to the neediest individuals.



On their own, various budget receipts and outlays have *reduced* Australia's Gini coefficient by almost 40 per cent to 0.328. By any standard, this is a very significant level of government *redistribution* of income. As shown in figure 4.36, there are a number of important budget decisions that have made this possible.

FIGURE 4.36 Government measures in the budget to help promote the goal of an equitable income distribution



1. Using different types of taxes to affect the distribution of income

There are three main types of taxes found in the Australian government's annual budget: progressive, proportional and regressive.

Progressive income taxes

Progressive income tax can help reduce inequality and ultimately promote equity. Direct progressive income taxes (e.g. PAYG or 'pay as you go' personal income tax, capital gains tax) are those where the marginal tax rate (i.e. the tax expressed as a percentage of income) rises as income increases. In the case of personal income tax (for the period 2018–19 to 2021–22), the standard rate increased from the lowest

0 per cent on low incomes up to \$18 200 per year all the way up to a top marginal rate of 45 per cent (excluding the 2 per cent Medicare levy) on those dollars in excess of \$180 000 per year.

Progressive income tax helps to alleviate poverty by taking a larger *proportion* (percentage) of income from the rich than from those on low incomes. The money raised in this way potentially becomes available to pay for welfare benefits and the provision of essential services (e.g. public health and education) to the neediest. In other words, by lowering the disposable income of those at the upper end of the scale, the policy directly promotes greater equality by narrowing the income gap.

Table 4.2 shows how the Australian government has also changed the rates of personal income tax. In particular, note the very large rise in the tax-free threshold in July 2012 from a maximum of \$6000 to \$18 200 per year, along with other changes in marginal tax rates and the cutoffs for various tax brackets.

TABLE 4.2 Australia's PAYG marginal income tax rates, July 2010–11, 2014–15 and 2018–19 to 2021–22

From 2010–11		From 2014–15		From 2018–19 to 2021–22	
Taxable income thresholds (\$)	Marginal tax rates (%)	Taxable income thresholds (\$)	Marginal tax rates (%)	Taxable income thresholds (\$)	Marginal tax rates (%)
\$0 to \$6000	0	\$0 to \$18 200	0	\$0 to \$18 200	0
\$6001 to \$37 000	15	\$18 201 to \$37 000	19	\$18 201 to \$37 000	19
\$37 001 to \$80 000	30	\$37 001 to \$80 000	32.5	\$37 001 to \$90 000	32.5
\$80 001 to \$180 000	37	\$80 001 to \$180 000	37	\$90 001 to \$180 000	37
\$180 001 and over	45	\$180 001 and over	47	\$180 001 and over	45

Source: Data derived from budget papers (overview) 2009–10 to 2019–20, along with the ATO. Rates do not include the 2 per cent Medicare levy.

In addition, going back further than the period shown, personal income tax rates overall have been cut from a top rate of 70 per cent to 45 per cent, making them *less steeply progressive* and allowing for greater inequality. One reason for this change is that some supply-side economists believe that high income tax rates discourage personal effort, motivation and efficiency because the government takes a larger percentage of any extra income gained. They note that this slows GDP, incomes and living standards.

Proportional income taxes

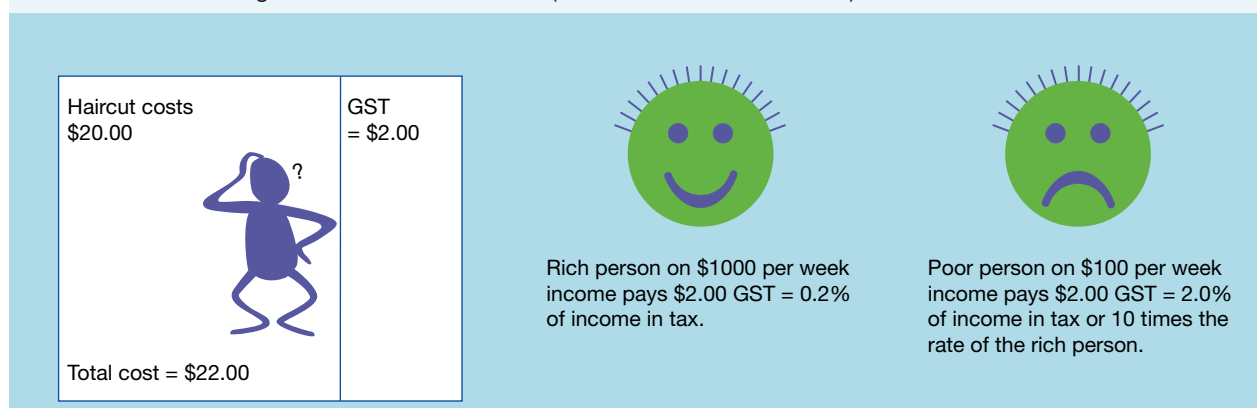
Proportional taxes have a fairly neutral effect on income distribution. While PAYG personal income tax is an example of a progressive tax, not all taxes are progressive. For example, there are also *proportional taxes* where the tax rate remains constant as income rises. An example of a proportional tax is company tax. To July 2020, large businesses pay at the rate of 30 per cent of each dollar of profit while small companies pay 27.5 per cent. Here, small and medium-sized firms are defined as those with a turnover below \$50 million per year and, by 2021–22, these firms would pay a tax rate of just 25 per cent. By their nature, proportional taxes tend to have a fairly neutral effect on the distribution of income.

Regressive indirect taxes

Regressive indirect taxes increase inequality and reduce equity. Some of Australia's taxes are *regressive*: where the *rate* of tax paid as a proportion of income decreases as income rises. Examples of indirect regressive taxes include the goods and services tax (or GST) that is levied at the general rate of 10 per cent on most (but not all), the former carbon tax (2012–14), and the excise taxes on petrol, tobacco and alcohol that are as high as 40 per cent. They are added onto the price of goods and services at the point of sale, making items dearer for buyers.

Regressive taxes lead to increased inequality because a low-income buyer purchasing an item (such as a \$20 haircut involving a 10 per cent or \$2 GST) will be paying a larger proportion of income in tax than a high-income person making exactly the same purchase. This is illustrated in figure 4.37.

FIGURE 4.37 The regressive effects of the GST (or most other indirect taxes)



In fact, Australian estimates suggest that low-income individuals in quintile 1 pay indirect taxes equal to around 20 per cent of their income, while high-income earners making up quintile 5 only pay about 9 per cent of their income in indirect tax. This is highly unfair and regressive because these taxes make things more expensive and reduce the access of low-income earners to basic goods and services.

Recent budgets between 2012–13 and 2019–20 have increased the rate of excise tax on petrol, alcohol and tobacco. In addition, there has been discussion about increasing the GST rate to 12.5 or even 15 per cent and/or removing basic items that are currently exempt like fresh food. These budgetary policy decisions would tend to reduce equity. One exception to the regressive nature of most indirect excise taxes is the *luxury car tax*. This is only applied to expensive imported vehicles that are typically purchased by those on higher incomes.

A review of various types of tax found in the budget

So far under budgetary policy, we have seen that there are three types of taxes:

- progressive,
- proportional
- regressive.

Each affects the distribution of income in different ways. Only progressive taxes narrow the income gap, while regressive taxes widen inequality. Table 4.3 illustrates some of the features of these taxes.

TABLE 4.3 Features of hypothetical progressive, regressive and proportional taxes

Annual taxable income (\$)	Amount of tax (\$) and average tax rate (%) applicable for a 'progressive' tax	Amount of tax (\$) and average tax rate (%) applicable for a 'regressive' tax	Amount of tax (\$) and average tax rate (%) applicable for a 'proportional' tax
\$5000	\$0 tax = a rate of 0%	\$1000 tax = an average rate of 20%	\$1000 tax = an average rate of 20%
\$10 000	\$1000 tax = an average rate of 10%	\$1500 tax = an average rate of 15%	\$2000 tax = an average rate of 20%
\$15 000	\$3000 tax = an average rate of 20%	\$1800 tax = an average rate of 12%	\$3000 tax = an average rate of 20%
Impact of tax on income distribution	Has a levelling effect on the distribution of incomes; e.g. the personal income tax is a progressive tax	Causes income distribution to become more uneven; e.g. the GST is a regressive tax	Has a fairly neutral impact on the distribution of income; e.g. company tax is a proportional tax

2. Using cash welfare payments to promote equity

Welfare benefits are an important outlay in the Australian government's budget, accounting for around 35 per cent of all expenses. Income support has the potential to promote equity. It represents cash benefits (typically around \$250 to \$350 per week) that are mostly adjusted upwards or indexed as consumer prices and the cost of living go up. This is designed to help protect their purchasing power.

A **means test** (income test or cut-off) or an **assets test** (wealth test) is also used by Centrelink to exclude high-income and wealthy individuals from gaining access to welfare and to better target those most in need of help. Welfare works to promote equity by lifting the incomes of the poor so they can better purchase basic goods and services and enjoy reasonable living standards.

The federal government provides a wide range of **cash welfare assistance** or benefits (also called transfer payments). Some of the major forms of income support are summarised in table 4.4 and include the age pension, family tax benefit, disability pension, parenting payment, Newstart unemployment allowance and youth allowance.

TABLE 4.4 Some types of welfare assistance offered by the Australian government (from June 2019)

Name of benefit	Target group	Maximum value per fortnight (\$ rounded)
Age pension (single)	Aged person (single or couples) who are retired	843.60
Newstart	Single unemployed, no dependants over 21 years while looking for work	555.70
Youth allowance (living away from home aged 18–24)	Single, aged over 18, living away from home, undertaking full-time study or training	455.20
Austudy (single, no children)	Those in full-time study to cover expenses	455.20
Abstudy	Indigenous individuals aged 22 and over, to help cover the cost of education and training	555.70
Family tax benefit (one child aged 0–12)	Lower income couples with one child	186.20
Carer allowance	A single individual prevented from working because they are caring for a dependant	843.60
Parental leave payment	For new mothers or adoptive parents caring for a young child up to 18 weeks	1481.20
Disability support pension	Single, aged over 21, longer-term medical, health and impairment conditions	926.20

Source: Data derived from Department of Human Services, Centrelink, July to September 2019, see <https://www.humanservices.gov.au/organisations/about-us/publications-and-resources/guide-australian-government-payments>.

3. Providing free or subsidised government services or merit goods to promote equity

Federal and state governments use their budgets to provide a range of community services (e.g. public education, health, some prescription drugs and housing) free of direct charge or at a relatively low, subsidised price. These are regarded as **merit goods** because, if not paid for by the government, they would be underproduced and too expensive for ordinary families. Providing these makes such services more affordable for the poor than would otherwise be the case.

From the point of view of the poor, having access to these government services is as good as having extra income. Indeed, it has been estimated that government services provide a cost saving or benefit of around \$300–\$400 a week for those individuals in the lowest two income quintiles (but less than half of this amount for those in quintile 5). However, with the Australian government's weakened financial position involving large budget deficits (where budget receipts are less than budget outlays) over the last ten years to 2018–19, there has been an attempt by the government to recover some of the costs of providing services through a shift towards the 'user-pays principle' (i.e. consumers of these services are expected to pay the cost to the government of producing these items). Examples here can be found especially in areas like transport,

education and health. This trend is likely to increase inequality because the poor lack the income to pay, depriving some of access to these basic services.

4. Encouraging superannuation contributions to promote equity

Australia has an ageing population which is living longer, yet there is a declining proportion of the population who are of working age and paying taxes to support these older people. When people no longer work, they usually have lower incomes or none at all. This has helped to create pressure on our welfare system. To ease this problem, starting in 1992 the Australian government introduced the **superannuation guarantee charge (SGC)**. This is a levy which requires employers to make retirement contributions on behalf of their workers. In 1992, the contribution was 3 per cent of the employee's pay, but by 2015 this had increased to 9.5 per cent with further stepped rises scheduled to 10 per cent in July 2021 and ultimately to 12 per cent from July 2025. By helping ordinary workers to retire with more adequate superannuation, the burden on the nation's finances is eased and it is hoped that retirees should be able to enjoy better living standards and live above the poverty line.

The budget also uses very attractive tax concessions to encourage people to put money aside into personal superannuation funds voluntarily (called salary sacrifice) while they are still working. While this does build retirement savings for those who are better off and can afford to save, it does little to help those on low incomes. Additionally, providing such generous tax concessions that are mostly of use to those on higher incomes seems highly unfair, weakening the government's budget position and making the provision of merit goods and welfare for the neediest less affordable and sustainable.

5. Using the budget to help reduce inflation and unemployment, to help promote equity

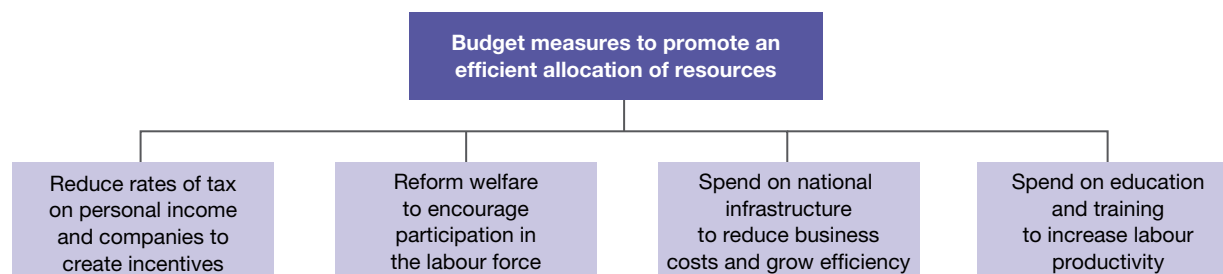
Generally, rising prices or inflation as well as unemployment cause inequality and lead to an inequitable distribution of Australia's income. Both reduce the purchasing power of individuals. To help avoid inflationary booms or recessions where there is high unemployment, the Australian government uses the budget as a stabiliser of spending or AD by adopting either a contractionary or expansionary approach. For this to happen, the budget must be applied in a countercyclical way.

- In an inflationary boom, the budget typically becomes contractionary involving rises in receipts and reductions in some outlays that slow AD.
- In a recession, the budget typically becomes expansionary through lower tax receipts and higher budget outlays that boost AD.

4.12.2 Using budget decisions to help promote the goal of an efficient allocation of resources

The Australian government's budget is also an effective instrument that can help to promote an efficient allocation of resources. In particular, it can boost both technical and allocative efficiency by making changes to key tax rates and budget outlays. Let us take a closer look at a few of these policy measures, summarised in figure 4.38.

FIGURE 4.38 Government measures in the budget to promote the goal of an equitable income distribution



1. Using lower tax rates to increase efficiency

Some supply-side economists believe that high rates of personal income (PAYG) tax or company tax discourage effort by punishing the most efficient and productive. For instance, with progressive income taxes, working longer hours, gaining promotion or undertaking extra training are discouraged because the government will keep an increasing percentage of their income. In addition, faced with high rates of company tax, businesses too are reluctant to take risks or invest in new technology. This makes them less efficient and competitive.

Based on these ideas, these economists suggest that tax rates on personal incomes and company profits should be slashed to increase the incentives for businesses and individuals to be more productive or efficient (even though this may lead to more income inequality). Over the decades, it is clear that their ideas have been very influential in shaping taxation policy within the budget. For example:

- The top marginal rate of personal income tax in Australia used to be around 75 per cent up to 1951–52, but has gradually been reduced to 45 per cent in recent years.
- The top rate of company tax used to be 49 per cent in 1986–87. Now it is 30 per cent for large firms, 27.5 per cent for small to medium-sized businesses, with 26 per cent from July 2020 and ultimately to 25 per cent for these businesses from July 2021.

The other tax where rates have been cut is *tariffs*. Tariffs are an indirect tax (and part of budget revenue) added onto the price of some imported goods to make them more expensive and less attractive to buyers than the local product. High tariff rates protect Australian businesses from often more efficient foreign producers. By protecting local producers, resources are not always allocated to their most efficient use and into areas where we have a comparative cost advantage. During the last four decades, various Australian government budgets have announced reductions in tariff rates on imports.

- The general tariff rate for manufactured items in 1968–69 was 36 per cent, but since 1995–96 has come down to just 5 per cent or less.
- The tariff rate on imported cars used to be as high as 125 per cent in 1990–91, but is now just 5 per cent (even though we no longer build cars here).
- The tariff rate on textiles, clothing and footwear was 176 per cent in 1990–91, but is now 5 per cent or less.

However, while some economists argue that *lower* tax rates might be beneficial for lifting efficiency, others question whether these same tax cuts actually add further to income inequality.

2. Using budget outlays to increase efficiency

There are also *three* especially important budget outlays that can be used to influence Australia's economic efficiency — infrastructure, education and training, and welfare.

Budget spending on national infrastructure

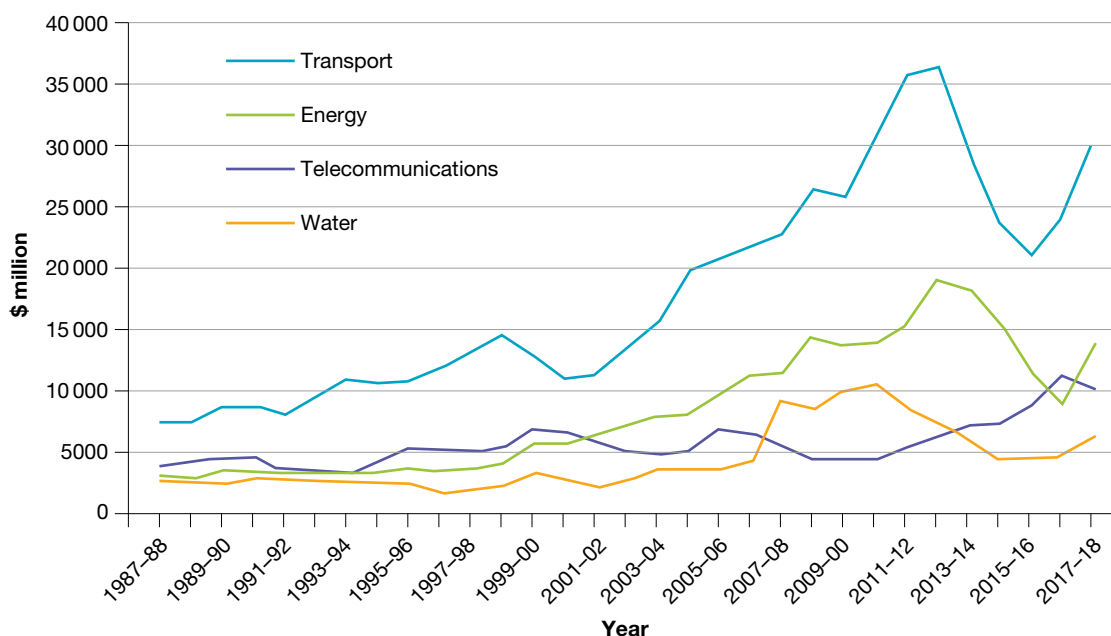
Federal and state government investment spending on *infrastructure* is an important part of budgetary policy. **Economic infrastructure** is used by businesses and individuals to produce goods and services and might include highways, railways, sea ports, airports (e.g. a new airport in Western Sydney), electricity capacity and delivery, gas, telecommunications including the National Broadband Network (NBN), sewerage and water supply. Recent federal budgets to 2019–20, for example, included \$100 billion of spending over the next



ten years on projects such as the Monash Freeway, the M80, the Western Ring Road, the Bruce Highway, the Murray Basin Rail Link, a fast train from Geelong to Melbourne, the further development of the Snowy Mountains Hydroelectric scheme including pumped hydro, and the completion of the NBN.

The Victorian government has also allocated significant resources into building infrastructure (e.g. the Westgate tunnel). Sometimes, too, governments build infrastructure in a partnership arrangement with private businesses. Figure 4.39 shows the spending growth in selected areas of Australian infrastructure including transport, energy, telecommunications and water.

FIGURE 4.39 Trends in spending on Australian infrastructure by area



Source: Graph has been copied directly from Department of Infrastructure, Regional Development and Cities, Statistical Report, Yearbook 2018, p.9, see <https://bitre.gov.au/publications/2018/files/infrastructure-statistics-yearbook-2018.pdf>.

A feature of infrastructure spending is that it helps to decrease business costs for transport, power and telecommunications, and strengthen efficiency in the allocation of resources. For example:

- Improved road and rail networks speed up transport, reduce time and fuel costs, and improve efficiency.
- Better internet connections reduce costs and improve business efficiency and access to global markets.
- More reliable water supply enables some heavy users of water in agriculture and manufacturing to lift their efficiency and output.

By increasing efficiency (more output is gained from fewer inputs) and lowering production costs, firms become more profitable. They expand rather than close down. This also helps to grow our potential GDP, generate more employment and raise real incomes and material living standards.

Outlays on education, training and skills

In the 2019–20 budget, the Australian government planned to spend around \$36 billion on education, training and skills. In the long term, government spending on training and education can be used to cultivate the skills, productivity and creativity of Australia's labour resources. Such outlays help to lift the efficiency of the workforce so that there is a rise in real GDP per hour worked. Having increased skills also tends to make individuals more employable. This helps to ensure that labour resources are used efficiently and personal incomes are higher.

Changes to budget outlays on welfare

Welfare or income support in the Australian government's budget takes around 36 per cent of all outlays. Over the last decade, we have seen many changes to our welfare system with the aim of increasing efficiency. The main focus has been to encourage more individuals to be self-reliant and financially independent by getting a job and participating in work. This has involved various measures in the budget such as:

- tightening welfare access for the unemployed (e.g. requirements involving working for the dole, regularly applying for jobs and/or undertaking training), the aged (e.g. increasing the pension age) and parents (e.g. required to work some hours when children reach school age)
- providing better access for parents to affordable childcare so that they can participate in work and gain employment and income.

Through access to more labour resources, it is likely that these measures have helped increase efficiency and thereby expanded Australia's productive capacity and real incomes.

on Resources

-  **Weblinks** Tax the rich: An animated fairy tale
Why tax reform?
Quick comments & quizzes
Indirect tax

4.12 ACTIVITIES

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Check your understanding

1. What is meant by the Australian government's goals of an *equitable distribution of income* and *efficiency in the allocation of resources*?
2. What is *budgetary policy*?
3. How might government budgetary policy help to promote greater equity in distribution of income?
4. Explain how budgetary policies might be used to increase economic efficiency.

Applied economic exercises

1. (a) In general terms, how can budgetary policies affect the distribution of Australian incomes? **(4 marks)**
(b) Define what is meant by the *progressive tax* on personal income. How does this differ from a *regressive tax*? **(2 marks)**
(c) Use the data in table 4.5 to create a graph showing how Australia's *marginal tax rate* steps upward as personal income increase. **(2 marks)**

TABLE 4.5 Marginal tax rates on personal incomes in Australia (for the years 2018–19 to 2021–22)

Taxable income levels and thresholds (tax brackets) (\$)	Marginal tax rates (%)	Calculation of tax on taxable income falling in each tax bracket
\$0 to \$18 200	0	Zero
\$18 201 to \$37 000	19	Zero plus 19c for each \$1 over \$18 200
\$37 001 to \$90 000	32.5	\$3572 plus 32.5c for each \$1 over \$37 000

Taxable income levels and thresholds (tax brackets) (\$)	Marginal tax rates (%)	Calculation of tax on taxable income falling in each tax bracket
\$90 001 to \$180 000	37	\$20 797 plus 37c for each \$1 over \$90 000
\$180 001 and over	45	\$54 097 plus 45c for each \$1 over \$180 000

Source: Data from the Australian Tax Office (ATO), see <https://www.ato.gov.au/rates/individual-income-tax-rates/>. Data excludes the effects of the 2 per cent additional Medicare levy.

- (d) Use table 4.5 to calculate the total amount (in dollars) of personal income tax payable on each of the following taxable incomes: **(3 marks)**
- \$18 201
 - \$36 402
 - \$190 000.
- (e) Examine table 4.5 before answering the following questions: **(1 mark)**
- What is the tax-free personal income threshold?
 - In July 2012, the federal government raised the tax-free threshold from \$6000 to \$18 200. Additionally, over the years, it has lowered the marginal tax rate on middle and higher incomes, and tax bracket thresholds were generally widened. Discuss the likely effects of these tax changes on the level of equality in Australia's income distribution. **(4 marks)**
- (f) Concerning the goods and services tax (GST):
- In general, why are indirect taxes levied on goods and services that are purchased by households considered to be *regressive*? **(2 marks)**
 - What are the features of the GST that currently help to limit its regressiveness? **(2 marks)**
- (g) Assume that you were the federal treasurer revising Australia's GST. Which *six* of the following goods or services would you tax if you wanted to make the GST more *progressive*? Be prepared to justify your answers. **(2 marks)**
- Cosmetics
 - Holidays
 - Above-ground plastic swimming pools purchase from K-mart
 - Public transport tickets
 - Takeaway foods
 - Restaurants
 - Fresh fruit and vegetables
 - Medical prescription drugs
 - Contraceptives
 - Textbooks
 - Petrol
 - Tax accountant fees
 - International departures
 - Taxis
 - Bread
 - Imported French wines
- (h) Examine table 4.6 containing data relating to three types of tax: a *progressive*, *regressive* and a *proportional* tax. Complete this table by:
- calculating the rates of tax applicable for each of these three taxes **(3 marks)**
 - deciding whether each tax is progressive, proportional or regressive **(3 marks)**
 - explaining the effect of each tax on the level of inequality in income distribution. **(3 marks)**

TABLE 4.6 Hypothetical data relating to three types of tax

Annual income and other	Features of tax 1	Features of tax 2	Features of tax 3
\$30 000	\$5000 = ...%	\$2000 = ...%	\$4000 = ...%
\$60 000	\$10 000 = ...%	\$6000 = ...%	\$3000 = ...%

Name the type of tax	a tax	a tax	a tax
Effect on income distribution =			

- (i) Explain how each of the following possible Australian government budgetary policy decisions would be likely to affect the level of equality and equity in the distribution of income and wealth. **(10 marks)**
- A tightening of the assets or means tests applied to welfare benefits (e.g. 1996–2019)
 - An increase in the superannuation guarantee charge *rate* paid by employers on behalf of their employees (e.g. 2015)
 - The free or subsidised provision of merit goods by the government
 - A move towards the user-pays principle in the provision of government or public services
 - Requiring that the unemployed wait six months before receiving unemployment benefits
 - Abolishing the indexation of welfare benefits
 - Lowering the top marginal tax rate from 45 to 40 per cent
 - Increasing the GST from 10 per cent to 15 per cent on all goods and services without exception
 - Scrapping the assets and means tests applied to the aged pension
 - Using an expansionary budget deficit to stimulate AD and reduce unemployment
 - Reintroducing death duties on the value of inherited assets passed down from one generation to the next
 - Scrapping tax concessions for superannuation contributions, negative gearing and capital gains, for those on incomes above \$180 000 per year
2. Before answering the questions that follow, read the extracts in figure 4.40 written by low-income people living in poverty.

FIGURE 4.40 Extracts from those in poverty

The stories behind the statistics

Mary

Mary is a single mother living in NSW who is looking for paid work. Poverty is hindering her efforts to find a job.

‘The government and jobactive providers should not assume that all jobseekers have internet access, latest models of mobile phones for apps etc. and plenty of mobile phone credit. I am a single parent, struggling to have credit on my simple/cheapest mobile phone, no internet access or apps on my mobile phone, currently homeless with a teenager, staying in a temporary accommodation.’

(Source: Survey respondent, ACOSS, Voices of Unemployment, 2018)

Linda

Linda, aged over 50, lives in South Australia. She was unemployed for two years.

‘I was lucky, qualified as a nurse, then ran a child care centre so I had strong skills and employment history. Then I spent a number of years as a stay-at-home mum, so lacked a recent history of paid work. I re-entered the workforce after my husband lost his job and our family business (a café) didn’t work out, and found myself unemployed in my late 40s. I was the ‘2nd best candidate’ for jobs on many occasions. There aren’t many jobs in the country town where I live.

‘The Newstart payment is ridiculous, we couldn’t live on it. Our finances went downhill. We’d paid off the home but took out a loan for the café and fell behind in mortgage payments. My husband had to withdraw from his super three times. On one of those occasions, the local Council would have forced us to sell our home if we hadn’t paid three years of overdue rates (\$6700). We survived off credit cards and support from our daughter. Eventually I found paid work where I was volunteering, teaching people IT skills. I teach unemployed people and seniors. I love doing it. My husband had to take up a job interstate so I haven’t seen him for six months but at least our finances are improving.

Raising Newstart, that’s the most important thing to do.’

(Source: Survey respondent, ACOSS, Voices of Unemployment, 2018)

Ross

'I'm an ex-Australian soldier who returned to Australia, couldn't find work and was shunted into Newstart and (Work for the Dole). I have a three-year-old and barely have enough money to feed/clothe him or I. The extra money would help us 'survive' until I could get back on my feet employment-wise.

Bella

'I'm 51, on Newstart and need someone to know what I'm experiencing. I've been homeless this year, and last. I'm reliant on my daughters giving me extra food when they can. I lost my car. What I'm afraid of is if this nightmare continues ... Please #RaisetheRate.'

Jim

'I was on Newstart from October 2017 until April 2018 and it was impossible to meet basic expenses such as rent/food/bills, never mind new clothes and transport. Newstart must be increased to cover basic costs.'

Ellen

Ellen is 61 and caring for two children.

'You can't live on Newstart. I eat one meal a day so the kids can eat. My sweet girl says I should eat more. I was a nurse for 27 years. All my savings have gone. I'm in so much debt. I try my best but feel so ashamed.'

(Source: Your Stories, Raise the Rate, www.acoss.org.au)

Source: Reproduced from ACOSS & UNSW, *Poverty in Australia, 2018*, pp. 22 and 37, see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf.

- a. Referring to these stories quoted in figure 4.40 and other sources, identify and outline *four* common causes of poverty in Australia. (4 marks)
- b. Explain how our welfare system operates to support those on low incomes, while excluding those on high incomes. (2 marks)
- c. Referring to some of these stories, how effective do you think our government welfare system is in keeping people out of poverty? (2 marks)
3. (a) Identify and outline *four* important ways in which the Australian government's budget can be used to *increase efficiency* in the allocation or use of Australia's resources. (4 marks)
(b) For each of the following hypothetical changes in government budgetary policy, giving reasons, explain the likely effect on *efficiency* in the allocation of resources. (12 marks)
 - i. The tax-free income threshold was increased to \$25 000 per year and the top marginal rate of tax cut to 40 per cent on incomes above \$200 000 per year.
 - ii. The Australian government provided \$2 billion from the budget to build a huge nuclear-powered desalination plant in South Australia.
 - iii. The minimum school leaving age was raised from 15 to 17 years and tertiary education was free for those who gained admission.
 - iv. Childcare funding was increased in the budget for those families on incomes below \$80 000 per year up to a fee limit or cap of \$20 000 per year.
 - v. Company tax rates were reduced to 20 per cent for small to medium sized firms and 25 per cent for large firms.
 - vi. There was a 20 per cent decrease in budget funding for the CSIRO for its research and development projects.
4. Select any *two* government policies from the list below and then explain how each could be used to *simultaneously* increase equality and also boost efficiency in our use of resources: (4 marks)
 - spending on education and training
 - spending on health
 - measures to increase inclusiveness of all people
 - reducing tax discounts on capital gains.

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4.13 Review

4.13.1 Summary

The nature of income and wealth

- *Income* affects material living standards. It represents flow of money or rewards over a time period, usually to those households selling natural, labour and capital resources.
- When labour is sold, this is called *earned income* as opposed to *unearned income* in the form of rent and interest, or *transfer income* from government welfare payments to the neediest individuals.
- *Wealth* is different — it is the value of assets (e.g. savings, shares, property, superannuation, collectables) which often generate income for their owners (e.g. interest, dividends).

Measures of income inequality and poverty

- *Income distribution* refers to the way the income ‘cake’ is shared or divided between individuals, genders, groups or regions. This pattern of distribution affects living standards and may be fairly even or uneven.
- The ABS measures income distribution using a sample survey of Australian households to construct a range of measures. Three important measures of income distribution are:
 - market or *private income* (i.e. income from personal sources such as wages, interest, dividends, profits and rent, prior to government redistribution measures)
 - *equivalised disposable income* (i.e. income from all private sources after allowing for government welfare payments, the payment of income tax and adjustments made to reflect differences in household size and composition)
 - *final income* (income from all private sources after allowing for the effects of government redistribution measures including welfare, income tax, provision of government services and payment of indirect taxes).
- From its survey data, the ABS calculates *quintile shares* of income (i.e. for five groups each representing 20 per cent of households). From this, a *Lorenz diagram* and curve can be drawn and a *Gini coefficient* calculated where 1.0 is total inequality and 0.0 is total equality in distribution.
- There is *moderate income inequality* in Australia relative to some countries. The Gini coefficient is 0.328. The lowest quintile receives just 7.5 per cent of the equivalised disposable income cake, while quintile 5 receives a massive 40.4 per cent of the total income cake.
- The ABS also calculates income differences by gender, state, occupation, educational attainment and age.
- Wealth surveys (net worth) are also conducted by the ABS in a similar way to the income survey and reveal an especially high degree of inequality.
- *Absolute poverty* is the absence of the necessities of life due to very low incomes, whereas *relative poverty* means that living standards are austere, usually less than 50 per cent of average weekly earnings.

- In Australia, 13.2 per cent of the population live in relative poverty. Overall, this figure has gradually increased over recent years. Those most likely to experience poverty include the unemployed, welfare recipients, the disabled and individuals from non-English speaking countries.

Causes of income inequality and poverty in Australia and Nigeria

- A range of factors causes inequality in Australia's distribution of income and wealth:
 - Foremost, wage differences in Australia reflect the relative scarcity or economic value of each occupation. Wage differences therefore reflect the operation of the forces of demand for labour (e.g. affected by tastes, technology, economic conditions) and supply of labour (e.g. affected by education, skill, experience) in the labour market. Here, higher wages reflect greater scarcity and mean that supply is less than demand for labour, while lower pay means that supply is greater than demand.
 - Incomes are also influenced by unemployment, hours worked, inflation, overseas economic conditions, union effectiveness, luck, inheritance, age, education, discrimination, work ethic and the unintended effects of some government policies (e.g. tariff cuts, the user-pays principle, deregulation of the labour market).
- In low-income countries like Nigeria, poverty reflects extreme inequality in income and wealth, high levels of unemployment and underemployment, the failure to diversify the economy to create more jobs, low worker productivity especially in the large agricultural sector, long-term ethnic and civil unrest, and political corruption.

Effects of poverty on material and non-material living standards

- Clearly, poverty reduces both material and non-material living standards of individuals, whether they live in Australia, Nigeria or some other country.
- In Australia for example, *relative* poverty means that household consumption per head is very low because many goods and services (e.g. food, clothing, housing, electricity) are unaffordable, children often do not attend school, there are poor health outcomes, some people live on the streets, and there is often low self-esteem, isolation and higher crime rates.
- In Nigeria, *absolute* poverty leads to suffering, insufficient food and other basics of life, social unrest, low life expectancy, crime, lack of opportunity and sadness.

The difference between equity and equality

- *Equality* in income distribution means that everyone has the same level of income — the income cake is divided totally equally between all individuals. By contrast, *inequality* means that people have different incomes and the cake is shared unevenly.
- *Equity* or fairness is very hard to define since it depends partly on one's values and point of view. For Australia, an *equitable income distribution* is often taken to mean that everyone should have access to basic goods and services and be able to enjoy reasonable living standards at a level deemed generally acceptable to society. Achieving this may mean treating some people unequally.

The meaning of economic efficiency and the benefits of achieving allocative and technical efficiency

- Resources are scarce and must be used efficiently to maximise material living standards and satisfy society's wants.
- Economic efficiency means that resources are used in ways that maximise the general satisfaction of society's wants and that the maximum output is gained from minimum inputs or resources. Often we refer to *two* types of efficiency:
 - *Allocative efficiency* means that scarce resources are used where they are most wanted or valued by consumers. Normally we rely on the operation of the market or price system to determine how resources should be used.
 - *Technical efficiency* means that when a business makes a decision about how to produce a good or service, it will select the cheapest or lowest-cost method whether it involves using much labour or mostly machinery.

- Economic *efficiency* brings many benefits, for example:
 - faster rates of economic and income growth
 - lower inflation rates and more purchasing power of incomes
 - the creation of more jobs and lower unemployment
 - a stronger trade balance with increased levels of net exports
 - better non-material living standards.

The economic and social costs and benefits of achieving equity in income distribution

- *Too much inequality* can be detrimental. For example, it can:
 - reduce social cohesion and *non-material* living standards
 - distort the allocation of resources and lead to the *underproduction* of socially beneficial or merit goods and services, like health and education, unless there is government interference
 - undermine productivity, economic growth and prosperity because poverty and inequality lead to poorer educational and health outcomes, and a reduction in the quality and volume of Australia's labour resources.
- *Too little inequality* can also be bad. For instance, modest inequality can help:
 - increase the incentive to work hard
 - increase the incentive to gain improved skills, education and job position
 - increase the incentive to relocate to another geographic area
 - increase incentives for businesses to take risks and expand their operations
 - increase the levels of savings needed to finance higher levels of investment
 - reward households and individuals who are successful.

Compatibility and conflict between the goals of equity in income distribution and efficiency in resource allocation

- In economics, many believe that the promotion of *equity* (perhaps using government policies like progressive taxes, generous welfare and free services, setting a minimum wage) involves a *trade-off* or *conflicting relationship* with economic efficiency, mostly by reducing incentives to work hard, be financially independent, save to finance investment, and gain improved education and skills.
- However, some believe that it might be a partially compatible relationship; for example, government policies that involve free education and health can increase the efficiency of the labour force, so the potential GDP is bigger and there is more output or GDP per hour worked.
- In Australia, there appears to be a compromise position adopted whereby promoting efficiency grows the size of the production cake, allows for higher incomes, keeps prices down and purchasing power up, and provides government tax revenue that allows for a more sustainable and generous welfare system and the better provision of merit goods. However, to guarantee equity, it is still essential that the government has in place effective progressive taxes, well-targeted welfare and well-resourced collective or merit goods like affordable health and education.

The role of markets in the achievement of an efficient allocation of resources and equitable distribution of income

- The free or unregulated operation of the *market* or *price system* usually ensures that resources are allocated efficiently to areas where they are most wanted or are of greatest value. The forces of demand and supply operate in each market to determine *relative prices* and *relative profits*, guiding the economic decisions of profit-seeking owners of resources.
- However, sometimes when competition in markets is *weak* (e.g. monopolies) or there is incomplete knowledge by buyers or sellers, decisions are not always optimal, and society's wellbeing may be reduced. *Market failure* can be the reason why governments sometime intervene in allocating resources to improve efficiency and living standards.
- Markets also help to allocate and distribute the highest incomes to those whose skills and talents are most wanted and scarce. However, this results in wage inequality between occupations and individuals.
- When *inequality* is too great, governments use policies to redistribute incomes more fairly, so that everyone can enjoy reasonable living standards and poverty is avoided.

The effect of government budgetary policy decisions on the achievement of equity in income distribution

- The Australian government's *goal is to promote an equitable distribution of income and wealth* so that everyone has access to basic goods and services (e.g. food and housing) and can enjoy reasonable living standards at a level deemed generally acceptable to society, avoiding absolute poverty.
- The government redistributes incomes more equitably using *budgetary policy* decisions involving changes in the level and composition of budget tax receipts and outlays.
- *Direct progressive taxes* like PAYG income tax are used in the budget to narrow the income gap a little between high-and low-income earners and promote equity. Here, the marginal tax rate rises with taxable income (e.g. personal marginal tax rate range from 0 on incomes up to \$18 000 up to 45 per cent marginal rate on incomes above \$180 000 for 2018–19–20–21). They take money from the wealthy that can then potentially be used to pay for welfare and free or subsidised public services.
- *Indirect taxes* on goods and services (e.g. the GST, excise taxes on petrol, alcohol and tobacco, the former carbon tax) are also part of the budget. These are mostly regressive and increase inequality, but they are less so if necessities are exempted or the taxes are only levied on luxury items purchased mainly by higher income earners.
- *Proportional taxes* like company tax also raise budget revenue and involve a flat tax rate on every dollar of business profit. These have a fairly neutral effect on the distribution of income.
- *Cash welfare benefits* of perhaps \$250 to \$350 per week are paid only to the neediest (e.g. the aged, unemployed, families). This is done by applying both *assets* and *means* tests. These benefits are also *indexed* to protect their purchasing power as the cost of living rises. Income support allows low-income individuals to purchase basic goods and services and thus helps to promote equity. In addition, there have been *changes* to the welfare system over the years. This has involved tightening access with the hope of better targeting the most needy, encouraging increased *participation* in work and reducing reliance on government income support.
- The budget is also used to fund and *provide free or subsidised government services* (e.g. merit goods and services like public health, education, housing, transport) to the needy at an affordable price, improving their accessibility. A concern is the increased move towards the *user-pays principle*. This is likely to make the policy less effective in promoting an equitable distribution of income.
- Budgetary policy has encouraged *superannuation* or retirement savings. Some years ago, the budget announced the *superannuation guarantee charge*. This is a *compulsory* levy on employers who must currently contribute an amount equal to an additional 9.5 per cent of employees' wages into a superannuation fund on behalf of each employee. There are also generous *tax concessions* for those individuals who salary sacrifice and contribute to their superannuation balances. While some of these measures tend to favour higher income earners, they should allow people to retire with more wealth and income, reduce their reliance on the pension and enjoy improved access to goods and services.
- The government tried to *lower unemployment* (e.g. following the GFC in 2012–19) and keep *inflation in check* (e.g. during 2007–08 and 2010–11) using appropriate *countercyclical* budgetary policies that typically involve either expansionary or contractionary changes in budget receipts and outlays. By keeping unemployment and inflation rates lower, the purchasing power of family incomes and general living standards are better protected. Equity is improved.

Using government budgetary policy decisions to promote the goal of an efficient allocation of resources

- An *efficient allocation of resources* means that resources are directed into areas where they are most wanted and into the production of particular goods and services that maximise the satisfaction of society's wants and wellbeing.
- Increased building of *national infrastructure* can reduce production costs of transport, energy and telecommunications, therefore strengthening efficiency and productive capacity.
- *Reducing company and personal income tax rates* can help create stronger incentives to work hard, invest in new more efficient technologies and grow business capacity,

- Increased *spending on education and health* can help to lift the skills, employability and productivity of labour
- *Welfare reforms*, including the tightening of access and measures to boost labour force participation rates, represent a more efficient use of our labour resources.

on Resources

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4.13.2 Key terms

Absolute poverty occurs when people's basic survival needs for adequate food, shelter, clothing and health are not generally met.

Allocative efficiency means that resources will be used efficiently to produce those goods and services that consumers value most highly.

An **assets test** (wealth test) is used by the government to exclude the rich from gaining access to welfare and to better target those in most need of help.

Asymmetric information is a type of market failure and commonly exists when buyers of goods and services, unlike sellers, lack sufficient and complete information to make good quality decisions. This results in waste and reduced satisfaction of wants, lowering society's general wellbeing.

Budgetary policy relates to government receipts mostly from various types of tax, and outlays on services and welfare. It is often used to stabilise the level of economic activity. It can be used as an aggregate demand and as an aggregate supply policy.

Cash welfare assistance is given by the government to the neediest individuals to allow them to purchase basic goods and services.

Disposable income is income available for spending after the receipt of welfare benefits and deduction of personal taxes. This is a major determinant of the level of private consumption spending (C) and imports (M) and hence is a demand-side factor.

Disposable weekly income is market income, plus any government welfare income, that is available for spending each week by individuals after the payment of personal income tax.

Earned income comes from households selling their labour (i.e. supplying intellectual talents and/or physical power to businesses).

Economic efficiency means that resources are used to produce particular types of goods and services that maximise the general satisfaction of society's needs and wants, and wellbeing.

Economic infrastructure is used by businesses and individuals to produce goods and services and might include highways, railways, sea ports, airports, electricity capacity and delivery, gas, telecommunications including the broadband network, sewerage and water supply.

Equality in Australia's distribution of the income cake would mean that every individual would get exactly the same-sized slice of the cake and end up with the same level of income.

Equivalised disposable income refers to the level of spendable income available for individuals, after special equivalence adjustments have been made to reflect the effects of different-sized households. Disposable income includes market income plus any government welfare income minus personal income tax.

Final income refers to the level of market or private income after allowing for the effects of government income redistribution policies including welfare, free or subsidised public services, the payment of direct personal income tax and the payment of indirect taxes.

A **fringe benefit** is a special non-monetary reward given by an employer to selected employees in lieu of income (e.g. a free house, company car).

The **Gini coefficient** is a measure of the degree of inequality in the distribution of a nation's income or wealth. On the Lorenz diagram, it represents the area between the diagonal line of total equality and the actual nation's Lorenz curve. The bigger the area, the closer the Gini coefficient is to its maximum value of 1; the smaller the area, the lower the degree of inequality and the closer the Gini coefficient is to 0.

The **goal of a fair and equitable distribution of income** is a government objective and means that everyone should be able to have access to basic goods and services and enjoy reasonable living standards. This often means partly narrowing the gap or differences between the rich and poor.

Goal of an equitable income distribution is achieved when everyone has access to basic goods and services, and can enjoy a reasonable standard of living at a level deemed generally acceptable by most in society.

Gross income represents the total of private or market income received before tax, along with income received from government welfare benefits.

Income distribution refers to the way the nation's 'income cake' is divided or shared between individuals and income units making up the population.

Income units are of different sizes and types, and represent a group of people or an individual that is dependent on a given income to survive.

Indirect taxes are those added onto the price of goods and services at the point of sale. These are regressive and add to inequality because their value represents a higher percentage of a low-income earner's income than for a high-income earner purchasing a particular item.

Inequitable distribution of income refers to a situation where a nation's income cake is divided unfairly and where many people are unable to enjoy access to basic goods and services and reasonable living standards.

A **Lorenz curve** is part of the Lorenz diagram. The line or curve shows how total income or wealth is shared between cumulative quintiles. The greater the deviation of the Lorenz curve from the diagonal line of total equality, the greater the degree of inequality.

A **Lorenz diagram** is a graph used to show how evenly income or wealth is distributed between individuals.

Market failure occurs when the operation of demand and supply and the price system do not cause resources to go into areas where they are most wanted and used in ways that maximise the general wellbeing of society.

Market or private income is personal income from private sources including wages, salaries, profits, rent, interest and dividends, prior to any government efforts to redistribute income more evenly.

A **means test** (income test) is used by the government to exclude high-income earners from gaining access to welfare and to better target those individuals that most need financial help.

Merit goods are socially beneficial goods and services like health and education that all people require for reasonable living standards, so they are usually provided free of charge or subsidised by the government.

Negative externalities represent costs associated with the production and consumption of goods and services that are paid by third parties not directly involved in the transaction or activity. They represent one type of market failure because these socially undesirable products are over produced. This is because with lower direct costs, profits and therefore production are higher.

Net worth is positive when there is an excess of assets or wealth owned by households over their liabilities.

Nominal income is simply the number of dollars of income received by an individual measured over a period of time, and does not take into account its purchasing power.

The **pattern of income distribution** is regarded as fairly even if people receive similar sized slices of Australia's income cake, but uneven if the majority of the population receives only a relatively small share of the total income cake.

Poverty has many meanings, including material deprivation and inability to afford basic goods and services needed for survival (absolute poverty), or for a reasonable living standard (relative poverty).

The **poverty line** is set at the amount of money required by different-sized income units each week to sustain an austere or basic living standard, and purchase essential food, shelter and clothing.

Progressive income tax is one where the percentage of income paid in tax rises with the level of income.

Purchasing power parity (PPP) is used to adjust the purchasing power of money in different countries to allow comparisons of incomes.

Quintiles represent the five equal-sized groups making up all income earners in Australia. Each quintile therefore represents 20 per cent or 1/5 of all income earners. Comparing income or wealth shares of the income cake by quintiles exposes the degree of inequality.

Real income is equal to a person's nominal level of income measured in so many dollars after taking into account the inflation rate. This is a guide to its purchasing power.

Regressive taxes are those where the rate of tax as a proportion of income decreases as incomes rise (e.g. the GST). Unless they are used carefully, targeting items purchased by the rich, they increase the gap between high-and low-income earners, reducing equality.

Relative poverty exists when people have low incomes compared with what is needed to maintain what are regarded as reasonable living standards.

Superannuation guarantee charge (SGC) requires employers to make superannuation or retirement contributions on behalf of their workers, currently equal to an extra 9.5 per cent of pay (to be progressively increased to 12 per cent by 2025).

Technical efficiency is about businesses and managers using the most efficient techniques or methods of production available when making goods and services.

Transfer income is derived from government cash welfare payments made to the neediest individuals with little or no income or wealth.

Unearned income includes rent and interest, and is received for allowing others to use your property and savings.

Wealth consists of assets or things of value owned by private individuals (e.g. houses, shares, bonds, savings) or governments (e.g. public infrastructure including power, transport, health and education) that could be converted into money.



Resources



Digital document Key terms glossary (doc-31562)
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4.13 Review questions

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4.13 Exercise 1: Multiple choice questions

- Concerning the concepts 'wealth' and 'income', which of the following is *true*?
 - All income is regarded as 'earned' income, whereas all wealth is inherited.
 - Income is the flow of monetary rewards that is normally measured over a period of time, whereas wealth is the value of assets measured at a point in time.
 - Wealth does not generate income, but it can help to generate even more wealth.
 - Interest is the income from property, whereas dividends are income from ownership of company shares.
- Wages represent:
 - earned income.
 - unearned income.
 - transfer income.
 - the reward for the sale of property.
- Which of the following statements is *most* correct? Transfer income from the government:
 - is usually payable only to those with low incomes and wealth.
 - helps to provide a minimum income and living standard for the poor.
 - is largely paid for by relatively richer households and companies.
 - Any or all of the above are largely correct.
- Concerning Australia's measurement of income distribution, which statement is *false*?
 - Statistical data are collected by the ABS through its income survey.
 - Income distribution relates to the way wages and other forms of income are shared between individuals.
 - The greater the deviation of the Lorenz curve from the diagonal line, the less the degree of inequality.
 - The Gini coefficient is a number between 0 and 1. It measures the level of inequality and its value is related to the area between the diagonal on a Lorenz diagram and the actual Lorenz curve.

5. The Australian government's goal of equity in the distribution of income and wealth does *not* mean:
 - A. that income should be divided totally evenly between individuals.
 - B. that poverty should be avoided.
 - C. that everyone should be able to access basic goods and services.
 - D. that everyone is entitled to basic living standards.

6. Referring to the Lorenz diagram in figure 4.41, which statement about curve B on the diagram is most *correct*?

- A. The poorest 50 per cent of households receive around 50 per cent of the income cake.
- B. The poorest 50 per cent of households receive around 70 per cent of total national income.
- C. The poorest 50 per cent of households receive 0 per cent of income.
- D. The poorest 50 per cent of households receive around 15 per cent of total national income

7. From figure 4.41, the Gini coefficient for a country with a Lorenz curve B would be about:

- A. 0.5.
- B. 1.0.
- C. 0.0.
- D. 10.0.

8. Examine table 4.7.

FIGURE 4.41 Lorenz diagram for a country

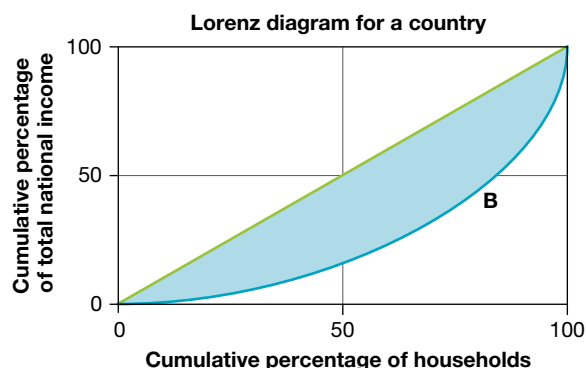


TABLE 4.7 Equalised disposable income distribution (non-cumulative figures) by quintile for four countries

Country	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Alpha (percentage of income)	1.0	4.0	11.0	20.0	64.0
Beta (percentage of income)	4.0	9.0	15.0	24.0	48.0
Gamma (percentage of income)	10.0	15.0	20.0	25.0	30.0
Delta (percentage of income)	20.0	20.0	20.0	20.0	20.0

Which statement is *incorrect* about the distribution of equalised disposable income in these four countries?

- A. Alpha has the most uneven distribution of income.
- B. The Gini coefficient for Delta would be 0.0.
- C. The poorest 60 per cent of households in Gamma would receive 25 per cent of the income cake.
- D. The richest 40 per cent of Beta households would receive 72 per cent of all equalised disposable income.

9. Nowadays in Australia, the poorest 20 per cent of households receive about:

- A. 4 per cent of equalised disposable income.
- B. 8 per cent of equalised disposable income.
- C. 12 per cent of equalised disposable income.
- D. 16 per cent of equalised disposable income.

10. Concerning income and wealth distribution in Australia, which statement is *most* correct?

- A. The poverty rate (before housing) is about 30 per cent of households.
- B. The poverty rate (before housing) is between 10 and 20 per cent of households.
- C. The Gini coefficient for the distribution of equalised disposable income is more than 0.5.
- D. Wealth is distributed more evenly than income as judged by percentage shares by quintile.

11. Often relatively well-paid workers in Australia:
 - A. possess relatively scarce skills and talents.
 - B. perform difficult, responsible or dangerous tasks.
 - C. work longer hours.
 - D. All of the above may be explanations that reflect the operation of the labour market.
12. High wages are *least likely* to be gained by workers in industries where:
 - A. firms operate in markets that resemble pure competition.
 - B. a strong union operates in the industry.
 - C. workers are usually employed full-time rather than part-time in the industry.
 - D. firms are highly profitable and efficient.
13. Which of the following is the *least* likely explanation of income inequality and lower material living standards?
 - A. There is high unemployment.
 - B. There is rapid inflation resulting in speculative gains by some groups.
 - C. There is a progressive wealth tax on the inheritance of assets worth more than \$10 000.
 - D. Education to age 15 years is neither free nor compulsory, and unionism in the labour force has declined.
14. Study the data in table 4.8 relating to three different types of income tax. From the data, which statement is *correct*?

TABLE 4.8 Data relating to different types of income tax

Annual taxable income	Annual value of revenue collected from the three types of tax		
	Tax 1	Tax 2	Tax 3
\$10 000	\$1000	\$1000	\$1000
\$20 000	\$2000	\$1000	\$3000

- A. Tax 2 has regressive rates.
 - B. Tax 1 and tax 3 have progressive rates.
 - C. Tax 1 and tax 2 have proportional rates.
 - D. Answers A, B and C are all incorrect.
15. An increase in the GST to 15 per cent on all goods and services would, in itself, tend to:
 - A. make income distribution more even.
 - B. make income distribution more uneven.
 - C. have no effect on the distribution of income.
 - D. have an effect on income distribution, but it is impossible to predict the overall impact.
16. If the distribution of income becomes more *uneven*, this is *likely* to:
 - A. cause unemployment to rise because spending power is in the hands of too few people who save a larger proportion of their income than if income was spread more evenly.
 - B. cause more resources to be allocated to the production of luxuries rather than to necessities.
 - C. increase crime and social unrest.
 - D. result in answers A, B and C.
17. Concerning Australian government taxes, which statement is *true*?
 - A. Company tax is a progressive tax.
 - B. Personal income tax is a progressive tax.
 - C. The exemption of essential goods and services from the GST has made the tax more regressive than otherwise.
 - D. A progressive tax is one where the amount of tax paid rises, even if this rise is at a slower rate than income.

18. Which of the following policies is *least* effective in helping the poor to enjoy a reasonable living standard?
 - A. Providing free childcare for those on incomes below \$40 000 per year, along with training for those unemployed for more than six months.
 - B. The payment of government welfare benefits to those qualifying under the means and assets tests.
 - C. The government's provision of subsidised public services, such as education and health.
 - D. Reducing the marginal rates of personal income tax on incomes above \$80 000 per year and increasing the GST rate to 15 per cent.
19. Which of the following is *least* likely to help promote equity and improved material living standards?
 - A. A 10 per cent excise tax imposed on milk and bread.
 - B. Making superannuation contributions by employers compulsory on behalf of their workers.
 - C. Government policies to lower both unemployment and inflation.
 - D. Requiring the young unemployed be involved in education if they want access to welfare.
20. Which of the following would be *least* damaging to equity in the distribution of income?
 - A. A move to abolish the user-pays principle for the provision of government services made available to the poor.
 - B. The abolition of the assets test for the age pension.
 - C. The introduction of a tax on rental accommodation paid by tenants.
 - D. Across-the-board tax cuts for all personal income tax brackets.
21. Which statement about income distribution and poverty is *least* correct?
 - A. A Gini coefficient of zero means there is total equality in income distribution.
 - B. In low-income countries like Nigeria, the new international absolute poverty line is now \$1.90 (PPP).
 - C. Australia's poverty line measures the income needed to stay out of absolute poverty.
 - D. In Australia, the overall poverty rate changes between 10 and 15 per cent.
22. Concerning poverty and inequality, which statement is *least* correct?
 - A. Poverty is especially caused by prolonged periods of unemployment.
 - B. The normal operation of the labour market leads to wage inequality where the best-paid occupations are those in which labour supply is large relative to low demand.
 - C. During periods of inflation, the wealth and income of property and share speculators often rises faster than those of others in the community.
 - D. Some government policies, like the increased reliance on the user-pays principle, can increase inequality.
23. Wages in mining are among the highest in Australia. Which of the following explanations would be *unlikely* to explain this observation?
 - A. Working conditions are often unpleasant and dangerous.
 - B. The work is often in remote areas.
 - C. The demand for mine workers is large relative to the supply of workers, especially when global economic growth is strong.
 - D. Mine workers are less scarce than factory workers in Australia.
24. Which of the following measures of income is most *correct*?
 - A. Private income includes wages and all government welfare.
 - B. Gross income includes wages and welfare after the payment of income tax.
 - C. Earned income is that derived from the ownership of assets and investments.
 - D. Disposable income includes income from all sources minus the payment of income tax.
25. Income inequality and poverty are likely to be *highest* among:
 - A. those on the minimum wage.
 - B. the very old.
 - C. those on welfare.
 - D. those in remote Indigenous communities.

26. Which of the following is probably *not* the main cause of poverty in Nigeria?
- A. The slow rate of GDP growth
 - B. Great inequality in income distribution
 - C. Government corruption and the misuse of government revenue
 - D. Ethnic conflict and civil unrest
27. Concerning *equity* and *inequality* in the distribute incomes in Australia, which statement is *false*?
- A. Equity means ensuring that everyone can enjoy a reasonable living standard at a generally acceptable level.
 - B. In one sense, the government's goal of a fair or equitable income distribution means treating high-and low-income earners in different ways.
 - C. Australia's wealth (net worth) is distributed more unequally than equivalised disposable income.
 - D. An equitable distribution of income is likely to be one where the Gini coefficient is equal to 1.
28. Which statement about allocative efficiency and technical efficiency is *most* accurate?
- A. Allocative efficiency is achieved when there is the maximum satisfaction of society's wants, and resources are put to their most valued uses.
 - B. Technical efficiency occurs when there is no waste, and production is maximised.
 - C. Allocative efficiency is when everyone's wants are met.
 - D. Allocative efficiency generally means that the government will make most of the key economic decisions.
29. Which statement about equality, inequality and efficiency is *least* correct?
- A. There can be a conflicting relationship between achieving equity in income distribution and also efficiency in the allocation of resources.
 - B. There can sometimes be a partly compatible relationship between equity and efficiency when government policies are used to retrain those who are unemployed so they can gain a job.
 - C. By using various policies to promote economic efficiency and rapidly grow the size of the nation's income 'cake', normally there is an increase in government tax revenue and its ability to support the needy, making the system more financially sustainable.
 - D. All of the above are incorrect.
30. Concerning the use of taxes to promote equity and efficiency, which statement is *least* correct?
- A. High tax rates on companies can discourage investment in new technology and limit business expansion and jobs.
 - B. Very generous welfare paid at rates near the level of the minimum wage may cause a rise in the number of welfare recipients and add to the burden on taxpayers.
 - C. Requiring that the unemployed apply for 30 jobs per month and wait six months as a precondition to receiving welfare seems to assume people are voluntarily unemployed and reluctant to work.
 - D. Encouraging retirement savings by giving a generous 15 per cent tax concession to all those individuals who contribute to their superannuation fund is a very effective way of promoting greater equity, especially among low-income earners.



Resources



Digital documents Multiple choice answer grid (doc-32655)
Multiple choice answers (doc-32660)

4.13 Exercise 2: Extended response questions

1. Clearly define what is meant by the term *the distribution of income*, outlining the overall way income is distributed in Australia. (2 marks)
2. Use the approximate data for Mexican income from table 4.9 showing the percentage income shares by quintile to *neatly* and *accurately* complete and fully *label* a Lorenz diagram that clearly shows the following: (3 marks)
 - the line of total equality
 - the actual Lorenz curve for Mexico
 - appropriate horizontal & vertical scales for the graph
 - the titles for the two axes
 - your estimate of the *Gini coefficient* for Mexico.
3. It has been said that the biggest single cause of *inequality in wages* among Australian workers in *different occupations* is the *normal operation of the labour market*.
 - a. Accurately *explain* how the operation of the labour market, and the *conditions of demand and conditions of supply* for each type of labour, account for why a typical factory worker receives less than \$1000 per week while an experienced engineer frequently gains more than \$5000 per week. (3 marks)
 - b. Neatly complete and fully label a demand–supply diagram representing to show hypothetically how the free operation of the labour market causes inequality in weekly wages between these two occupations. (*Note: Take care to realistically locate the positions of the various demand and supply lines for the two occupations, and carefully label all points and lines.*) (2 marks)
4. List and briefly outline three important *causes* of typically low incomes received by many *Indigenous* Australians. (3 mark)
5. Explain how *unemployment* and/or *part-time work* can cause income *inequality* and low living standards in Australia. (2 marks)
6. a. The Australian government pursues the *goal of an equitable distribution of income*. Accurately *define* what is meant by this goal. (2 marks)
 - b. Describe the *main features* of Australia's *personal income (PAYG) tax system* and explain how this tax helps to redistribute personal incomes *more evenly* than otherwise, thereby promoting greater *equity*. (2 marks)
 - c. *Other than* the PAYG income tax system, identify *one* other important federal government policy that helps to *redistribute personal incomes more evenly*. (2 marks)
7. a. Normally, the free operation of competitive markets leads to *efficiency* in the allocation of scarce resources through the price system. Accurately define what is meant by an *efficient allocation of resources*. (1 mark)
 - b. What are the main reasons why the government wants to increase efficiency in the allocation of resources? (2 marks)
 - c. Discuss the relationships that can exist between a government's promotion of greater equity and the promotion of greater efficiency. (4 marks)
8. Select *one* of the following government policies and, quoting examples of specific policy measures, clearly explain *how* it has been used recently to help *increase efficiency* in the allocation of Australia's resources:
 - lower tax rates on personal incomes
 - government spending on infrastructure
 - government spending on education and skills.
 (2 marks)

TABLE 4.9 The distribution of Mexico's income by individual quintile

Quintile	Mexico Non-cumulative share (%) of income
1	2.0
2	6.0
3	12.0
4	20.0
5	60.0

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4.13 Practice school-assessed tasks

AN ESSAY

Write an 800-1000 word essay on *one* of the following topics:

1. 'Economic efficiency is vital if there is to be equity in the distribution of final incomes'. Discuss this statement.
2. It is possible for the government to promote greater equity and at the same time, enhance efficiency, thereby improving society's general wellbeing? Discuss.
3. The welfare system helps to reduce Australia's Gini coefficient and level of income inequality, thereby keeping many out of poverty. Discuss.
4. Examine *one* of the following topics about 'the distribution of income and wealth in Australia' ...
 - A. What factors cause income inequality and poverty in Australia?
 - B. Outline the extent of income inequality and poverty in Australia? In your answer, create and refer to graphs, information contained in figure 4.42 and other evidence.
 - C. Define what is meant by the federal government's 'goal of an equitable distribution of income'. Identify and explain how the Australian government uses budgetary policy decisions to help promote a more equitable distribution of income.

FIGURE 4.42 Poverty in Australia 2018 report — summary of key findings

Snapshot of poverty in Australia in 2015–16:

Poverty line

Calculated at 50% of median household disposable income.

For a single adult \$433 per week, for a couple with two children \$909 per week.

Poverty rate

3.05 million people (13.2% of all people) live below the poverty line, after taking account of their housing costs.

Child poverty

739 000 children (17.3% of all children) live below the poverty line.

Income support

Most people below the poverty line (53%) rely on social security as their main source of income.

Includes 63.7% on Youth Allowance, 54.6% of those on Newstart Allowance, 52.3% on Parenting Payment, 36.4% on Disability Support Pension, 17.1% on Carers' Payment, and 12.2% of those on the age pension.

Unemployed

67.8% of people who are unemployed live below the poverty line.

Working poor

6.9% of people below the poverty line come from a household with wages as their main income.

Overall growth in poverty

Poverty decreased between 2012 and 2015–16 by nearly 1.1% (from 13.9% to 12.8%).

Location

Level of poverty 12.8% in capital cities compared to 13.8% outside capital cities.

- Tasmania 11.5%
- Queensland 12.9%
- NSW 13.3%
- Victoria 13.2%
- WA 13.7%
- SA 14.7%
- ACT 7.7%
- NT 10.1%

Most at-risk groups

- Women — more likely to experience poverty than men (13.4% compared to 13.0%)
- Children and older people who rent — face higher risks of poverty compared to other age groups (17.3% and 43.5% respectively)
- Sole parents — at high risk with 32% in poverty in 2015–16, and 39.4% of all children in poverty were in sole parent households
- Born overseas — poverty is higher among adults born in countries where the main language is not English (17.4%) than among those born overseas in an English speaking country (9.7%), or in Australia (11.1%)
- Aboriginal and Torres Strait Islander people — 31.4% of Aboriginal and Torres Strait Islander people live in poverty, compared to 12.8% of the total Australian population
- People with a disability — 16.5% of people with a disability were living in poverty compared to 12.8% for the total population.

Source: Table copied directly from ACOSS, *Poverty in Australia 2018*, see https://www.acoss.org.au/wp-content/uploads/2018/10/ACOSS_Poverty-in-Australia-Report_Web-Final.pdf

A REPORT ON AN INVESTIGATION OR INQUIRY

Inequality in your Economics class

Aim

Your task is to research the distribution of income and the distribution of wealth in your Economics class and report your findings.

Collecting the statistical information

You could proceed using the following steps:

1. Your teacher should photocopy the survey form shown in table 4.10 and distribute one to each member of the Economics class for completion. There should be discussion about the nature of income and wealth. *Income* (e.g. wages from a job, gifts, tips, allowance or pocket money, interest from a savings account, dividends from shares) in the survey should represent an estimate for the last complete financial year (e.g. 2018–19). *Wealth* should be an estimate of the value of your assets (e.g. personal savings, shares, property, share of trust, possessions worth more than \$500 per item) on the day of this survey. Forms could then be completed anonymously for homework.

TABLE 4.10 Anonymous survey form for the distribution of class income and wealth — your details

'Income' survey — Economics class	Value (\$)	'Wealth' (net worth) survey — Economics class	Value (\$)
Wages from a part-time job		Bank savings (total value or balance)	
Tips		Current market value of shares owned	
Pocket money or allowance		Personal possessions (items over \$500 each)	

Gifts or presents from family or friends		Valuables and antiques you own	
Interest received from savings account		Value of property held in your name	
Dividends received from shares		Your value of a trust or inheritance	
Other		Other	
		Subtract any money owed by you	
Your total income for the past 12 months		Your current total net value of assets or wealth	

2. Collect the completed survey forms (for privacy, students should not put their name on their form).
3. Process the completed forms. First, rank student income levels from lowest to highest and divide them into five equal-sized income groups or quintiles. Second, tally up the total income for each quintile and for the class as a whole. Third, work out what percentage each quintile's total income is of the total class income. This will mean that you should now have percentage income shares by quintile from lowest income quintile through to the highest income quintile. Repeat the same process to gain the same information about the wealth distribution for your Economics class. Use this information to complete a table similar to tables 4.11a and 4.11b (each is only suitable for recording a survey result for 10 students, two per quintile).

TABLE 4.11a Results for the Economics class income survey

Rank income of class by quintile from lowest to highest income		Student income by rank order	Student total income (\$) by quintile order	Quintile share (percentage) of total income by rank order	Cumulative (progressive total) quintile share (percentage) of income
Quintile 1:	Student 1	\$.....			
	Student 2	\$.....	\$.....	%	%
Quintile 2:	Student 3	\$.....			
	Student 4	\$.....	\$.....	%	%
Quintile 3:	Student 5	\$.....			
	Student 6	\$.....	\$.....	%	%
Quintile 4:	Student 7	\$.....			
	Student 8	\$.....	\$.....	%	%
Quintile 5:	Student 9	\$.....			
	Student 10	\$.....	\$.....	%	%
Total incomes		\$..... (= 100%)	\$..... (= 100%)	100%	N/A

TABLE 4.11b Results for the Economics class wealth (net worth) survey

Rank wealth of class by quintile from poorest to richest		Student wealth by rank order	Student total wealth (\$) by quintile order	Quintile share (percentage) of total wealth by rank order	Cumulative (progressive total) quintile share (percentage) of wealth
Quintile 1:	Student 1	\$.....			
	Student 2	\$.....	\$.....	%	%
Quintile 2:	Student 3	\$.....			
	Student 4	\$.....	\$.....	%	%
Quintile 3:	Student 5	\$.....			
	Student 6	\$.....	\$.....	%	%
Quintile 4:	Student 7	\$.....			
	Student 8	\$.....	\$.....	%	%
Quintile 5:	Student 9	\$.....			
	Student 10	\$.....	\$.....	%	%
TOTAL incomes		\$..... (= 100%)	\$..... (= 100%)	100%	N/A

- Use these two tables of survey results and, in particular, the cumulative results (i.e. the last column of each table) to neatly plot a Lorenz diagram or graph showing:
 - the labelling of the two axes and scales (i.e. 0–100 per cent for each)
 - a Lorenz curve showing the distribution of class income
 - a Lorenz curve showing the distribution of class wealth
 - the diagonal lines of total equality
 - the lines of total inequality.
- If you are not especially mathematically inclined, you can roughly estimate the area (by counting up the squares on graph paper) between the diagonal line of total equality and the actual Lorenz curve. This allows you to calculate a Gini coefficient. Your answer will be a number between 0 and 1.
- Write a brief report in which you analyse the causes of income and wealth inequality in your Economics class. Try to identify and explain several factors that cause high or low incomes or that make students rich or poor.

Presentation

Your work could be presented as a wall chart, report or oral presentation in class, illustrated using PowerPoint slides.

A PRESENTATION: ORAL, MULTIMEDIA OR VISUAL

Question 1: Closing the gap — Indigenous inequality in Australia

Aim

Indigenous Australians often endure severe poverty and have some of the lowest living standards in the world. Your task is to investigate the nature and level of inequality in living standards for Indigenous Australians, and present a report of your findings. This task will require that you contrast the living conditions and wellbeing of Indigenous people against those of other Australians. In addition, you need to outline what you feel are five practical policy suggestions about how the Australian government might improve everyday life for Indigenous Australians.

Structure of your investigation

Your report should be broken into *two* main parts:

Part 1: How do the living standards of Indigenous Australians contrast with those of other Australians?

In conducting research on this, you might consider some of the following:

- unemployment rates, hours worked, types of work and access to jobs
- the role of discrimination and commonly held views in the community
- primary, secondary and tertiary education rates and attainment
- health standards and disease rates
- life expectancy
- sources of income and income levels
- geographic location
- access to important services
- family structures and attitudes
- crime and violence.

Part 2: Outline five important government policies for Indigenous people

In the past decade, the federal government has announced significant changes to aspects of its policy towards Indigenous Australians and acknowledged the limited success of past policies. In this section, you need to discuss five important aspects of government policy that you believe might help to improve the daily living standards of Indigenous Australians.

Getting started

Start by viewing the commercially available video called *The Fringe Dwellers* (PG). This is a thought-provoking, Australian-made film set in an outback town portraying the daily lives of a group of Indigenous Australians.

Next, go online and complete some careful research, perhaps assisted by a search engine (e.g. Google).

The ABS and other agencies also publish relevant information. Use the weblinks in the Resources tab for some relevant publications. Additionally, you may conduct a newspaper search to find relevant articles. Your research should also include digital images and photographs to illustrate your report.

Presentation

You should present your report in *one* of these formats:

- a document
- PowerPoint slides that highlight your talk to the class.

Question 2: Web quest and presentation about income inequality

Presentation

Present your findings either orally or visually using multimedia (e.g. a PowerPoint presentation).

Instructions

Working in pairs, you have 3–5 lessons to brainstorm and conduct a *web quest* and other research about aspects of Australia's income distribution. Efficient use of class and homework time, accuracy and neatness are important to win valuable prizes and marks. Ready or not, at the end of the allowed time, you and your partner will be asked to make a 3–4-minute marked presentation to the class about your research findings in a particular category (from 1 to 8, see below) that is randomly nominated.

To complete this research activity, *select* question(s) from each of the following *eight categories* (maximum or minimum points stated on each category) to make up a total of 100 points upon completion. Note that easier questions are worth fewer marks and some questions are compulsory. In total, this means potentially 100 marks for the survival quest!

1. Background to the theme of income inequality	(5 points needed)
2. Definitions	(5 points needed)
3. Causes of income inequality and poverty — propose a theory	(15 points needed)
4. Opinions about income inequality	(5 points needed)
5. Evidence of income inequality	(20 points needed)
6. A scenario about income inequality	(30 points needed)
7. Government policy to redistribute income more equitably	(10 points needed)
8. Create a concept map about the topic of Australia's income distribution	(10 points needed)

To complete this activity, you will need access to the internet and search engines (e.g. Google).

- Category 1: Background to the theme of income inequality** (5 points needed)
1. Find a poem or quotable quote about *poverty, the poor or the rich*. (5 points)
 2. Find or take a digital photograph, a picture or a painting that you feel best illustrates poverty and income and wealth inequality. (5 points)
- Category 2: Definitions** (5 points needed)
3. What is meant by the term *income*? (5 points)
 4. What is meant by the term *wealth*? (5 points)
 5. Explain what comes into your mind when we use the term *distribution of income*. (5 points)
- Category 3: Causes of income inequality and poverty — propose a theory** (15 points needed)
6. To a large extent, the demand and supply of each occupation determines the price of labour or weekly wages. Neatly complete and fully label the hypothetical D–S diagram for Australia’s labour market showing why successful CEOs of large companies are paid more than service station attendants. (10 points)
 7. What made James Packer (*Kerry Packer’s son*) or Gina Rinehart (*Lang Hancock’s daughter*) very rich? (5 points)
 8. What is the basic reason why some people (e.g. *Justin Bieber, David Beckham*) get high pay and others get low pay? (5 points)
 9. Currently, youths have a lower minimum wage than adults in a particular job. Why would it be a bad thing for people aged 15–19 years to receive the same pay as an adult? (5 points)
 10. Propose and explain an economic theory as to why several CEOs in large Australian companies get paid \$10–30 million a year (*an average of over \$80 000 a day*)! (10 points)
- Category 4: Opinions about income inequality** (5 points needed)
11. Do you think that income inequality is a good thing? Explain one sound and important economic reason for your opinion. (5 points)
 12. Neatly draw a small cartoon (*with a caption*) that is critical of the rich or upper class or critical of the poor. (5 points)
 13. Outline the views of charitable organisations or the Australian Council of Trade Unions (ACTU) about income distribution in Australia. (5 points)
- Category 5: Evidence of income inequality** (20 points needed)
14. How much does a junior cook or counter assistant at McDonald’s receive per hour? Quote your sources. (5 points)
 15. Do women get equal pay to men in the same job? Explain using statistics. Quote your sources. (5 points)
 16. What is the distribution of income by quintile (*20 per cent groups*) or decile (*10 per cent groups*) shares (*percentage of total ‘income cake’ for each group*) in, say, Mexico or any South American nation? (5 points)
 17. In which two Australian states are average weekly wages highest and lowest? Explain using evidence derived from the ABS. (5 points)
 18. Find out how much a well-known pop star or sportsperson gets paid (*it does not matter if it is per year, per game, per performance, etc.*). Quote your sources. (5 points)
 19. What is the current level of the minimum wage set by Australia’s Fair Work Commission? (5 points)
 20. What are the responsibilities of Australia’s Fair Work Commission? (5 points)
 21. Collect two recent newspaper or internet job ads (*one for a well-paid job, one for a low-paid job*) that illustrate income differences between occupations. Use them to explain differences in wage rates. Quote your sources. (5 points)
 22. If you haven’t already done so, complete the survey of income and wealth distributions in your Economics class (table 4.10) and, manually on graph paper or using Excel on your computer, create and fully label two Lorenz diagrams that plot the two sets of results (from tables 4.11a and 4.11b). Next, from your two graphs, estimate the two Gini coefficients (one for income, one for wealth). Make clear conclusions about:
 - (a) the level of inequality in the class
 - (b) three likely and important reasons explaining the level of inequality in income and wealth.
 (15 points — compulsory question)
- Category 6: Scenario about income inequality** (30 points needed)
23. Use the **Centrelink** weblink in the Resources tab and find out the most recent amount each of the following individuals would receive per fortnight (in dollar terms). (30 points — compulsory question)
 - (a) A single unemployed person, no children
 - (b) A full-time tertiary student
 - (c) A retired aged couple
 - (d) A single mother with two children

- (e) A married veteran from World War II
- (f) A low-income family with two children
 - i. Select *one* of these Centrelink welfare recipients and imagine you are that person. You have only \$100 in the bank and do not have a credit card.
 - ii. What are the particular conditions (e.g. means or assets tests) that apply to you receiving this assistance from Centrelink?
 - iii. Using Excel, draw up your detailed personal budget for the fortnight, stating income and expenses. Assume that you have to:
 - rent a flat (select an actual rental advertisement that you must present as evidence in your report, that offers a property for rent that you might be able to afford)
 - buy food (accompanying documents must show your meal menu), clothing, power, transport and the like
 - describe the effects of low income on your existence and living standards.

24. 'Indigenous Australians are generally among the poorest groups in Australia. In a nation of affluence, often they endure poverty and poor living standards equal to those in the Third World.' Quoting social indicators and other data from the ABS and elsewhere, write a short newspaper article that supports the view put in this quote about the social and economic effects of low incomes. **(10 points)**
View the TV program *Broken Borders*.

Category 7: Government policy to redistribute income more equitably (10 points needed)

Use the **Treasury** weblink in the Resources tab to view online the latest budget as reported in the newspapers.

- 25.** What is the top marginal rate (percentage) of personal income tax that was announced by the federal treasurer (in the most recent budget), and from what taxable income level per year does that apply? Calculate the total tax payable on a taxable income of \$200 000 a year. **(5 points)**
- 26.** Find out why contributing to superannuation is one of the best and fastest ways to grow your personal wealth. How might this affect equity? **(5 points)**
- 27.** Why might the Australian government have to cut the level of the aged pension in the next three to four decades, or further increase the pension age (e.g. to 70)? With this in mind, what must people try to do as they age? **(5 points)**
- 28.** What is wrong with having the minimum wage set above the equilibrium wage in the labour market? What problems might be created? **(5 points)**

Category 8: Create a concept map about the topic of Australia's income distribution (20 points needed)

29. Create a concept map about income distribution showing measures for distribution, level of inequality, causes of inequality, effects of inequality, and government budgetary policies to promote the goal of greater equity in personal income distribution. You may like to use Mind Manager software to create your own mind map. **(20 points — compulsory question)**

Question 3: Explore a topic on wealth and income inequality through a film presentation

Presentation

Make a 3–4 minute DVD about one of the following topics related to income inequality:

- the causes of poverty
- the effects on our society of income inequality
- 'rich man, poor man'
- 'the unlucky, in the Lucky Country'.

Create a wall chart on the causes, level and effect of income and wealth inequality

Presentation

Using ICT, prepare a *wall chart* for display about the causes, level and effects of inequality in Australia's distribution of income and wealth, and government policy measures used to alleviate poverty. Using coloured cardboard, the chart could include a title, graphs, tables, annotations on graphs, cartoons, newspaper articles and point form blocks of text.

Alternatively, a comparison may be made between inequality of income and wealth in Australia and that in overseas countries. Perhaps try to find the countries with the most even and most uneven distribution of income. Briefly suggest possible reasons for these patterns in income distribution. For international statistics on income share by quintile or the Gini coefficient, try using the internet.



Resources



Weblinks Australian Social Trends

Directory of Education and Training Statistics

Directions in Aboriginal and Torres Strait Islander Statistics

National Aboriginal and Torres Strait Islander Social Survey

The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples

The Gap: Indigenous Disadvantage in Australia

Overcoming Indigenous Disadvantage

Centrelink

Treasury

A CLASS DEBATE

After dividing the class into two teams (one for the affirmative and one for the negative), prepare a class debate about *one* of the following topics:

- A. 'It is inevitable *that the poor are always with us.*'
- B. 'Welfare benefits are costly to taxpayers and the government and are abused by recipients — they should hence be abolished.'
- C. 'The government should reintroduce death duties (a tax on the inheritance of wealth).'
- D. 'Australian society would be better off if there was less inequality in income and wealth.'
- E. 'Economic efficiency ultimately improves equity in income distribution.'

ANALYSIS OF VISUAL EVIDENCE — A CARTOON

There are many cartoons that could be used to extend your understanding of economics and the operation of markets. Use the internet to select a relevant cartoon about one of the areas we have studied (e.g., the free market and the price system, demand and supply). Answer the following questions to help you analyse the cartoon selected.

1. What is the economic concept being presented in the cartoon?
2. What is the main message of the cartoon?
3. What is your reaction to the cartoon? Do you agree with what it is saying?
4. Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer.

UNIT 2, AREA OF STUDY 3

GLOBAL ECONOMIC ISSUES

In this area of study, students investigate one or more contemporary global economic issue/s. Students examine the selected economic issue/s from the perspective of the relevant stakeholders and evaluate decisions that may have been made with regard to these issue/s. Students consider the economic costs and benefits associated with greater levels of international trade, movement of capital and economic integration. They investigate whether Australia's prosperity depends upon economic events in the rest of the world and whether the decisions made by Australian economic agents have any effect on the global economy. They observe trade-offs in the wider economy and undertake cost-benefit analyses to evaluate the effect of decisions made to address current global economic issue/s.

AREA OF STUDY	OUTCOME	TOPICS
3 Global economic issues	Explain the factors that may influence a global economic issue/s and evaluate potential consequences associated with actions to address the issue/s	5 Free trade versus protectionism 6 Globalisation 7 The challenges faced by developing nations in reducing poverty

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.



5 Free trade versus protectionism

5.1 Overview

Numerous **videos** and **interactivities** are available just where you need them, at the point of learning, in your digital formats, learnON and eBookPLUS at www.jacplus.com.au.

5.1.1 Introduction

International trade involves a nation exporting and importing goods and services. The main reason it occurs is because it is beneficial for all countries and individuals involved.

Most importantly, because countries have only some types of resources but not others, international trade allows them to *specialise* in the production and sale of those goods and services they have in excess, and buy or import what they lack. For instance, some have plenty of skilled labour, others have lots of minerals or agricultural land, some offer great holiday destinations and others have cheap credit. Clearly differences in the resources available encourage specialisation in production and makes international trade beneficial.

Every day, Australians conduct *international transactions* with people from overseas through selling and buying goods and services. There are also *international capital flows* involving the movement of money capital or investments between countries.

FIGURE 5.1 With conditions that favour the production of high-quality tea, Sri Lanka grows 20 per cent of the teas sold around the world.



International trade allows you to have a watch made in Switzerland, eat lamb grown in Australia, be entertained with movies from the United States, drink coffee from Brazil, holiday in Bali (Indonesia), wear shoes made in the Philippines and T-shirts sourced from Bangladesh, drive cars made in South Korea or Germany, use a mobile phone manufactured in China and have a home loan where the money is often sourced by your favourite bank, perhaps from overseas. Indeed, international trade has made countries interdependent. It has allowed them to *specialise* in the production of those things they are best at making, sell these abroad, and then use the money gained to buy whatever else they need.

In this first global economic issue, we will take a look at the ways governments around the world influence the *conditions* under which *international trade* operates and is conducted.

- On the one hand we will soon see that some governments use *protectionist policies* to shield their local business from stiff foreign competition and seek to reduce the level of imports of goods and services, using measures like tariffs or taxes added onto the price of imports, making them dearer than the locally made good.
- At the other extreme, most governments these days have adopted policies that gradually reduce the level of protection from imports that is given to local businesses. This policy is called *trade liberalisation* and represents a shift towards the idea of *free trade* where there is no protection, and goods, services and investments can move freely in and out of countries across national borders.

FIGURE 5.2 An important part of international trade is the export and import of goods and services between countries. In this photo, the transportation by sea represents a service, while the containers being loaded hold goods.



5.1.2 What you will learn

KEY KNOWLEDGE

Use each of the following points from the VCE Economics Study Design as a heading in your summary notes.

- definition of the selected global economic issue/s
- economic reasons why the issue/s may be of importance to Australia and the global economy
- economic factors that might influence the extent and nature of the selected global economic issue/s
- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the
- role of consumers, businesses, governments and other relevant stakeholders
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- gather and interpret statistical data on the selected global economic issue/s
- identify and discuss factors that influence the selected global economic issue/s
- identify trends, patterns, similarities and differences in economic data and other information
- evaluate the costs and benefits associated with action taken to address the selected global economic issue/s
- access and synthesise information gathered from a range of sources and draw conclusions.

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.

on Resources

 **Digital document** Key terms glossary (doc-31540)

studyon

To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31545).

5.2 The nature and importance of international trade for Australia and the global economy

KEY CONCEPT

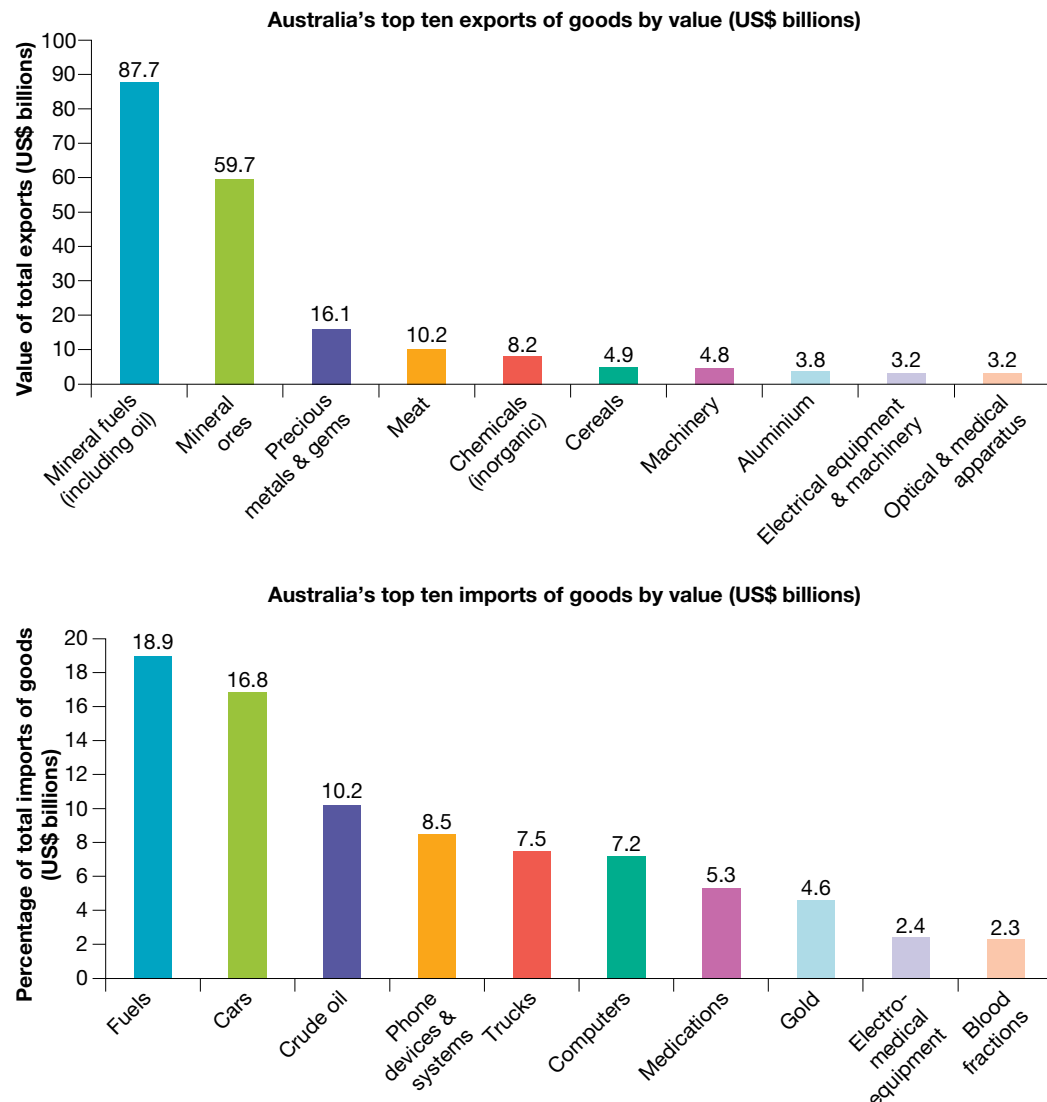
- economic reasons why the issue/s may be of importance to Australia and the global economy.

International trade involving the exchange of goods and services is awfully important for the Australian economy.

5.2.1 Australia's main export industries

Australia exports goods including minerals such as coal and iron ore, rural commodities like wool, wheat and meat, and services including education, health and transport. Figure 5.3 shows our top ten exports and imports of goods for 2018.

FIGURE 5.3 Australia's top ten exports and imports ranked by value (US\$ billions)

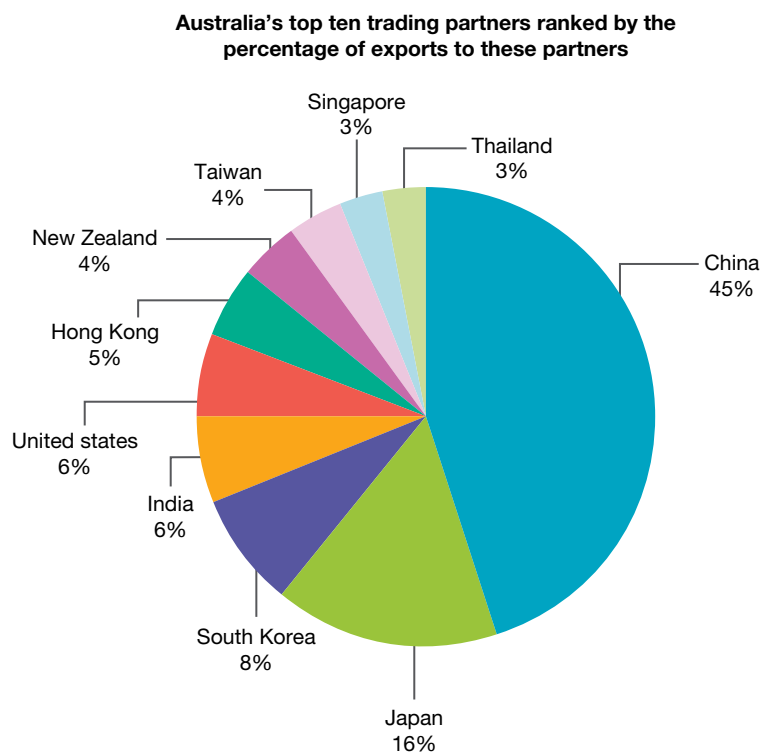


Source: Data derived from WTEEx, see <http://www.worldstopexports.com/australias-top-10-exports/> and <http://www.worldstopexports.com/australias-top-10-imports/>.

5.2.2 Australia's main trading competitors

Australia trades its goods and services with over 180 countries around the world. Our top trading partners are also shown in figure 5.4. Notice the importance of China, Japan, South Korea, India and the United States as major customers for our exports.

FIGURE 5.4 How Australia's exports are divided among our top ten trading partners — about 65 per cent of our total exports are sold to only these ten countries.



Source: Data derived from WTEx, see <http://www.worldstopexports.com/australias-top-import-partners>.

5.2.3 The effects of international trade on Australia's economy:

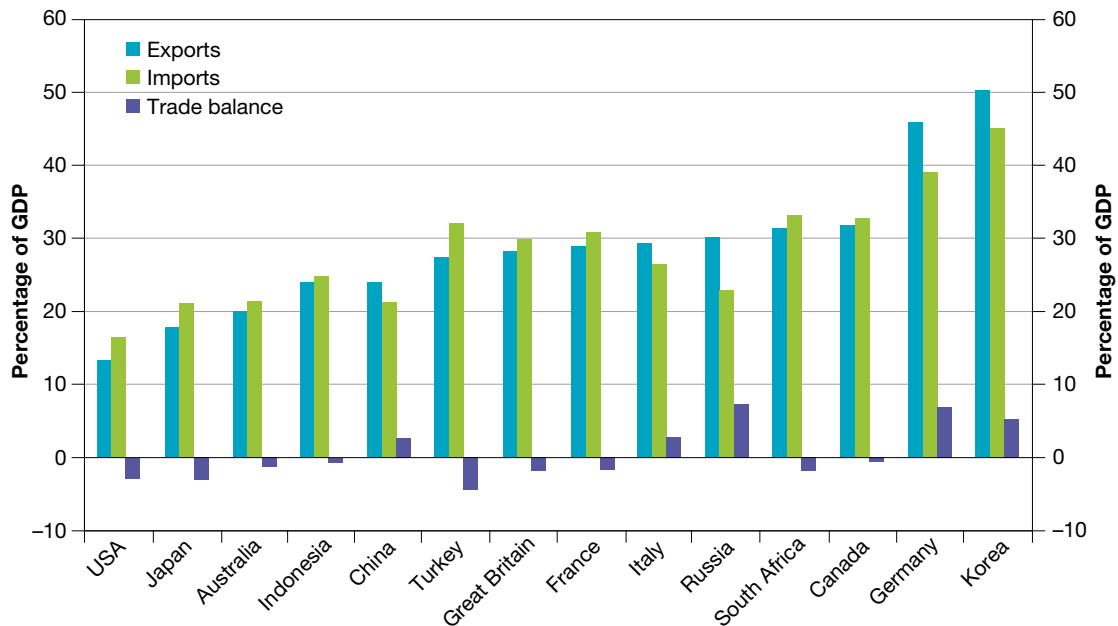
At the macroeconomic level, there are at least *three* important reasons why international trade in goods and services are vital for the Australian economy and improvements in our living standards:

- **Contribution of exports to Australia's GDP.** In 2017–18, Australia exported more than \$403 billion of goods and services. This meant that overseas buyers of our exports boosted our GDP by more than 22 per cent so that exports account for nearly one quarter of all Australian production or GDP.
- **Contribution of exports to Australia's employment.** Given the importance of export production for Australia, it is not at all surprising that our export sector creates around one in five jobs. If we can grow exports, this helps to create employment opportunities and lower unemployment rates.
- **Contribution of exports to Australia's national income.** By growing Australia's production and employment, international trade also grows our level of national income, allowing us to enjoy better material living standards.

5.2.4 The importance of trade internationally

International trade is not just important for Australians, but as shown in figure 5.5, other countries around the world also gain enormous benefit, especially countries like South Korea, Germany, Canada, South Africa and Russia, where export trade accounts for over 30 per cent of GDP.

FIGURE 5.5 Comparing the importance of international trade for selected countries (expressed as a proportion of their GDP)



Source: Graph copied directly from Parliament of Australia, Australia's trade in figures, with data sourced from OECD, *Trade in goods and services (indicator)*, 2016.

5.2.5 How Australia records international transactions involving imports and exports of goods and services

Some of Australia's international transactions with the rest of the world are recorded statistically on an account called *the balance on goods and services*. This classifies transactions according to which way the money payments are moving:

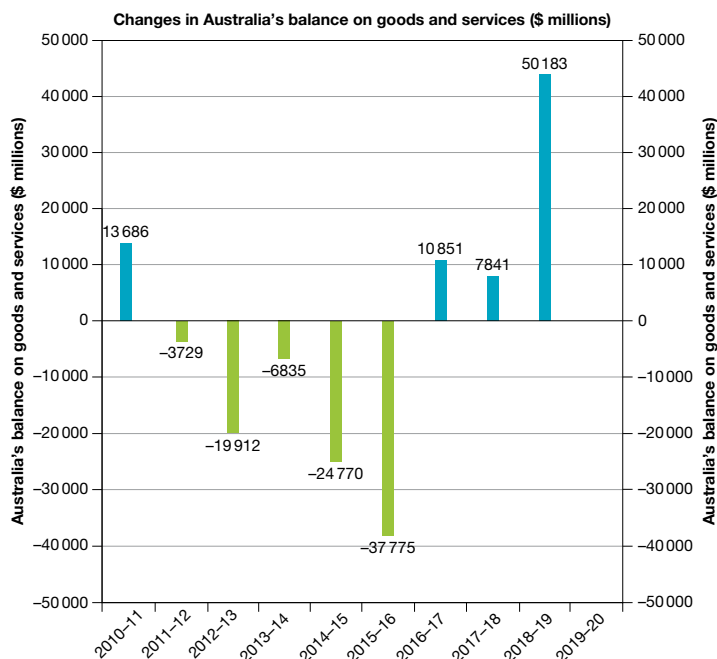
- When we *export* goods (e.g. minerals, wool) and services (e.g. education and tourism), the money for payment is *coming into Australia* and is recorded as a *credit* transaction by Australia (and of course a debit by some overseas country).
- When we *import* goods (e.g., minerals, wool) and services (e.g. education and tourism), the money for payment is *leaving Australia* and is thus recorded as a *debit* transaction by Australia (and a credit by some overseas country).

When we compare the total value of credits for all exports of goods and services against the total value of all imports for goods and services over a year, the *overall balance on goods and services* can be one of three outcomes:

- A *surplus* on goods and services (i.e. credits exceed debits)
- A *deficit* on goods and services (i.e. debits exceed credits)
- A *balance* on goods and services (i.e. credits equal debits).

As shown in figure 5.6, in recent years Australia has run more deficits than surpluses, although it is interesting to note the huge surplus balance for goods and services for 2018–19.

FIGURE 5.6 Australia's balance on goods and services



Source: Data derived from ABS, 5302.0, see also <https://www.abs.gov.au/ausstats/abs@.nsf/mf/5302.0>.

5.2.6 The need for exchanging currencies to enable international trade

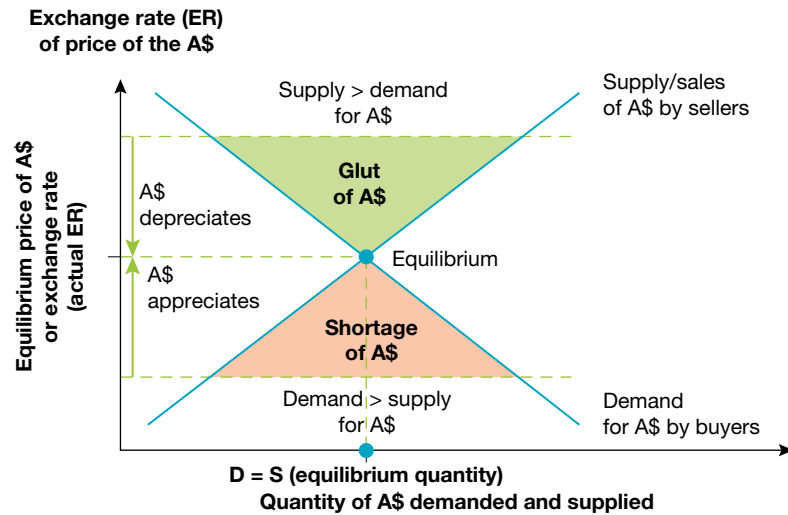
Remember when studying *international transactions* like these that they all involve making payments between countries that use different currencies (e.g. A\$, Japanese yen, British pounds and US\$). So, for instance, Australian exporters of wool want to be paid in Australian dollars and Japanese exporters of cars want to be paid Japanese yen. Clearly one currency needs to be *swapped* for another. This swapping of currencies happens through the **foreign exchange market**, where buyers and sellers of each currency decide the price or the *exchange rate* — the number of units of our currency received when it is swapped for another currency.



- When the Japanese need to *pay for Australian exports*, they have to swap or exchange Japanese yen for Australian dollars. The Japanese sell or supply (increased S) their yen, and *buy or demand* (increased D from D_1 to D_2) Australian dollars. Normally, the *increased demand* for the A\$ relative to its supply tends to *raise* our exchange rate (a rise in or *appreciation* of the A\$ from ER_1 to ER_2), while the increased supply of yen, drags down its exchange rate (i.e. a fall in or depreciation of the yen).
- When Australians need to *pay for Japanese imports*, we need to *sell or supply* (increased S from S_1 to S_2) Australian dollars and buy or demand (increased D) their yen. The increased supply of our dollars pushes down our exchange rate (i.e. a fall or *depreciation* of the A\$ from ER_1 to ER_2), while the increased demand for the yen, lifts its exchange rate (i.e. a rise or appreciation of the yen).

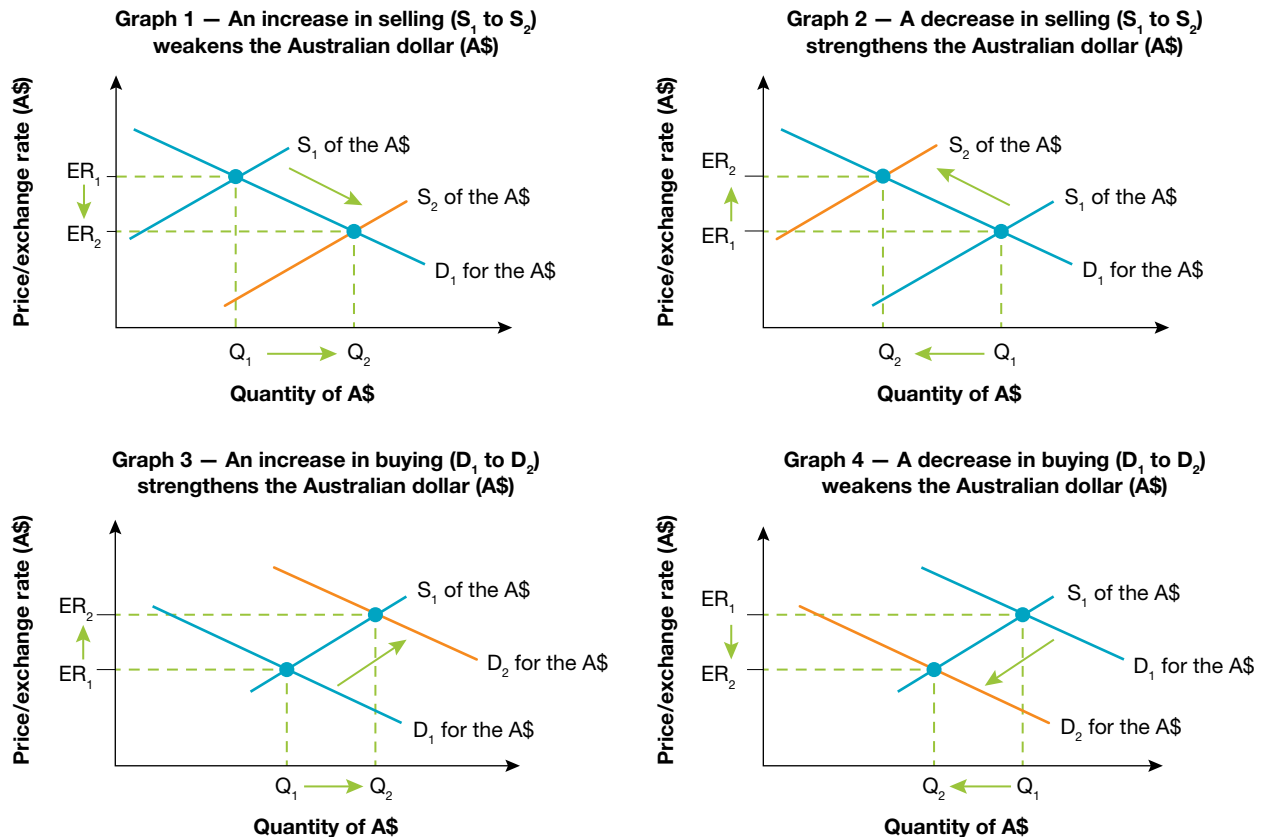
Figure 5.7 shows a demand–supply diagram representing the foreign exchange market for the A\$. It illustrates that demand and supply together determine the exchange rate for our currency.

FIGURE 5.7 Demand–supply diagram illustrating that demand and supply together determine the exchange rate for our currency



The four demand–supply diagrams in figure 5.8 show the effects of *changes in the conditions affecting demand*, and changes in the *conditions affecting the supply* of currencies, on the price or exchange rate for our currency. So *lots of buyers* of a currency (graph 3) and/or *fewer sellers* (graph 2) cause the exchange rate to *appreciate*. In contrast, *lots of sellers* (graph 1) and *few buyers* (graph 4) cause the exchange rate to *depreciate*.

FIGURE 5.8 Demand–supply diagrams illustrating the effects of changing demand–supply conditions on the value of the A\$



There are many factors that can affect the *conditions of demand* and *conditions of supply* of the A\$ in the *foreign exchange market* (see table 5.1).

TABLE 5.1 Factors affecting the conditions of demand and supply of the A\$ in the foreign exchange market

Factors affecting the D for A\$ (transactions affecting Australia's level of receipts from overseas)	Factors affecting the S of the A\$ (transactions affecting Australia's level of payments to overseas)
Overseas rates of economic growth (e.g. in China, USA)	The rate of rise in AD here in Australia
Changes in consumer and business confidence overseas	Local levels of consumer and/or business confidence at home
Overseas speculation about future changes in our exchange rate	Changes in the household savings ratio here (i.e. income not spent)
Changes in our productivity and international competitiveness	Changes in our levels of overseas defence spending and foreign aid

You might be wondering: is it good for a country to have a high or low exchange rate for international trade? The answer depends on who you are.

- For an *exporter*, a *lower* exchange rate makes our goods and services relatively cheaper and more attractive for overseas buyers, boosting sales.
- For an *importer*, a *lower* exchange rate makes imports dearer for us to purchase and our currency will not go as far, cutting our purchases.

As a general rule, *exporters* (who don't need to purchase imports of goods or services from overseas) often prefer a *lower* exchange rate, while *importers* of goods and services from overseas tend to fancy a *higher* exchange rate.

5.2 ACTIVITIES

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Check your understanding

- Why do countries trade internationally?
- What are the main types of goods that Australia exports and imports?
- How are Australia's transactions involving exports and imports recorded statistically?
- What is the exchange rate?

Applied economic exercises

- (a) Distinguish exports from imports.
(b) Examine table 5.2 and then answer the questions that follow.

(2 marks)

TABLE 5.2 The value of international transactions involving goods and services for a country

International transaction for a country	Value of transaction (\$ millions)
Exports of goods	20
Imports of goods	30
Exports of services	5
Imports of services	10

Use the table to calculate each of the following:

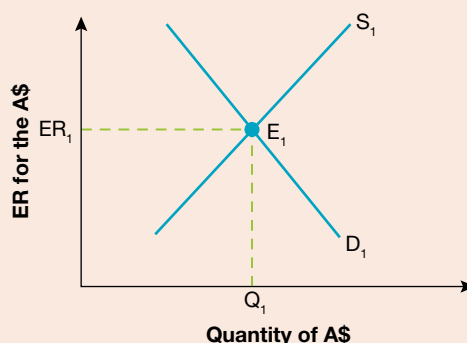
(3 marks)

- the balance of goods
- the balance of services
- the overall balance on goods and services.

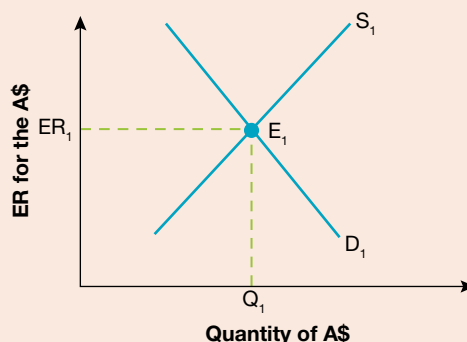
- (c) How would each of the following transactions be likely to affect the exchange rate for the Australian dollar in the foreign exchange market, assuming all other things remained unchanged or constant? For each transaction, complete and fully label the D–S diagram to hypothetically show the impact of the transaction by shifting the D line for the A\$ (D_1 to D_2) or the S line for the A\$ (S_1 to S_2), thereby bringing about a change in the equilibrium price or exchange rate (ER_1 to ER_2) and the equilibrium quantity of dollars traded (Q_1 to Q_2). Explain why the exchange rate changed in the way you have shown on the diagram.

(4 marks)

- Australia buys oil from Saudi Arabia



- Australia sells natural gas to China



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5.3 Different government perspectives involving the issues of free trade and trade protectionism

KEY CONCEPTS

- definition of the selected global economic issue/s
- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders
- economic factors that might influence the extent and nature of the selected global economic issue/s

Having some understanding of what international trade for countries like Australia involves, it is now time to look at the various *conditions* under which this trade occurs and government policies that could involve adopting either a *free trade* approach or one of *trade protectionism*. The main differences between these two opposing approaches by governments are summarised in table 5.3.

TABLE 5.3 Government policies towards international trade involving free trade or protectionism

Free trade — no government protection of local industry from imports	Protectionism — government protection of local industry from imports
• No tariffs or taxes placed on imports coming into the country from overseas	• High tariffs on imports to make them dearer than the local good
• No subsidies paid to local producers	• Subsidies paid to local firms to cover some of their production costs
• No import quotas limiting the volume of imports	• Import quotas limit the volume of particular goods that can be imported
• No preferential treatment of local firms or suppliers	• Preferential treatment given to local suppliers including local content laws
• Sign many free trade agreements (FTAs) to reduce protection	• No free trade agreements (FTAs) signed
• No restrictions on foreign ownership of capital inflow	• Restrictions on foreign ownership and capital inflow

5.3.1 What is free trade?

Free trade is the opposite government policy to protection. It exists when no restrictions are in place to alter the international flow or movement of goods, services and capital between countries. Put another way, free trade occurs when transactions between countries happen without:

- tariffs on imports to make them dearer than the local product
- subsidies to local firms to help cover some of their production costs
- import quotas to restrict the supply of goods and redirect consumers to the local product
- restrictions on the inflow of money capital or overseas investment.

Free trade is also advanced through the signing of *multilateral* (involving many countries) and *bilateral* (usually involving two countries) free trade agreements (abbreviated as FTAs).

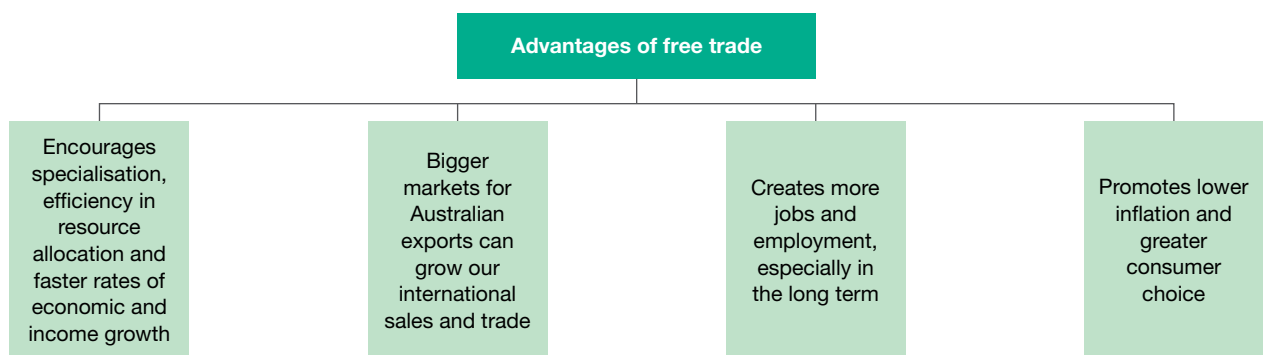
FIGURE 5.9 Free trade involves no tariff barriers or other forms of protection for local industry. While free trade brings benefits such as cheaper goods, some groups including farmers and local industries see it as a threat to their survival.



5.3.2 What are the beneficial effects or advantages of free trade?

As summarised in figure 5.10, the adoption of free trade government policies has many *advantages* that can help to raise our living standards.

FIGURE 5.10 Some advantages of free trade



Specialisation, greater efficiency, economic growth and incomes

Without protection, free trade means that resources will be allocated by market forces into areas of production where a business or a country is relatively most efficient and where production costs are relatively lowest. This means that different countries are encouraged to *specialise* in producing particular types of goods and services where they have a cost advantage, or at least where their costs disadvantage is least. Resources will thus be put to work in their most productive use. As a result of free trade, more output (GDP) will be produced from the same inputs, and hence incomes and material living standards should be higher.

There are *two* types of cost advantage that are especially relevant to international trade, based on **specialisation in production**:

1. **Absolute cost advantage.** A country might have an absolute cost advantage *where it is the cheapest or most efficient producer of a particular good or service in the world*. For example, if South Korea is the cheapest or most efficient producer of cars in the world, it is said to have an *absolute cost advantage* over other countries. It is likely that its car exports will sell very well indeed. Similarly, if Australia is the cheapest producer of iron ore and has an absolute cost advantage, Korean and other manufacturers would be keen to buy this from us. Both countries would benefit from specialisation in international trade since each has an absolute cost advantage in different areas of production.
2. **Comparative cost advantage.** Some countries have no product where they have an absolute cost advantage. However, this is not a problem since all countries have areas of production where they have a *comparative* cost advantage. This means that they should mostly specialise in selected areas of production where their cost disadvantages are least. By focusing on the things they produce best (and stopping production of the goods they are poor at producing), countries will minimise their *opportunity cost* and thus maximise their production, incomes and material living standards.

Let us use a simple example to help illustrate the differences between these two concepts. Table 5.4 shows hypothetical data for Country A and Country B, both of which can produce two goods, beef and computers. It indicates the total number of hours that it takes a worker in each country to produce *each unit* of these goods. This gives an indication of relative efficiency in each country in the production of these two goods.

TABLE 5.4 The average number of hours of work for two countries to produce each unit of beef and computers

Country	Beef (number of hours per unit produced)	Computers (number of hours per unit produced)
A	100	100
B	120	200

From the data, Country A clearly has an *absolute cost advantage* in producing both beef and computers because it is more efficient. It can produce both goods more cheaply with fewer hours of work. By contrast, Country B has no absolute cost advantage in either good, so at first sight, it might *seem* that Country B could never sell its goods to Country A, or be involved in international trade. However, this need *not* be the case. Beneficial international trade can occur if both countries *specialise* in areas of *comparative cost advantage*.

That is, they concentrate on producing the good where they have the greatest relative cost advantage, or the least disadvantage. So country A should specialise in the production of computers (where its advantage is greatest) and country B should specialise in the production of beef (where its disadvantage is least). Through international trade, both countries would be better off materially by minimising their opportunity costs and maximising their output from their available resources.

One important reason for *international specialisation in production* is that often countries have different types of resources (i.e. different natural, labour and capital resources) that are wanted by other nations.



For instance, countries with warm tropical climates often produce crops such as rubber, tea, coffee, sugar or cocoa. Some of these nations also specialise in tourism. The surplus output of these items can then be exported to countries with cooler climates that cannot produce these things. Trade is mutually beneficial.

Additionally, free trade allows nations to export more goods and services by opening up new markets abroad. In turn, this means that local businesses can produce on a bigger scale. Firms can gain **economies of large-scale production** where in the short term, their fixed production costs per unit — such as product design, advertising and perhaps management, equipment and advertising — can be spread more thinly over greater output volumes, allowing the good or service to be sold more cheaply. As a result of this, some consumers at home and overseas should now prefer to purchase the local item. This leads to increased production, higher incomes and better living standards.

Increased international trade

Freer trade (involving more FTAs, lower tariffs both here and overseas, and less protection) should help to grow the markets for a country's exports and thus boost its sales. Indeed, Australian and international experience has shown that trade liberalisation has meant that our exports have increased between two and four times faster than our GDP. This has increased our export incomes and average material living standards.

More jobs and employment

If, as argued, free trade leads to greater efficiency, more exports, business expansion and stronger economic growth in the long run, it should also lead to the creation of more jobs. Indeed, it has been estimated that one in four Australian jobs depends directly or indirectly on our sales of exports.

Lower inflation and more choice

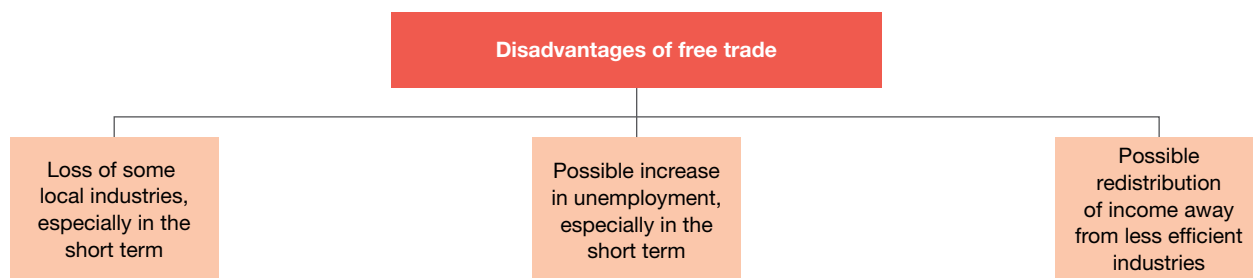
Inflation refers to generally rising consumer prices that must be paid for goods and services. Without protection and tariffs, domestic inflation rates should be much lower due to stiffer competition from imports. Research has shown that following widespread trade liberalisation by governments, the world's average inflation rate has fallen from 24 per cent a year in 1990 to less than 4 per cent in more recent decades. This impressive slowdown in prices leading to rises in purchasing power largely reflects the powerful effects of stronger international competition. Free trade also means there is more consumer choice. This too can lead to greater satisfaction, and more affordable and better quality goods and services.

As a result of freer trade, the purchasing power of our incomes is greater and so material living standards should be higher.

5.3.3 What are the disadvantages or costs of freer trade?

Despite its many advantages, *freer trade* (e.g. abolishing protectionist policies and signing more free trade agreements) has its problems, especially in the short to medium terms. Figure 5.11 summarises some of these possible problems.

FIGURE 5.11 Some disadvantages of free trade



Loss of some local industries

Without protection, a nation's resources will move into areas of highest efficiency. This is likely to mean that the least efficient industries will close down because they cannot compete against cheaper imports. As previously mentioned, these losses may in some ways weaken a nation's self-sufficiency and defence capabilities in the event of a war that cuts us off from our normal overseas suppliers.

Possible increase in unemployment in some industries

Experience from around the world shows that when governments reduce tariff protection, **structural unemployment** may rise in the import-competing industry, especially in the short term, as resources are reallocated away from less efficient industries that cannot compete, into other areas. In the longer term, this unemployment may be offset by the creation of new jobs in businesses that are taking advantage of the opportunities for selling local products in bigger global markets.

FIGURE 5.12 Due to inefficiencies and relatively small volumes, the local car manufacturing industry has closed down as it cannot compete against cheaper imports.



Possible redistribution of income

When industry protection is abolished, this may bring about a change in the distribution of income between individuals. Incomes may fall for those who own or work in inefficient businesses that are forced to close down, lowering their living standards. However, in the longer term it is hoped that there will be a rise in the number of better paid jobs in more efficient industries. Ultimately, the best way to grow incomes is to ensure that resources are used in their most efficient way.

on Resources

-  **Weblinks** The big ideas of trade
 - Foreign trade — an introduction
 - How beneficial is world trade?
 - Comparative advantage and terms of trade
 - Division of labour specialisation, trade comparative advantage
 - Arguments against international trade
 - Why do countries restrict trade?

5.3.4 What are protectionist government policies?

In contrast to free trade, government **protectionist policies** seek to restrict imports, advantage local producers and interfere with the free working of the market system in efficiently allocating resources. Industry protection can take many forms including tariffs, subsidies and import quotas. Now for a closer look at these policies:

- **Tariff barriers.** **Tariffs** are simply an indirect tax added onto the price of selected imports. They are designed to help make foreign goods dearer than the local substitute, so domestic consumers will be more likely to purchase Australian-made items. Tariffs may drive foreign rivals out of the market and reduce the level of competition, adding to inflation, reducing the quality of locally produced items and narrowing consumer choice. Tariffs are often applied at different rates expressed as a percentage of the price of the item, increasing the price of imported items. Regrettably, however, if we increase protection, other countries may retaliate and do the same by placing tariffs on our exports, so the

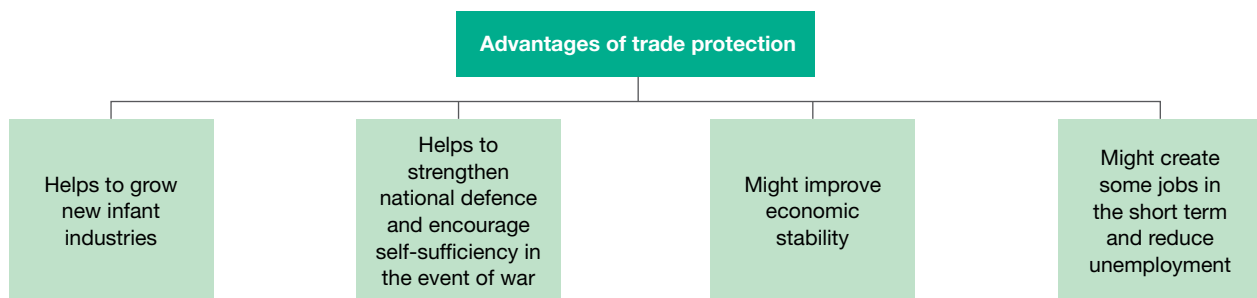
apparent trade gains in sales, and hence jobs locally, may be short lived. Additionally, we will soon see that there are other costs of protection like reduced efficiency in the use of resources, slower economic growth, higher prices and eroded living standards.

- **Producer subsidies.** **Subsidies** are government cash payments made to local producers. They are designed to help local firms cover some of their production costs so they can sell profitably, both here and abroad, at lower prices (perhaps below normal cost). While these are often popular among businesses and workers in affected industries, ultimately they are paid for through higher personal taxes. In addition, once given, subsidies are politically difficult to remove and, like tariffs, they usually lower efficiency in our use of resources, slow economic growth and ultimately undermine our general living standards.
- **Import quotas.** **Import quotas** represent quantity limits imposed by the government on the importation of particular types of goods (such as cars, cheese and textiles) or services from abroad. Again, they give preferential treatment to local producers by restricting imports, but they lead to lower efficiency and economic growth, higher consumer prices and hence reduced material living standards.
- **Anti-dumping legislation.** When excess production of particular goods is sold in overseas markets below cost (e.g. tinned tomatoes), this is called *dumping*. The World Trade Organization or WTO (discussed in section 5.3.7) has rules making this activity illegal, but it has to be proved that this event has actually happened. While good for consumers (because of low prices), the problem with dumping is that it is seen as unfair for local producers and workers who may be driven out of the industry due to lower sales and profits.
- **Preferential treatment and local content laws.** Each year, governments award contracts to thousands of suppliers of goods and services. Sometimes, preferential treatment is deliberately given to local firms (as done recently for building submarines), even though their prices may be higher than the overseas substitute. For example, in entertainment on radio and TV, local content laws require a percentage of programs to be sourced locally. This offers an advantage to the local producer over an overseas rival. However, it reduces imports and may result in lower quality and less competition.
- **Capital or ownership restrictions.** Some governments have restrictions on the level of foreign ownership, especially in sensitive industries like sea ports, electricity, telecommunications, banking, airlines and the media. Furthermore, large foreign investment projects are usually subject to approval by the Foreign Investment Review Board (FIRB). Again, this offers protection from potential foreign competitors but also lowers living standards.

5.3.5 What are the claimed beneficial effects of trade protection?

Supporters of tariffs and other forms of trade protection tend to claim *four main advantages* (see figure 5.13).

FIGURE 5.13 Some advantages of trade protection



- **Protection helps grow infant industries.** The *infant industry argument*, used by some to justify protection, is based on the assumption that new industries just getting started will have higher production costs than those that are well established. In the case of these industries, tariffs supposedly provide a helping hand for a few years, until firms get established and become more efficient. While

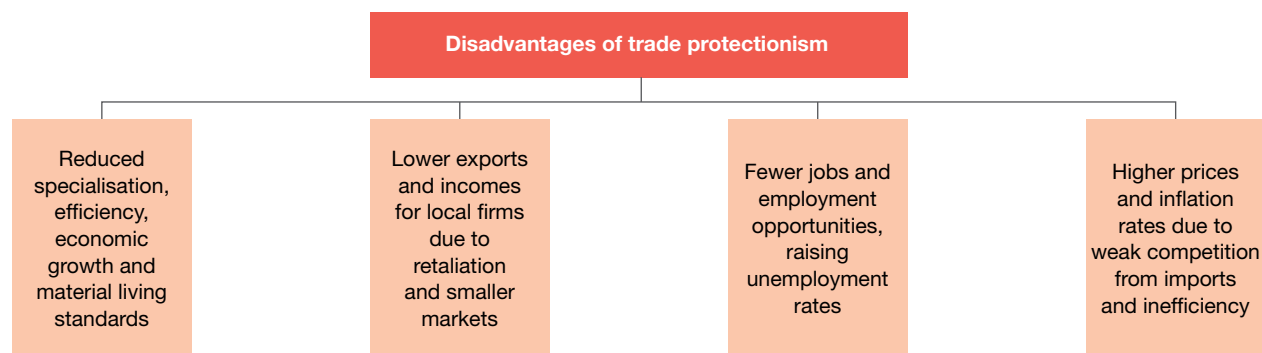
there are some success stories justifying this use of tariff protection (indeed all industry in Australia was once an infant), there are also failures (e.g. in the past, Australia's car industry) where the so-called infant remains uncompetitive, even in old age! In fact, sometimes tariffs and subsidies reduce efficiency.

- **Protection strengthens our defence capabilities.** During wartime, countries are often isolated without access to imports. The use of tariffs during peacetime can help maintain inefficient or uncompetitive industries so that there is an assured supply of essential goods and services in an emergency. This argument has been used in Australia by a number of industries including the car and shipbuilding industries. However, a likely cost of this policy is lower living standards (except perhaps during war time).
- **Protection improves economic stability.** Some critics of free trade argue that open, exporting economies are more likely to experience booms and recessions in the level of economic activity caused by the business cycle in overseas countries. While this is partly true, the same sort of reasoning could also be used to stop or limit interstate or intrastate trade, since potentially there could be instability here as well — a suggestion that could not be taken seriously.
- **Protection creates jobs and reduces unemployment.** One of the most frequently heard reasons for keeping tariffs is that they help protect local jobs and employment from destruction by imports coming from low-wage countries such as Indonesia or China. While there may be some basis for this argument, several counterpoints can be made:
 1. Although wages are relatively expensive in Australia, this problem can often be overcome by replacing workers with technology. The use of machines or capital equipment in our country is relatively cheap, often lifting efficiency, potentially giving us the competitive cost advantage.
 2. We cannot expect other nations to allow our exports into their country if we use tariffs to repel their competition. It is likely that a move by Australia to raise tariffs would cause retaliation overseas, lower our exports, and would perhaps result in a loss of jobs and income, and hence reduce living standards.
 3. Although tariffs may help protect one industry, in so doing, they cause the production costs of others using imported materials and equipment to be higher than otherwise. This makes them less profitable, so tariff protection of one industry can lead to businesses closing down and the destruction of jobs in others.
 4. In the long term, it is hard to see how more jobs can be created by using tariffs that are designed to encourage industries that are inefficient and unprofitable. Logically, we should create more jobs and have higher living standards if Australia specialises in the things we make best — that is, we should concentrate on selecting areas of production where we have a *comparative cost advantage* (or least disadvantage).

5.3.6 What are the disadvantages or costs of protectionism?

The use of protectionist policies by governments can come at a cost and lower society's wellbeing (see figure 5.14).

FIGURE 5.14 Some disadvantages of trade protection



- **Reduced specialisation, efficiency, economic growth, incomes and material living standards.** As we have seen, resources are generally allocated more efficiently when there is free trade and the absence of government protectionist policies. This is because protectionism causes resources to move into areas where we have no cost advantage in production. As a result, efficiency, along with national production, incomes and material living standards are lower than otherwise.
- **Reduced export opportunities.** The use of tariffs and other forms of protection by one country is not loved by other countries with whom it trades. Indeed, other nations are likely to retaliate and impose higher tariffs too as seen in the recent US–China trade war, cutting the country’s ability to export and earn valuable income abroad. This lowers national production, incomes and material living standards.
- **Fewer job and employment opportunities.** Especially in the long term, trade protection lowers employment opportunities by cutting a country off from international trade, when potentially huge export markets may exist for its goods and services. It might also mean less foreign investment of capital inflow needed to establish and grow local businesses. This too can reduce the number of jobs, adding to unemployment.
- **Higher prices and inflation rates.** Protectionist policies like higher tariffs and tighter import quotas, cause prices to rise because they cut the supply of goods and services, limit competition with local firms and reduce efficiency in resource allocation. In turn, they add to inflationary pressures that lower the purchasing power of incomes, thereby reducing living standards.



5.3.7 The World Trade Organization (WTO) — an institution to encourage trade liberalisation

Over the last three decades in particular, most countries have reduced industry protectionism by gradually liberalising their trade with the rest of the world

The **World Trade Organization (WTO)** is an international institution established to:

- encourage the expansion of global trade as a means of accelerating economic growth
- establish and enforce rules for the conduct of trade between member countries
- settle trade disputes between countries.

The WTO came into existence in 1994. It was designed to carry on the international trade negotiations of its predecessor, the *General Agreement on Tariffs and Trade* (GATT) that was set up in 1948 after the end of World War II. Under this treaty, member nations organised what was called the Uruguay rounds of trade talks. These were aimed at promoting trade liberalisation and reducing protection, by cutting tariffs and other trade barriers such as agricultural subsidies that protected local producers of services, and manufactured and agricultural goods. Other rounds of negotiation followed including the Kennedy round, Tokyo round and the Doha round.

Today, the GATT is the central treaty on which the WTO is established. It is broken into enforceable agreements between nations involving trade in goods and services, movements of capital or investment, intellectual property rights and the trading policies of member governments.

FIGURE 5.15 Opponents of globalisation think it leads to the exploitation of workers and the environment, and that rich **multinational businesses** and countries are becoming far too powerful. Here workers from the Occupy movement protest against corporate greed.



Critics of the WTO believe that free trade widens rather than narrows the income differences between rich and poor countries. Some claim that the organisation is managed in a way that allows rich nations to manipulate the rules of trade to suit their commercial interests. It is noted that only a few of the WTO's stated aims have actually been fully realised. Regrettably there are massive agricultural subsidies still being provided to some Indian, European and US farmers (but not Australian farmers).

5.3 ACTIVITIES

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Check your understanding

1. Distinguish *protectionism* as a government policy from that of *free trade*.
2. Discuss the claimed advantages and disadvantages of free trade and protectionism.

Applied economic exercises

1. (a) What is *free trade* and what government policies does this involve? **(4 marks)**
 (b) The price at which goods and services are bought and sold is important in international trade. Nations tend to export goods or services where they have an advantage, and import goods and services where they have a disadvantage. Distinguish between an *absolute cost advantage* and a *comparative cost advantage* in international trade. **(2 marks)**
 (c) Using the internet for research, write a paragraph about David Ricardo's economic theory of *international specialisation* and trade based on the concept of *comparative cost advantage*. **(4 marks)**

- (d) Examine table 5.5 before answering the questions that follow. This table shows hypothetical data for Portugal and England. It indicates the number of hours that a worker in each country must work in order to produce *each unit* of wine or cloth, giving an indicator of relative *efficiency* in each country in the production of these two goods.

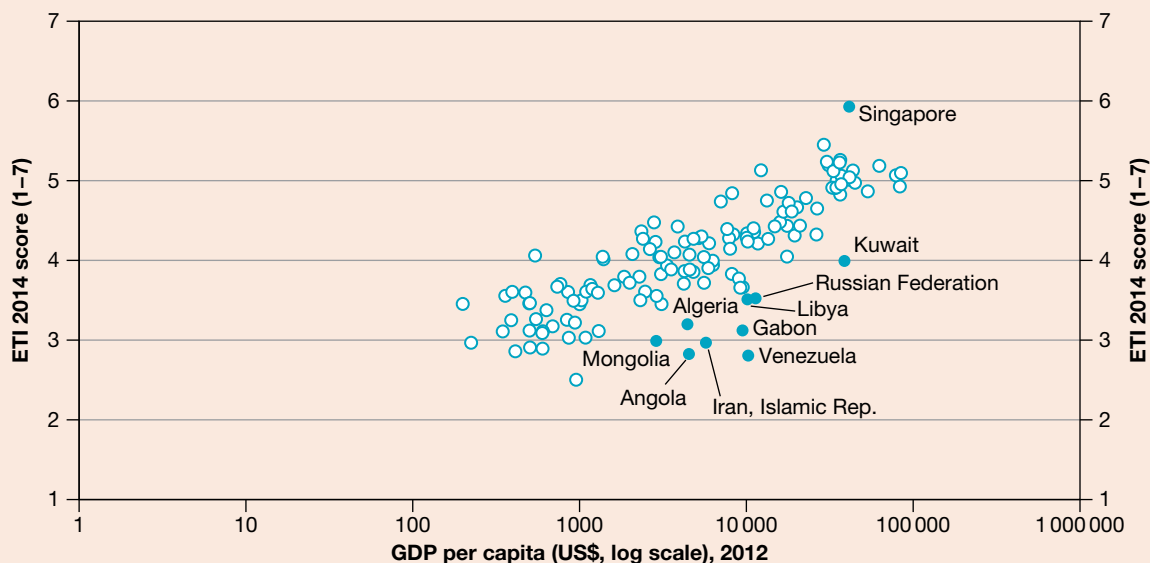
TABLE 5.5 The average number of hours of work for two countries to produce each unit of cloth and wine

Country	Cloth (number of hours per unit produced)	Wine (number of hours per unit produced)
Portugal	90	80
England	100	120

- i. Giving reasons, which country has an *absolute* cost advantage in producing: (2 marks)
 - cloth
 - wine?
- ii. Giving reasons, which country has a *comparative* cost advantage in producing: (2 marks)
 - cloth
 - wine?
- iii. Would it be possible and beneficial for these two countries to trade with each other? Explain. (2 marks)
2. (a) What specific forms can *protectionism* in international trade take? (2 marks)
- (b) Supporters of protectionism usually raise *four* main *justifications* for its use. Explain. (4 marks)
- (c) This question is about the *World Trade Organization* (WTO).
 - i. How has the WTO helped to encourage the growth of international trade? (2 marks)
 - ii. In February 2019, the Australian and Brazil governments lodged a joint claim with the World Trade Organization (WTO) against India, which has been heavily subsidising its sugar farmers. (Those subsidies increased recently to over \$1 billion.) This led to a global glut of sugar, depressed prices and caused great hardship for Brazilian and Australian sugar farmers.
 Draw and fully label a D–S diagram that shows the global sugar market before the Indian government paid subsidies. Next, show the impact of the Indian subsidies by adding further information to your graph. (2 marks)
 - iii. Describe the effects of the Indian sugar subsidies on the global price and quantity of sugar. (2 marks)
 - iv. By lodging a claim with the WTO, what outcomes are the Australian and Brazilian governments hoping to achieve? (2 marks)
3. (a) Select any *two* of the following industries where you believe that Australia's *comparative* cost advantage is greatest (or disadvantage is least) in our region. Be prepared to defend your answers. (2 marks)
 - i. Making cars
 - ii. Biomedical research
 - iii. Producing wool
 - iv. Producing minerals such as bauxite and gold
 - v. Selling environmental tourism
 - vi. Producing oil
 - vii. Making video equipment
 - viii. Making movies
 - ix. Making twin-hulled ferries
 - x. Making textiles and clothing
- (b) Explain how *freer* international trade (i.e. without protecting local industry) can bring the following *benefits* for a country: (10 marks)
 - i. increase efficiency in production and resource allocation
 - ii. increase the rate of economic growth and raise incomes
 - iii. reduce inflation
 - iv. boost exports
 - v. increase the number of jobs, lowering unemployment.

- (c) There is an index that measures the extent to which different countries have *open economies* and encourage *freer trade*. One index is called the *Enabling Trade Index* (ETI) where the scores range from a low of 0 up to a high of 7 (here the country is very open to and encourages free trade). Based on research, figure 5.16 shows the relationship between countries that enable trade and the yearly level of their GDP per capita.

FIGURE 5.16 The relationship between countries with open economies and high scores (nearer 7) on the Enabling Trade Index (ETI) and the average yearly level of GDP per person (US\$)



Source: Graph copied from the World Economic Forum, 'The Global Enabling Trade Report 2014', figure 2, p. 8, see http://www3.weforum.org/docs/WEF_GlobalEnablingTrade_Report_2014.pdf. *Note:* The horizontal scale uses a logarithmic scale that compresses GDP per capita as it increases, making it look less impressive.

- i. Describe the apparent general *relationship* between the Enabling Trade Index (ETI) and a country's annual GDP per head. Illustrate your response by selecting two countries named on this graph. **(2 marks)**
- ii. Explain why many economists believe that free trade and specialisation in areas of comparative cost advantage should allow the countries involved to enjoy higher levels of production (GDP), incomes and material living standards. **(4 marks)**

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5.4 Policy actions taken by governments involving international trade

KEY CONCEPT

- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders

Overwhelmingly, governments both here and abroad have adopted the policy of **trade liberalisation**. This involves a gradual reduction in levels of protection and a move towards freer international trade.

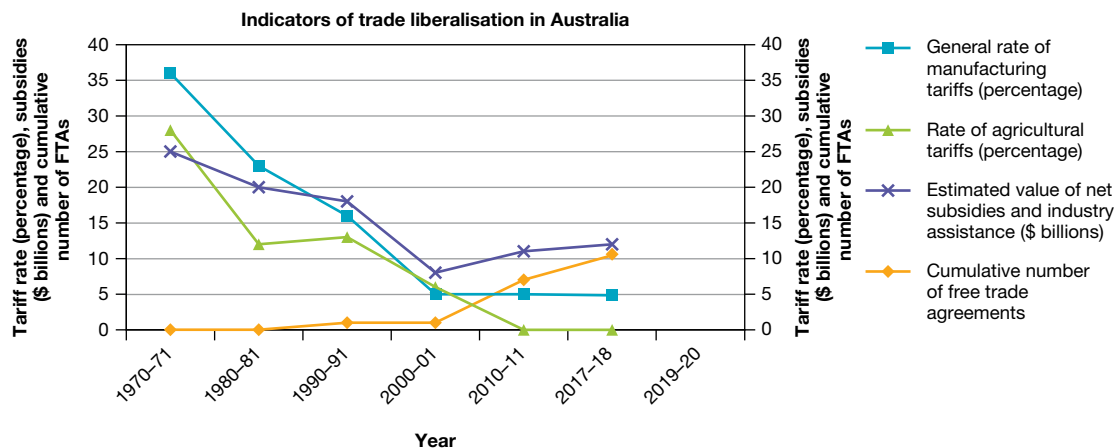
5.4.1 The Australian government's policy of trade liberalisation

Starting in the early 1970s and accelerating from the early 1990s, the Australian government gradually shifted towards a policy of *freer trade* or, as it is also called, *trade liberalisation*. This entailed reducing the levels of industry protection through changes in *five* key policies:

1. cutting the general rate of tariffs to just 5 per cent or less
2. abolishing all import quotas
3. slashing producer subsidies
4. greatly easing local content laws and imposing restrictions on foreign capital and dumping goods below cost
5. increasing the number of bilateral free trade agreements with particular countries.

Some of these policy changes by the Australian government are illustrated in the table and graph making up figure 5.17.

FIGURE 5.17 Indicators of the Australian government's adoption of trade liberalisation, 1970–2018



Year	1970-71	1980-81	1990-91	2000-01	2010-11	2017-18	2019-20
Cumulative number of free trade agreements	0	0	1	1	7	11*	
General rate of manufacturing tariffs (percentage)	36	23	16	5	5	<5	
Rate of agricultural tariffs (percentage)	28	12	13	6	0	0	
Estimated value of net subsidies and industry assistance (\$ billions)	25	20	18	8	11	12	

***Note:** Data for the cumulative number of FTAs is for June 2019 (not 2017–18) where 11 FTAs had been implemented, with an additional 4 signed and awaiting final parliamentary approval.

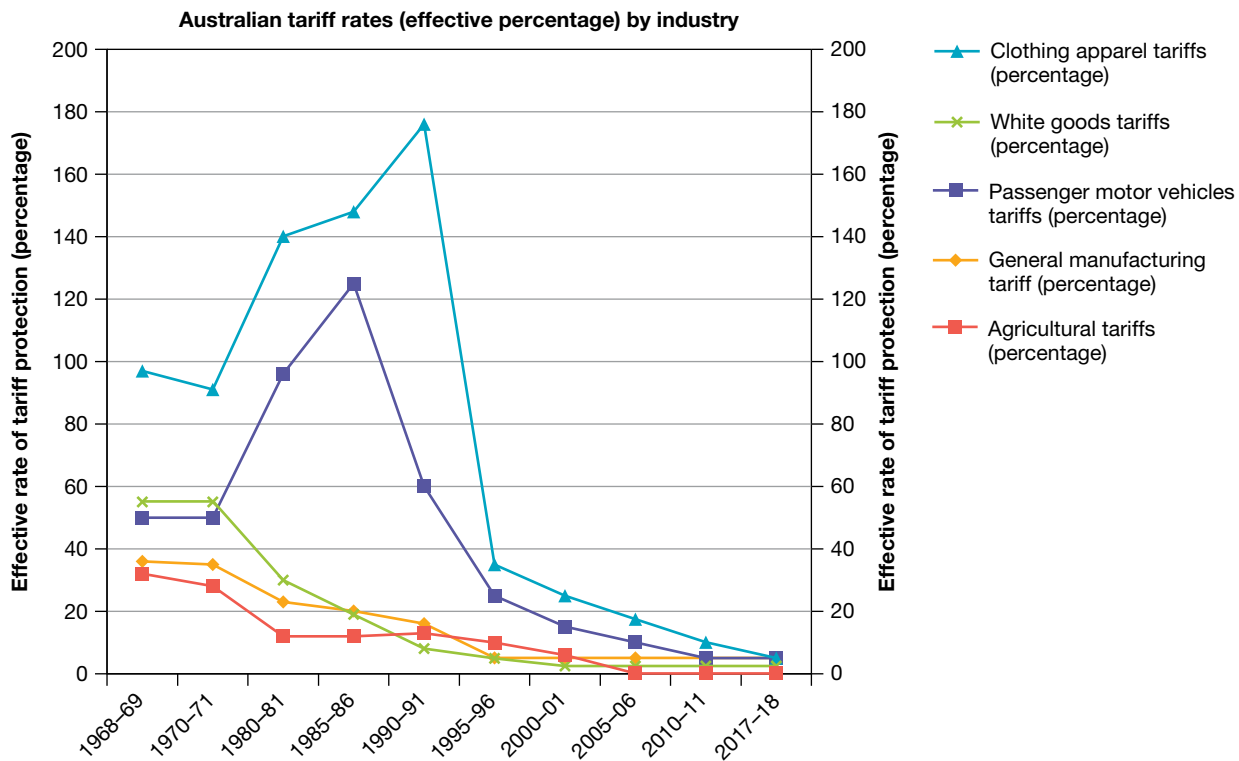
Source: Data rounded and estimated using information derived from many sources including AGPS; Industry Commission; 2002 Trade Policy Review for Australia; Productivity Commission, Trade and Assistance Review 2015–16, 2017–18 see <https://www.pc.gov.au/research/ongoing/trade-assistance/2017-18>; DFAT; Budget Review 2006–07; and budget papers 2008–09 to 2017–18.

From this it can be clearly seen that the Australian government accepts the principles of freer trade and largely rejects protectionism of local industry. Now for a closer look at each of these policy areas.

Lower tariff protection

Tariffs are a tax added onto the price of imports to make them less attractive to local consumers. Figure 5.18 shows that the move towards lower tariffs started at different times in different industries.

FIGURE 5.18 How the Australian government has recently cut tariffs



Industry area	1968-69	1970-71	1980-81	1985-86	1990-91	1995-96	2000-01	2005-06	2010-11	2017-18
General manufacturing tariff (%)	36	35	23	20	16	5	5	5	5	< 5
Passenger motor vehicles tariffs (%)	50	50	96	125	60	25	15	10	5	5
Clothing apparel tariffs (%)	97	91	140	148	176	35	25	17.5	10	5
White goods tariffs (%)	55	55	30	19	8	5	2.5	2.5	2.5	2.5
Agricultural tariffs (%)	32	28	12	12	13	10	6	0	0	0

Source: Data rounded and estimated using information derived from many sources including AGPS; Industry Commission; 2002 Trade Policy Review for Australia; Productivity Commission, Trade and Assistance Review 2015; DFAT; Budget Review 2006-07; and budget papers 2008-09 to 2017-18. **Note:* Data for 2017-18 is an estimate.

- In the case of ‘general’ tariffs on manufactured items, protection was gradually reduced from the early 1970s, from an average rate of 36 per cent to just 5 per cent or less from 1996 onwards.
- Special higher rates of tariff protection were given to the textile, clothing, footwear and automotive industries until a few years ago.

- In 2005, car tariffs were cut to only 10 per cent (down from 125 per cent in 1985–86) and then to just 5 per cent from 2010 onwards.
- In the case of textiles, clothing and footwear, the maximum rate became 17.5 per cent in 2005 (down from 176 per cent in 1990–91), 10 per cent in 2010, and just 5 per cent since 2015.

Clearly, the Australian government believes that there are great benefits in exposing local businesses to strong international competition and free trade — benefits like greater efficiency, increased exports, higher incomes, faster economic growth, lower inflation, more jobs in the long term and higher material living standards.

Reduced subsidies to local businesses

Subsidies are government cash payments made to local producers to help them cover some of their production costs. They can enable Australian firms to export at lower, more competitive prices.

Figure 5.17 (earlier in this section) shows us that there was a general reduction in gross subsidies from around \$25 billion in the early 1970s, down to an estimated \$12 billion by 2017–18. Again, this is consistent with the federal government's belief that trade liberalisation improves competition, efficiency, incomes and living standards.

Abolition of import quotas and licences

Import quotas are designed to restrict the supply or quantity of specific types of imports allowed into the country. In order to achieve a stated volume target, prospective importers must obtain a licence that gives them permission to bring in a certain maximum number of articles of a particular description.

Quotas were commonplace in the 1970s and early 1980s, especially on cars, textiles, footwear and clothing. However, these have been progressively abolished. The last quotas, which applied to cheese, were terminated in 2000–01. Clearly, the government believes that, in the long term, removal of import quotas results in greater efficiency in the allocation of resources, lower prices, improved international competitiveness, stronger economic growth, and ultimately better living standards.

Increased number of free trade agreements (FTAs)

As part of trade liberalisation, Australia has negotiated **bilateral free trade agreements (FTAs)** with two or more countries. Essentially, FTAs involve the removal of local industry protection by the countries involved. This includes abolishing most tariffs. In addition to exposing local firms to more intense foreign competition, and forcing them to become more cost efficient and improve their competitiveness, FTAs help Australian producers gain access to much bigger export markets abroad. This allows our businesses to grow their export income. By mid 2019, Australia had 11 FTAs in place:

- Australia–New Zealand FTA (also known as Closer Economic Relations) in 1983
- Australia–Singapore FTA in 2005
- Australia–Thailand FTA in 2005
- Australia–United States FTA in 2005
- Australia–Chile FTA in 2007
- ASEAN–Australia–New Zealand FTA in 2009
- Malaysia–Australia FTA in 2012
- South Korea–Australia FTA in 2014
- Japan–Australia Economic Partnership Agreement in 2014
- China–Australia FTA in 2015
- Trans-Pacific Partnership (TPP) in 2018.

Furthermore, Australia has also concluded another four FTAs. These are expected to come into force soon, following final ratification:

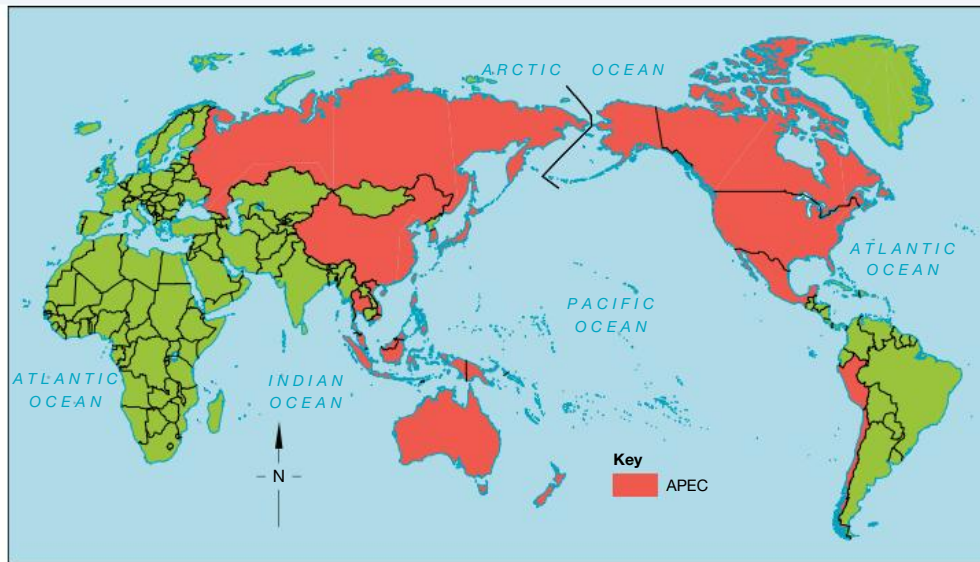
- The Indonesia–Australia Comprehensive Economic Partnership Agreement (March 2019)
- Australia–Hong Kong Free Trade Agreement
- Peru–Australia Free Trade Agreement
- Pacific Agreement on Closer Economic Relations (PACER) Plus.

In addition, feasibility studies and/or negotiations are also well underway for striking bilateral FTAs with India, the European Union, and some Pacific countries.

Apart from these FTAs, Australia also participates in multilateral trade agreements where there are many other countries involved. For instance:

- We are part of the **Asia-Pacific Economic Cooperation (APEC)**. This is a regional forum aimed at promoting freer trade among 21 member countries (see figure 5.19) around the Pacific rim, accounting for almost 60 per cent of global GDP. It includes Australia, Brunei Darussalam, Canada, Chile, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, the People's Republic of China, the Philippines, Republic of Korea, Singapore, Thailand and the United States. Together, there are around 2.8 billion people in this market or over 38 per cent of the world's population! Currently, these countries buy about 70 per cent of Australia's exports. Clearly, what happens to our exports in this region is of national economic and political importance to Australia. In 1994, members of APEC signed an agreement that would abolish intercountry tariffs by 2020.

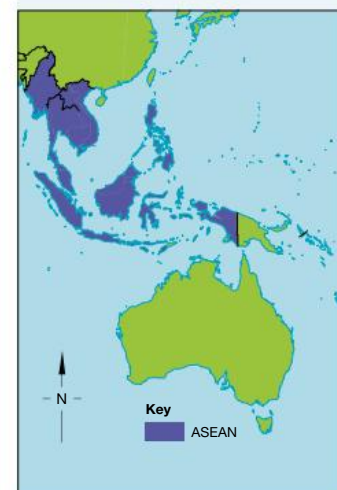
FIGURE 5.19 Map showing APEC nations



Source: Map copied from Wikipedia, the free encyclopaedia, en.wikipedia.org/wiki/File:APECMitgliedsstaaten.png.

- The **Association of South-East Asian Nations (ASEAN)** brings together ten countries from the South-East Asia region — Indonesia, Cambodia, Vietnam, Laos, Burma (Myanmar), Brunei Darussalam, Malaysia, the Philippines, Singapore and Thailand (see figure 5.20). These countries accept the principle that freer international trade will help their economic **development**, so their governments have been gradually cutting tariffs. Although Australia is *not* a member of ASEAN, it is a dialogue partner, and the region has great importance to us (e.g. the ASEAN–Australia–New Zealand FTA was signed in 2009). For instance, the region now offers a large and growing market for Australian firms because of its population of around 610 million (about 8 per cent of the world's population), rising GDP (now about US\$3.3 trillion per year) and the closeness or accessibility of the member countries. We export about \$33 billion (2017–18), around 10 per cent of our total exports, to these countries. Collectively, the ASEAN member countries are our third biggest customer after China and Japan (which together take over 46 per cent of our total exports). In fact, our exports to ASEAN members have risen more than 40-fold since 1970, and Australian investment in the ASEAN group has also risen quickly.

FIGURE 5.20 Map showing ASEAN nations



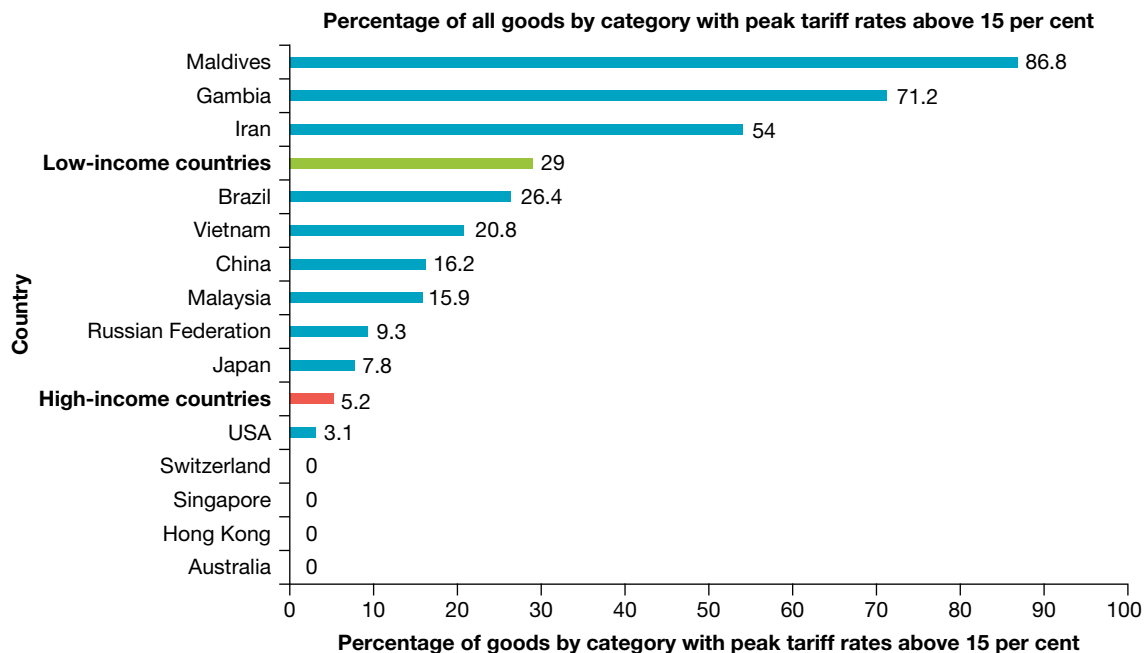
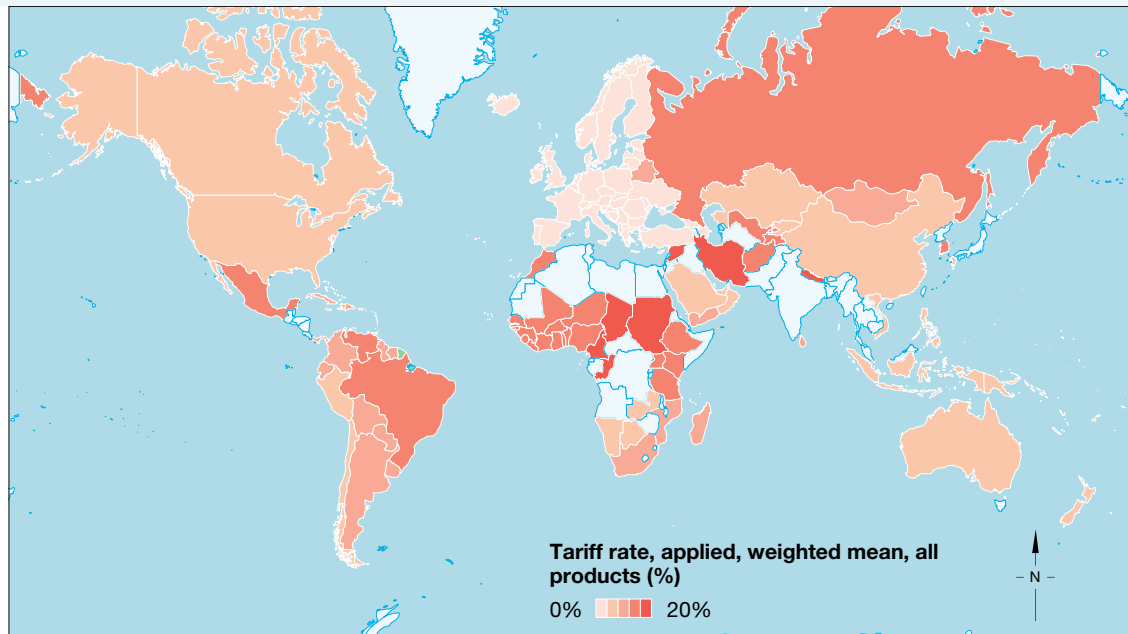
Source: Map copied from Wikipedia, the free encyclopaedia, [en.wikipedia.org/wiki/File:Association_of_Southeast_Asian_Nations_\(orthographic_projection\).svg](https://en.wikipedia.org/wiki/File:Association_of_Southeast_Asian_Nations_(orthographic_projection).svg).

5.4.2 Most governments internationally have adopted the policy of trade liberalisation

Around the world, most governments have adopted the policy of trade liberalisation and have been reducing protectionism. For instance, in 1990 the average global tariff rate was 34 per cent, but by 2015 this had fallen to just 8 per cent. Clearly, most governments believe that freer trade is beneficial.

However, despite the impressive progress, the map and graph making up figure 5.21 illustrate that in some countries, particularly **low-income countries** in parts of Africa and the Middle-East, tariff rates are still relatively high.

FIGURE 5.21 Average tariff rates for all goods around the world (2011–15). Clearly, trade liberalisation is incomplete.



Source: Map copied from the World Bank, weighted mean tariff (all products), 2011–15 see <http://data.worldbank.org/indicator/TM.TAX.MRCH.WM.AR.ZS/countries/1W?display=map>; data for the graph derived from the World Bank, World Development Indicators, tariff barriers, table 6.6, see <http://wdi.worldbank.org/table/6.6>.

**Weblinks** AUSTRADE

Potential FTA with India

Video case study: Aaco Beef

Video case study: Ausab

Video case study: ACPET

Video case study: Burch Family Wines

Video case study: Burra Foods

ECA

5.4.3 Is there now a reaction against trade liberalisation?

Developments during the last three years to 2020, especially in the USA, have seen some people question the benefits of trade liberalisation. For instance, the US government's policy of reduced protection of local industry, exposing it to fierce global competition, is blamed for some domestic problems. These include:

- higher unemployment in some industries and regions
- the slow rise or fall in real wages and incomes
- the weak financial position of government finances
- growing income inequality
- poverty
- social tensions
- depressed living standards.

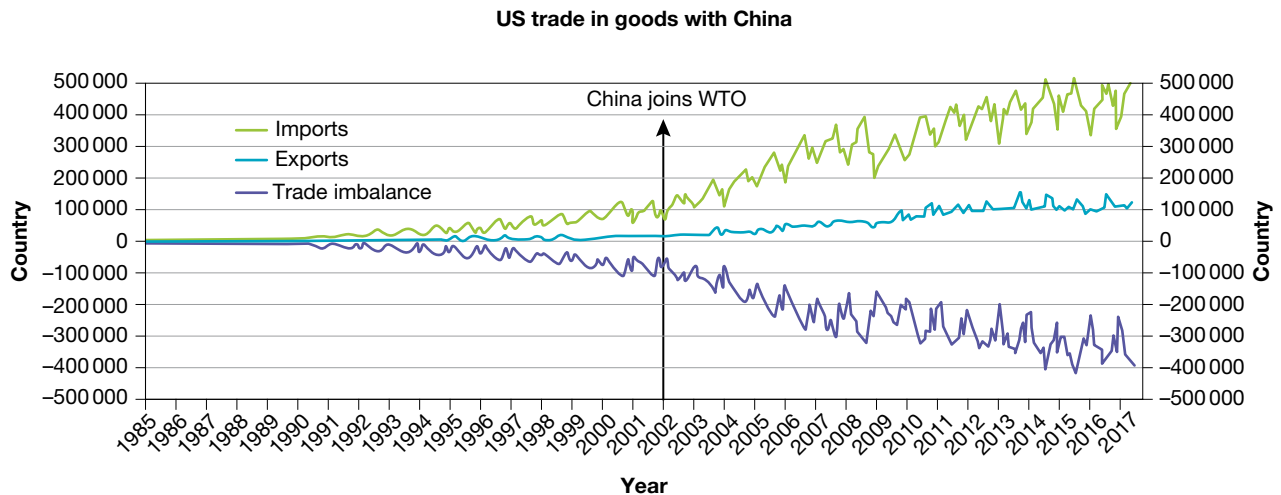
Some politicians, like Donald Trump, saw opportunities to exploit this situation and gain popularity by linking these problems to trade liberalisation, and what he claimed were poorly negotiated trade agreements by previous governments. In order to make the US 'great again' and 'rich again', trade liberalisation appears to have been slowed, as President Trump declared a **trade war** with China and some other trading partners in 2018 and 2019.

This trade war has involved the US imposing progressively higher tariffs on more Chinese imports as retaliation for China's abuse of international trading rules (despite China now being a member of the WTO), including those related to its improper access to intellectual property belonging to the USA and other western nations. Some estimates put the cost of this at between \$225–600 billion a year. In addition, as shown in figure 5.22, China has run bigger and bigger surpluses in its dealings with the USA and is seen as a poor trading partner.



During 2018, a 10 per cent tariff was imposed by the US on \$200 billion of Chinese goods imported into America. This was raised to 25 per cent in May 2019 on \$200 billion of goods when China failed to take appropriate action on the president's complaints. Subsequently, there have been further rounds of higher tariffs to late 2019. It was claimed that, apart from putting pressure on China to be a better trading partner, the US would benefit from these tariff rises by switching local spending from Chinese to US goods, which would now be relatively cheaper. Even though the move would mean higher prices paid by consumers for goods in the US, the move was also meant to boost economic growth, jobs and incomes.

FIGURE 5.22 Changes in the values of US exports to China against US imports from China



Source: Graph copied directly from Wikipedia, https://upload.wikimedia.org/wikipedia/commons/1/19/China_USA_trade.png.

In addition, the Brexit discussions in Britain, following a 2016 vote to leave the European Union, appear to be linked to sections of British society feeling the pressures associated with trade liberalisation and **economic globalisation**. However, various prime ministers have found that exiting the European Union under favourable negotiated terms was, by September 2019, impossible.



5.4 ACTIVITIES

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Check your understanding

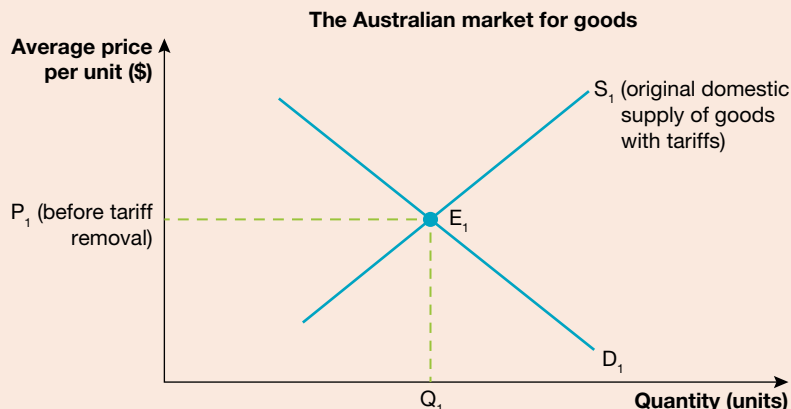
1. Outline the key aspects of the Australian government's policy of *trade liberalisation*.
2. Describe the extent of trade liberalisation in the global economy.

Applied economic exercises

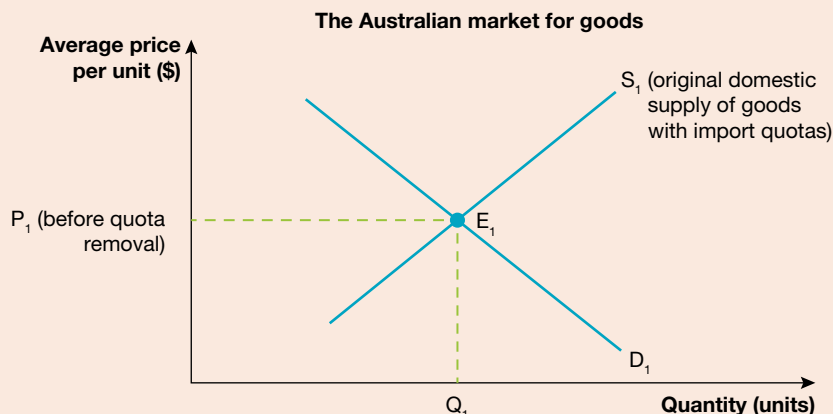
1. The Australian government has *liberalised* our international trade and reduced protection levels for local industries by cutting tariffs, reducing subsidies, abolishing quotas on imports and signing up to many free trade agreements.

This question asks you to try and illustrate the effects of *trade liberalisation* policies on the local market for goods. You will need to think back to microeconomics and the D–S diagrams used in topic 2. In each case, the *starting* diagram shows the situation *before* the government's *reduction* in protection levels. You will then need to make *additions* to each diagram to show the *effects* of the government's reduction in protection. As always, ensure that you label all lines, changes and points.

- (a) Assume that originally there were high tariffs on imported goods. Use the diagram here to show the effects of the government's decision to remove all *tariffs* on imported goods. (2 marks)



- i. Explain the changes or additions you have made to this diagram. For instance:
 - What has happened to the average *equilibrium price* level of the goods that were previously protected by tariffs? (1 mark)
 - What has happened to the *equilibrium quantity* of goods in the market? (1 mark)
 - ii. Discuss the main *advantages* and *disadvantages* of the Australian government's reduction in tariff rates. (6 marks)
- (b) Assume that originally there were very tight import quotas limiting all imported goods into the country. Use the diagram to show the effects of the government's decision to abolish all *import quotas* on goods entering Australia. (2 marks)



- i. Explain the changes or additions you have just made to this diagram: For instance:
 - What has happened to the average *equilibrium price* level of the goods that were previously protected by import quotas? (1 mark)
 - What has happened to the *equilibrium quantity* of goods in the market? (1 mark)
 - ii. Discuss the main *advantages* and *disadvantages* of the Australian government's abolition of import quotas. (6 marks)
2. By mid 2019, Australia had no fewer than 11 *bilateral free trade agreements* (FTAs), with more in the pipeline.
- (a) What are FTAs? (1 mark)
 - (b) List *four* Australian examples of important bilateral FTAs. (2 marks)
 - (c) How are FTAs expected to be beneficial for our material living standards? (2 marks)
 - (d) Use the **Department of Foreign Affairs and Trade (DFAT)** weblink in the Resources tab and information from other websites to report on the *Trans Pacific Partnership* (TPP, 2018) free trade agreement. In particular:
 - i. List the countries involved in this FTA. (1 mark)
 - ii. Outline the main terms of the agreement. (2 marks)
 - iii. What actions must be taken by member countries that have signed this FTA? (2 marks)
 - iv. Discuss the key *advantages* and *disadvantages* for Australia's membership of this FTA. (4 marks)

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on Resources

 **Weblink** Department of Foreign Affairs and Trade (DFAT)

5.5 Actions taken by governments and business following the adoption of trade liberalisation

KEY CONCEPT

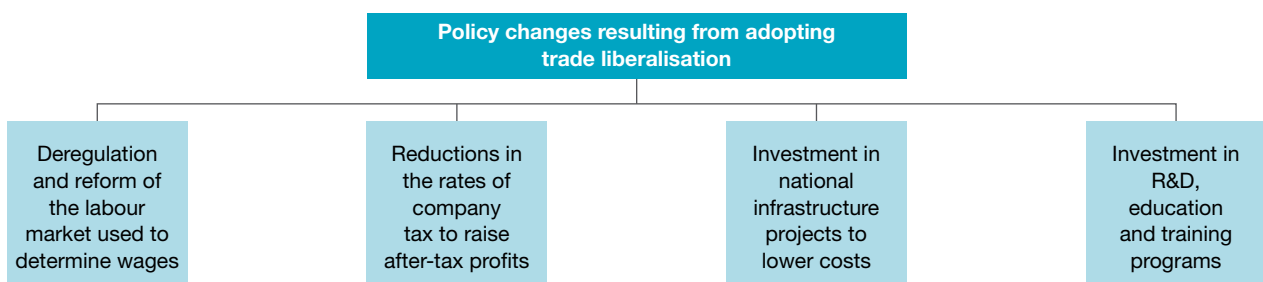
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

Once any government makes the decision to liberalise international trade and reduce industry protection, there are knock-on effects — other policies must also be changed so that local industries do not just survive, but thrive and become more efficient and internationally competitive. **International competitiveness** means that local businesses are able to profitably sell good quality goods and services at relatively low prices here and overseas, without government assistance (e.g. subsidies).

5.5.1 Additional policy changes necessitated by the Australian government

With stronger competition from overseas imports, the Australian government has used various *efficiency-promoting supply-side policies* to help local business and workers meet the challenges. We will take a quick look at just *four* of these policy measures designed to improve Australia's *international competitiveness* (summarised in figure 5.23).

FIGURE 5.23 Policy changes resulting from adopting trade liberalisation



Deregulation and reform of the labour market

Wage and labour costs in many businesses make up 60–70 per cent of the total cost of production. So, if these costs are high, they make Australian firms and workers less competitive and unable to survive against cheaper imports from low-wage countries. Hence, to be internationally competitive, our wage costs need

to be kept down and **worker efficiency** (GDP per hour worked) must be raised. On this count, during the 1960s, 70 and 80s, some economists became highly critical of Australia's **centralised minimum wage fixing system** where the pay and conditions of many workers was determined by the **Australian Fair Work Commission** (or its many predecessors). Here, there was little connection between worker productivity and wage rates, union pressure was considerable, and Australian labour costs rose to become some of the highest in the world.

One solution used by the government to slow wage costs was partial **deregulation of the labour market** by encouraging **enterprise bargaining** as an alternative to centralised wage fixing. Under this newer system, which now covers around 85 per cent of all workers, wages and conditions are largely set by the forces of demand and supply on a more flexible firm-by-firm basis. Here, wage rises are usually linked to increases in worker efficiency (i.e. output or GDP per hour worked) and the relative value or *scarcity* of each type of occupation. Despite this partial deregulation of the labour market and wages, some protection is still offered to workers on enterprise agreements, since in general these still need to meet minimum standards. This newer system has certainly helped to slow Australia's wage costs, make local firms more competitive, boost our export sales and incomes, and improve our material living standards.

Reductions in the company tax rate

For many years now, the Australian government has applied relatively high tax rates on company profits compared with tax rates in some countries. The problem here is that to make reasonable returns on their investment, local businesses are forced to charge higher prices for the goods and services they sell, both here and overseas — or as seen in recent times, to minimise tax by shifting their profits overseas to countries with lower company tax rates. Higher prices then make local firms less competitive when selling, both in Australia and overseas. This leads to higher imports and lower exports, discourages overseas investors, and depresses employment, incomes, GDP and material living standards.

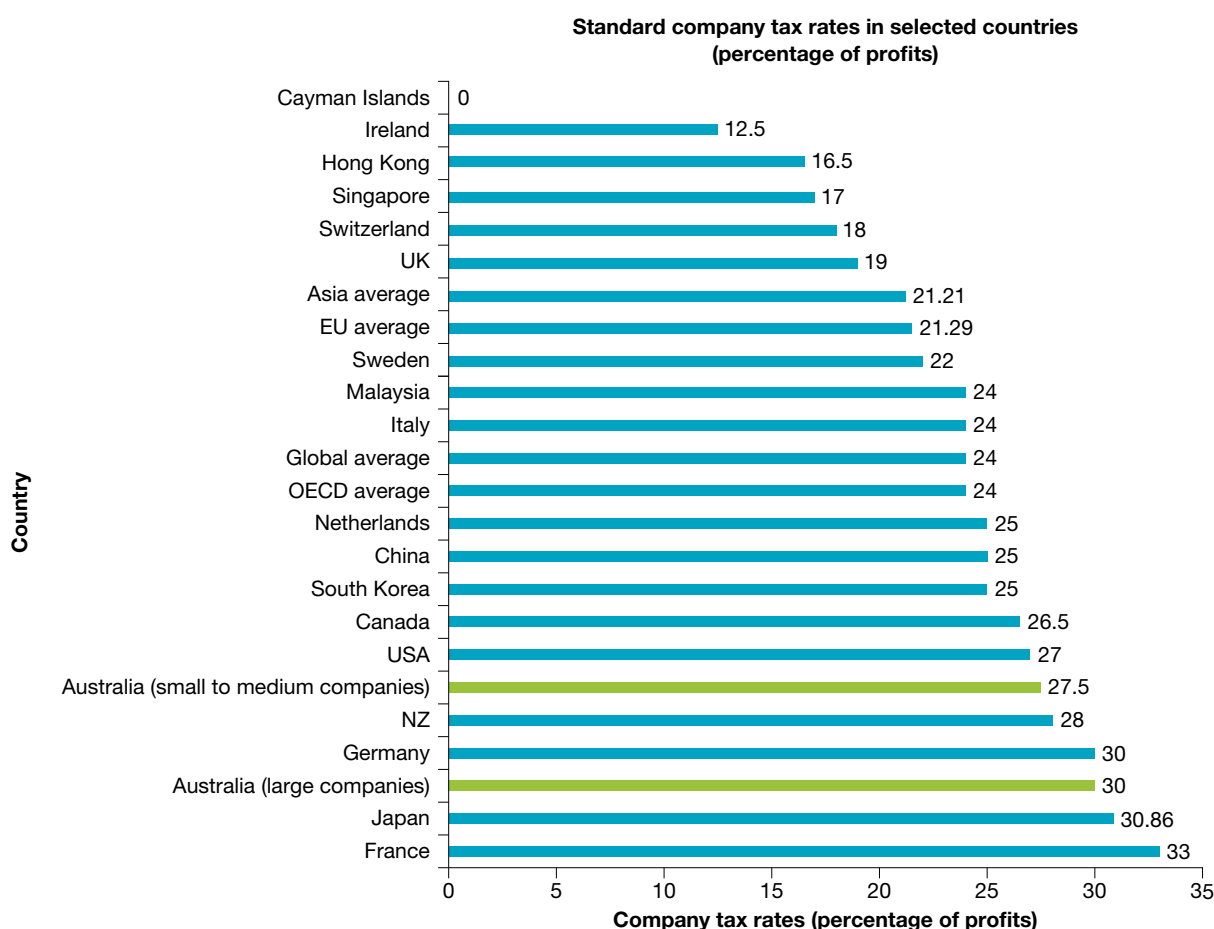
With this problem in mind, the Australian government has attempted to cut rates of company tax, from 49 per cent in the 1988, to 30 per cent in 2002, and down to 27.5 per cent for small to medium-sized firms in 2017–20 onwards, with additional stepped reductions, first to 26 per cent and then ultimately to 25 per cent for these companies (with an annual turnover of less than \$50 million) to be applicable from July 2021. (Note that there are no tax cuts currently planned for larger companies, which remain on a rate of 30 per cent.) However, the size and speed of these cuts has been less than those in many other countries. For instance, as shown in figure 5.24 the average rate of company tax in the OECD group of nations was only 24 per cent against the standard rate in Australia of 30 per cent (or 27.5 per cent for small and medium companies). Despite disagreement, many feel that lower company tax rates not only allow firms to sell at a lower and more competitive price — which should boost export sales and income — but also encourage higher levels of investment, jobs, incomes and living standards.

Investment in national infrastructure projects

Infrastructure provides the services used by growing businesses like roads, railways, water, power and ports. With increased international competition from cheap imports, it becomes more important than ever to have an efficient and competitive system of national infrastructure. This slows production costs for businesses and grows our country's productive capacity so that Australian-made products and services can be sold competitively both here and overseas. Unfortunately, Australian infrastructure has been allowed to deteriorate and age. These bottlenecks place local firms at a cost disadvantage. Hence, in recent times, we have seen the Australian government making more money available to invest in national road (e.g. work on the M1 motorway), rail (e.g. the inland rail projects including the airport rail link to Melbourne airport, the fast rail link from Melbourne to Brisbane, and the Port Botany rail line), power (e.g. pumped hydro power in the Snowy Mountains Scheme), airports (e.g. a new airport for Western Sydney), telecommunications (e.g. the NBN), and water supply infrastructure projects. For instance, the 2019–20 budget lifted the rolling ten-year infrastructure plan to commit \$100 billion in funding for infrastructure projects for 2028–29. The Victorian government has also invested heavily in infrastructure like the West Gate tunnel project, roads and

rail, to help alleviate some of the bottlenecks, reduce production costs for local firms and allow them to be more internationally competitive, both at home and abroad.

FIGURE 5.24 Comparisons of Australia's rate of company tax against that in other countries and regions



Sources: Data derived from KPMG, corporate tax rates table and other, see <https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html>.

Investment in R&D, education and training

Following trade liberalisation, exposure to international competition necessitates improving the education and skills of our labour force. More than ever, Australian workers need to be creative, innovative and efficient. In turn, this can help lower production costs, create new industries, build our international competitiveness, lift exports, and raise incomes and living standards. Understanding this, the Australian government has increased the overall level of its spending on education, along with other attempts (not always successful) to raise the quality of training. In addition, there has been ongoing funding of research and development (R&D) including the \$1.1 billion innovation package and funding for the CSIRO in the 2016–17 budget, and R&D outlays totalling \$9.7 billion in the 2018–19 budget.

5.5.2 Some responses by Australian businesses to trade liberalisation

Following reductions in industry protection associated with trade liberalisation, businesses have been forced to make structural changes to the way they go about producing goods and services in Australia. To be internationally competitive, firms need to be able to sell better products at lower prices. They must innovate with new products, and continually restructure the way they produce and sell goods and services.

This process of **structural change** is painful and often involves:

- finding ways of *cutting production costs* (often involving a reduction in labour costs) and *minimising wage costs* by using strategies that lift worker efficiency and motivation (e.g. factors that affect levels of strikes, absenteeism, safety, innovation, training, skills, staffing and management structures, motivation)
- *closing down* or selling off inefficient operations and branches of businesses
- encouraging product innovation through *research and development* (R&D)
- expanding the use of the latest *technology* in production to cut costs and lift efficiency
- workers and managers using the *best international production practices* available
- trying to grow the volume of export sales in order to gain cost savings through increased *economies of large-scale production*.

on Resources



Weblinks What is competitiveness?

The Global Competitiveness Report 2014–15

5.5 ACTIVITIES

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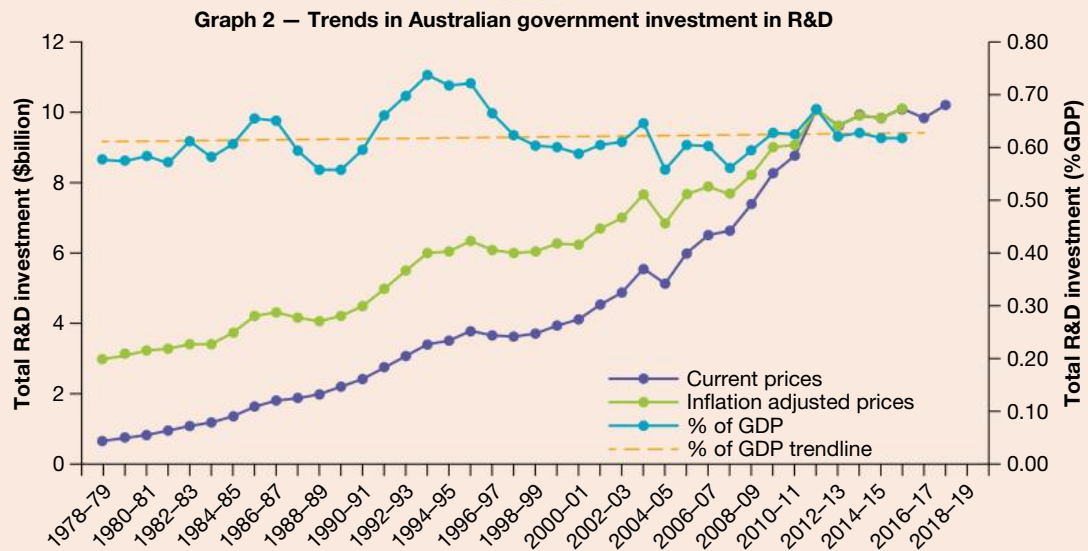
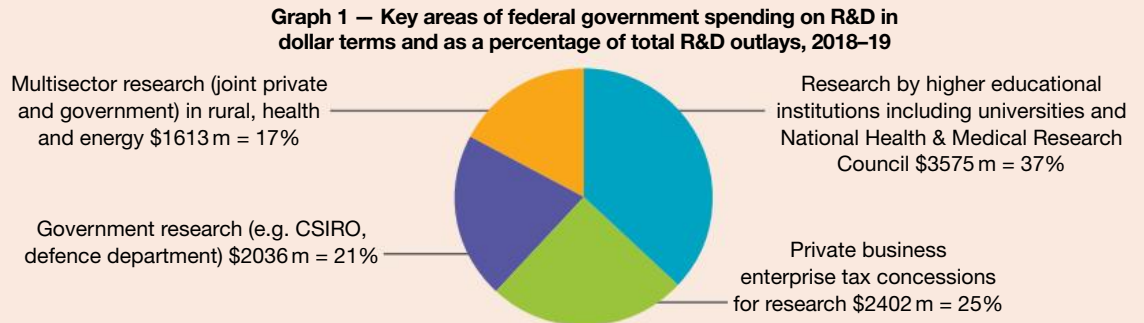
Check your understanding

1. What is meant by the term *international competitiveness*?
2. Identify *three* important Australian government policies that were essential *following* its decision to liberalise trade and reduce the level of industry protection. Why were these policies seen as essential?
3. Australian businesses had to *restructure* their operations following reductions in industry protection. What is meant by *structural change*, and what types of actions did this involve for local businesses?

Applied economic exercises

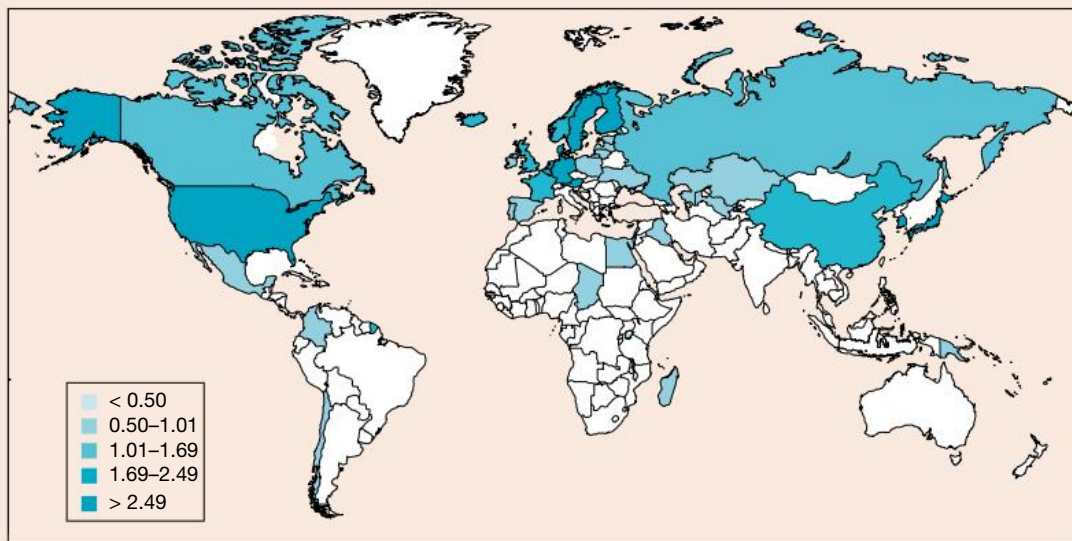
1. Following trade liberalisation, the Australian government was forced to implement *other policy changes*. For each of the Australian government policies listed below, describe the policy changes and explain why they were deemed necessary.
 - (a) Wage fixing arrangements (2 marks)
 - (b) The rate of company tax (2 marks)
 - (c) National infrastructure (2 marks)
2. In the 2018–19 budget, the Australian government allocated \$9.6 billion on R&D spread across various sectors. This is shown in figure 5.25 (graph 1), along with trends in the level of government outlays on R&D (graph 2) and international comparisons of R&D (graph 3).
 - (a) Define what is meant by a nation's *international competitiveness*. (2 marks)
 - (b) How might government outlays on R&D help to make local businesses more internationally competitive following the reduction in industry protection and trade liberalisation? (2 marks)
 - (c) Referring to graph 2, describe the overall or general trends in the following:
 - i. the real level of government R&D outlays after removing the exaggeration of its value caused by inflation (generally rising prices) (2 marks)
 - ii. the level of R&D outlays expressed as a percentage of Australia's GDP. (2 marks)
 - (d) The Australian government outlays less than 0.7 per cent of GDP on R&D. Referring to graph 3 from figure 5.25, comment on whether the Australian government appears to be serious in its support of R&D relative to some other countries. Giving reasons, how would you expect this situation to impact on Australia's international competitiveness? (Note: Data on the map is for 2017, so countries in white are those for whom the latest data are not available.) (2 marks)

FIGURE 5.25 Data relating to the Australian government and international investment outlays on R&D.



Note: The 2016–17 and 2017–18 current price values are based on estimates and are subject to revision.

Graph 3 — Outlays on R&D expressed as a percentage of each country's GDP



Source: Graph 1 data derived from the Australian Government, department of industry, innovation & science, see <https://www.industry.gov.au/data-and-publications/science-research-and-innovation-sri-budget-tables>. Graph 2 copied directly from Australian Government, Department of Industry, innovation & Science, Science, Research and Innovation Budget Tables Snapshot 2017–18, see <https://www.industry.gov.au/sites/default/files/2017-18-sri-budget-tables-snapshot.pdf>. Graph 3 map copied directly from The World Bank data, Research and development expenditure (% of GDP) see <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?view=map>.

5.6 Review

5.6.1 Summary

International trade and other types of transactions between countries

- International trade is beneficial for the countries involved. It entails the buying of imports and the selling of exports of goods and services.
- International transactions also involve the movement of investment finance or money capital between nations.

The nature and effects of government policies involving protectionism as opposed to free trade

- *Protectionism* is when governments use policies to reduce competition from overseas imports. This involves tariffs, subsidies, import quotas, anti-dumping legislation, preferential treatment and restrictions on overseas ownership.
- Supporters of *protectionism* often argue that these government policies are beneficial because they:
 - help grow infant industries
 - reduce the external causes of economic instability
 - reduce unemployment and create jobs.
- *Free trade* is the opposite of protectionism and involves the complete abolition of:
 - tariffs or taxes on imports
 - subsidies to local producers
 - import quotas
 - restrictions on capital inflow or foreign investment
 - the signing of many multilateral and bilateral free trade agreements (FTAs).
- The main *benefits* or advantages of free trade include:
 - increased exports by growing markets overseas
 - improved efficiency in the use of resources
 - more jobs in the long run, higher incomes
 - lower inflation
 - greater consumer choice
 - increased specialisation in production to gain cost advantages
 - greater economies of large-scale production for local firms
 - improved opportunities for countries to export excess resources and import at the lowest possible cost, whatever resources they lack.
- The main problems or *disadvantages* of *free trade* (arguments for protection) include:
 - the possible loss of some types of jobs (structural unemployment)
 - infant industries may not survive without government assistance
 - lack of national self-sufficiency in times of war
 - increased instability due to exposure to external events (e.g. overseas recessions or a GFC).

Governments have adopted the policy of trade liberalisation

- The last few decades have seen Australia (and many other nations) move towards *trade liberalisation* or *freer trade*. This involves lower government tariff protection, reduced subsidies paid to local producers and the signing of various types of FTAs. These policies ultimately help improve efficiency in resource allocation, strengthen our international competitiveness, promote economic and employment growth, and lower inflation.
- In gradually adopting *trade liberalisation* over the last 40–50 years, the Australian government has:
 - lowered tariffs for all industries to just 5 per cent or less (since 2015)
 - abolished all import quotas by 2000
 - reduced subsidies by over 50 per cent
 - signed 11 bilateral FTAs to mid 2019 (with more in the pipeline)
 - been part of multilateral FTA and trading groups like APEC.

Actions taken following the adoption of trade liberalisation

- The Australian government seeks to promote *international competitiveness*. This means being able to sell quality goods and services at a low competitive price, without depending on government support. It means that local firms can survive against imports. It helps us to better pay our way in international financial transactions. Various aggregate supply-side policies have been used to help reduce production costs, lift our international competitiveness and improve our long-term performance and living standards. For example:
 - *Partial labour market deregulation*. Labour market deregulation (e.g. encouraging the spread of efficiency-based, firm-by-firm enterprise or workplace agreements) helps to lower the cost of wages (labour costs) for local firms, making our exports more competitive. This strengthens our trade balance and boosts living standards.
 - *Reduced company tax rates*. Company tax rates have been reduced to help make local firms more cost competitive and to encourage investment in new, more efficient plant and equipment. This helps to make local exports more competitive, strengthens our trade balance, creates jobs, boosts GDP and incomes and improves our living standards.
 - *Investment in national infrastructure projects*. Building up national infrastructure (e.g. highways, NBN, water, power) can help reduce business production costs, lift efficiency and competitiveness, grow export capacity, and lift GDP and incomes.
 - *Education and training policies*. Government outlays and policies designed to increase the education and skills of our labour force (e.g. the schools building program, the ‘education revolution’, financial incentives for apprentices) help make workers more efficient and creative, improve local competitiveness, increase exports and GDP, and boost living standards.

on Resources

studyon

To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31545).

5.6.2 Key terms

Absolute cost advantage occurs when a nation is the cheapest or most efficient producer of a particular good or service in the world.

Asia-Pacific Economic Cooperation (APEC) is a regional forum aimed at promoting freer trade among 21 member countries in the Asia-Pacific area.

Association of South-East Asian Nations (ASEAN) brings together ten countries from the South-East Asia region. These countries accept the principle that freer international trade will help their economic development, so their governments have been gradually cutting tariffs and protection levels.

Australian Fair Work Commission (or its many predecessors) determines minimum wages and conditions for Australian workers.

Bilateral free trade agreements (FTAs) are negotiated between two or more countries and involve the removal of industry protection such as tariffs.

Centralised minimum wage fixing system involves the Australian Fair Work Commission determining the minimum pay and conditions.

Comparative cost advantage occurs when a nation specialises in the production of those goods and services where it is relatively most efficient or where its costs disadvantages are least, thereby raising incomes and material living standards.

Deregulation of the labour market means that there is less government interference in how wages are determined in the labour market, and more reliance on the conditions of demand and supply of labour and the process of enterprise bargaining. Often, higher wages are linked to increases in efficiency.

Development is today defined as the economic, social, political and institutional changes that are needed in low-income countries to improve the material and non-material aspects affecting the quality of daily life.

Economic globalisation is the economic unification or joining together of the world's economies and its various commercial and financial markets.

Economies of large-scale production can occur when a firm produces on a large scale that enables it to spread its fixed production costs (i.e. costs that do not rise much as output increases including research, advertising, product development, some aspects of management and, up to a point, equipment) more thinly over a greater volume of sales.

Enterprise bargaining is a more flexible alternative to centralised wage fixing and involves negotiations between workers and their boss on a firm-by-firm basis, with pay rises usually reflecting worker efficiency or productivity.

Foreign exchange market is where buyers (D) and sellers (S) of foreign currencies negotiate the rate at which one nation's currency is swapped for another's. The price or exchange rate for each nation's currency is continually responding to market forces, reflecting the currency's relative scarcity.

Free trade is the opposite government policy to protection. It exists when there are no tariffs, subsidies, quotas or other restrictions on the movement of goods, services and capital between countries.

Import quotas represent quantity limits imposed by the government on the importation of particular types of goods (such as cars, cheese and textiles) and services from abroad.

Infrastructure provides the services (like roads, railways, water, power and ports) used by producers of goods and services and the general community. It facilitates production and grows a nation's productive capacity.

International competitiveness means that local businesses are able to sell good quality goods and services at relatively low prices overseas without government assistance.

International trade involves a nation exporting and importing goods and services.

Low-income countries are currently defined as those where most people live on a mere \$2.86 or less per day (i.e. an average of \$1045 per person a year or less). Life is a real struggle, severe poverty is common place and living standards are low.

Multinational businesses or transnationals undertake production in more than one country, and operate across national borders as they grow their operations and markets.

Protectionist policies seek to restrict imports and advantage local producers, and involve the use of tariffs, subsidies and import quotas.

Specialisation in production occurs when a nation concentrates on making those goods and or services where it is relatively most efficient, given the resources available. See also comparative cost advantage and absolute cost advantage.

Structural change by businesses often involves finding ways of cutting production costs, lifting worker efficiency, and sometimes closing down or relocating business operations.

Structural unemployment occurs when firms change the ways they organise production perhaps involving the use of technology, the closure of inefficient branches or the relocation or closure of a business.

Subsidies are government cash payments made to local producers to make them more competitive by covering some of their production costs.

Tariffs are an indirect tax added onto the price of selected imports to increase the price of imports relative to the locally made good.

Trade liberalisation occurs when governments reduce their protection of local industry by cutting tariffs on imports, abolishing quotas or quantity controls on particular types of imports, and lowering the payment of subsidies to local firms.

Trade wars occur when one country increases its level of protectionism by imposing higher tariffs and import restrictions to limit the value of imports coming in from another country. A recent example of this is the

2018–19 trade war between the US and China, where the US has now imposed higher tariffs on over \$450 billion of Chinese goods imported into the USA. China did the same by raising its tariffs on US goods.

Worker efficiency is calculated as GDP or output per hour worked.

The World Trade Organization (WTO) is an international organisation that is committed to free trade and the orderly conduct of international transactions between countries. It can also try to settle trade disputes between member nations.

Resources

 **Digital documents** Key terms glossary (doc-31540)

Crossword (doc-31578)

Wordsearch (doc-32656)

Match-up definitions (doc-32661)

5.6 Review questions

To answer questions online and to receive **immediate feedback** and **sample responses** for every question go to your learnON title at www.jacplus.com.au.

5.6 Exercise 1: Multiple choice questions

1. *Free trade* involves:
 - A. lower tariffs.
 - B. reductions in business subsidies.
 - C. a reduction in import quotas.
 - D. the complete absence of industry protection and controls on trade.
2. Government *subsidies* to local producers help businesses by:
 - A. taxing imports.
 - B. limiting the volume of particular imports.
 - C. allowing firms to sell their goods or services at a lower price than otherwise.
 - D. all of the above.
3. *Protectionist* policies might include which of the following measures?
 - A. Import quotas
 - B. Taxes on imports
 - C. Local content rules and cash payments to inefficient producers
 - D. All of the above
4. Those who favour protectionism usually do *not* claim that it:
 - A. lowers inflation.
 - B. protects jobs and lowers unemployment.
 - C. helps infant industries to get established and expand.
 - D. strengthens our defence capabilities.
5. *Free trade* encourages businesses to allocate resources *efficiently* by:
 - A. not protecting inefficient firms.
 - B. promoting stronger competition among producers and sellers of goods and services.
 - C. encouraging nations to specialise in those areas of production where they have a comparative cost advantage.
 - D. all of the above.

6. A *comparative cost advantage* most likely occurs when:
 - A. a nation is the cheapest producer in the world.
 - B. a nation is good at making a product.
 - C. a nation has been producing a product for many years.
 - D. a nation is relatively most efficient or least inefficient in producing a product.
7. In the longer-term, the policy of gradually *liberalising trade* would normally lead to:
 - A. higher efficiency and more jobs, despite the possibility of structural unemployment in the shorter term.
 - B. higher GDP per head, lower inflation or consumer prices, and better purchasing power of incomes.
 - C. higher exports, GDP per head and material living standards.
 - D. all of the above.
8. Regarding Australia's international trade transactions, which statement is *incorrect*?
 - A. Australia probably has a *comparative cost advantage* when trading wool with Japan.
 - B. *Specialisation* in selected areas of production usually helps make Australia more internationally competitive and efficient, thus improving our material living standards.
 - C. Australia mainly exports to countries that produce the same types of goods and services.
 - D. International trade helps to increase consumer choice.
9. As part of its policy of *trade liberalisation* over the last 40–50 years, the Australian government has generally:
 - A. abolished all import duties but overall increased its subsidies to businesses to around \$30 billion per year.
 - B. greatly lowered tariffs to a general rate of around 5 per cent or less and abolished import quotas.
 - C. entered into only two bilateral free trade agreements.
 - D. increased protection of local manufacturing businesses so as to keep jobs.
10. Some countries try to justify *high* tariffs using which of the following arguments?
 - A. Tariffs help protect jobs and lower unemployment.
 - B. Tariffs help self-sufficiency in case of war.
 - C. Tariffs provide help for struggling infant industries.
 - D. All of the above arguments are frequently used.
11. Australian firms often find it difficult to be *internationally competitive* because:
 - A. wages are high by the standards of other countries in our region.
 - B. the absence of sufficient economies of large-scale production among some of our firms means that costs per unit of output produced are too high.
 - C. some firms have not paid sufficient attention to restructuring their operations so as to cut costs and improve product quality, speed of delivery and customer service.
 - D. all of the above are common explanations.
12. Concerning international trade agreements between Australia and other nations, which statement is *false*?
 - A. Bilateral agreements usually exist between two countries.
 - B. An example of a multilateral trade agreement is the Closer Economic Relations with New Zealand.
 - C. Most international trade agreements seek to lower tariffs and expand the volume of trade.
 - D. Australia is a member of the Asia-Pacific Economic Cooperation (APEC), but is not a full member of the Association of South-East Asian Nations (ASEAN).
13. In the long term, which of the following government economic policies would *not* strengthen the international competitiveness of Australian producers in local and foreign markets?
 - A. A gradual reduction in tariffs
 - B. A lower rate of company tax
 - C. A 10 per cent rise in the minimum award wage
 - D. Increased levels of worker efficiency and the extension of firm-by-firm workplace or enterprise agreements

14. Concerning government policies in countries around the world towards trade liberalisation, which statement is generally *least* correct?
- A. Most governments have decreased tariffs over the last 20 years or so.
 - B. Tariff rates tend to be lower in low-income countries rather than in high-income countries.
 - C. Those countries that have reduced tariffs are generally more efficient in production.
 - D. Cutting tariffs forces local firms to restructure their production to help reduce costs.
15. Following trade liberalisation, which of the following government policies would be *least* likely to help local firms become more internationally competitive against imports?
- A. Higher rates of company tax and increased subsidies to local businesses
 - B. More spending to upgrade national road, rail and port infrastructure
 - C. Budget spending on R&D, and the lifting of the minimum school leaving age
 - D. Changes to the wage fixing system where pay rises are closely linked with better worker productivity and conditions of demand and supply of labour



Resources



Digital documents Multiple choice answer grid (doc-31557)

Multiple choice answers (doc-31563)

5.6 Exercise 2: Extended response questions

1. a. Contrast the government policies of *trade protectionism*, *free trade* and *trade liberalisation*. (3 marks)
- b. Has the Australian government fully adopted the policy of free trade? Explain. (4 marks)
- c. The Australian car industry used to enjoy high levels of protectionism from imports including high tariffs, import quotas and subsidies.
 - i. What was the highest level of tariff protection given to the car industry? (1 mark)
 - ii. Describe the changes in the level of tariff protection for Australia's car industry. (2 marks)
 - iii. The manufacture of cars in Australia ceased in 2017. Why do you think this happened and what were the main macroeconomic effects of this closure? (3 marks)
2. During 2018–19, US President Donald Trump increased tariffs on billions of dollars of Chinese imported goods going into the US. Explain how this policy action by the US would be likely to affect each of the following.
 - a. The purchasing power of US incomes and the cost of living in the US (2 marks)
 - b. The value of US exports (2 marks)
 - c. The unemployment rate in the US (2 marks)
 - d. The level of GDP and average per capita incomes in the US (2 marks)
 - e. Australia's exports of mineral commodities (2 marks)
3. Why is it likely that Australia's adoption of trade liberalisation has helped to:
 - a. slow our inflation rate (2 marks)
 - b. increase our productive capacity and sustainable rate of economic growth? (2 marks)
4. a. Contrast the terms *absolute cost advantage* and *comparative cost advantage*. (2 marks)
- b. Assume that Australia has an *absolute cost advantage* in the production of *both* wheat and wool. Does this *necessarily* mean that we should produce both these goods equally? (2 marks)
5. Australian government has adopted the policy of *trade liberalisation*. Given this:
 - a. Why is it also necessary to reduce the rate of company tax? (2 marks)
 - b. Why is it also necessary to lift the productivity of workers and slow wage rises? (2 marks)
 - c. Why is it also necessary to improve the quality of our national infrastructure? (2 marks)

Fully worked solutions and sample responses are available in your digital formats.

5.6 Practice school-assessed tasks

All assessments at Units 1 and 2 are school-based. Procedures for assessment of levels of achievement in Units 1 and 2 are a matter for school decision.

The assessment tasks for each outcome could involve one or more of the following:

- an essay
- a debate
- a report on an investigation or inquiry
- analysis of visual evidence.

Courses and assessments can change, so teachers are urged to carefully check the latest VCAA assessment guide and various bulletins to ensure that all the assessment requirements are met fully.

AN ESSAY

Write a 500–600 word essay in response to *one* of the following questions:

- What is meant by *free trade*?
- To what extent has the Australian government adopted this policy in recent decades? (Make sure you note the costs and benefits of this policy.)

A CLASS DEBATE

After the class is divided into two teams (one for the affirmative and one for the negative), prepare a debate about *one* of the following topics:

- 'Australia's move towards free international trade has created more problems than it solved.'
- 'Protectionism is needed for jobs and a strong defence capability.'
- 'Nobody wins a trade war!'

A REPORT ON AN INVESTIGATION OR INQUIRY

A report on an investigation into one of Australia's trading agreements

The task

As you know, Australia already has many *bilateral* and *multilateral trade agreements* with other countries. For instance, there are bilateral trade agreements with New Zealand, Thailand, Singapore, Malaysia, Japan, ASEAN, South Korea, Chile, USA and China, along with progress on an agreement with India and the European Union. In addition, there are multilateral trade agreements with Asia–Pacific Economic Cooperation (APEC), Organization for Economic Co-operation and Development (OECD) and the World Trade Organization (WTO).

Your task is to investigate *one* of these agreements and then present a report to the class. You could perhaps research some of the following aspects:

- Which countries signed the agreement and what are the aims?
- When was the agreement signed?
- What are the aims or purposes of the agreement?
- What are the advantages of the agreement for Australia and the other country?
- What are the disadvantages of the agreement for Australia (e.g. which particular industries may suffer from stronger competition)?

This work could be undertaken individually or in small groups.

References

You may like to follow the weblinks in the Resources tab to find some relevant references.

Presentation

Your research could be completed in groups, syndicates or individually, and delivered as a written report, oral presentation to the class or PowerPoint slide show.

Resources

 **Weblinks** Department of Foreign Affairs and Trade (DFAT)
Centre for International Economics (CIE)

ANALYSIS OF VISUAL EVIDENCE

A cartoon about free trade and protectionism in international trade

There are many cartoons that could be used to extend your understanding of economics and the operation of markets. Use the internet to select a relevant cartoon about one of the areas we have studied (e.g. the free market and the price system, demand and supply). Answer the following questions to help you analyse the cartoon selected.

1. What is the economic concept being presented in the cartoon?
2. What is the main message of the cartoon?
3. What is your reaction to the cartoon? Do you agree with what it is saying?
4. Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer.

A REPORT ON AN INVESTIGATION OR INQUIRY

International trade and trade wars

Investigate the following series of questions, to compile information for you to use in writing a report, which will be marked out of 40 points. Download the **Expandable report template** digital document from the Resources tab and use this to complete your investigation. You may work with another partner and may submit just one version of the task for a common mark.

Area 1: Definitions (6 marks)

1. Clearly define the government's policy called *free trade* and explain how this differs from the policy called *trade liberalisation*. (2 marks)
2. What is *international trade protectionism*? (2 marks)
3. Define what is meant by an *international trade war*. (2 marks)

Area 2: A trade war is declared (7 marks)

1. Copy a quality newspaper or magazine article where US President Donald Trump declared a trade war on a range of countries including China. Footnote the source or web address. (4 marks)
2. Make a detailed list of the specific policy actions so far announced by the US and Donald Trump against particular countries (e.g. Canada, Turkey, China) as part of this trade war. (3 marks)

Area 3: The actions and economics of the trade war (9 marks)

1. What was the name of the main economist, writing in the early 1800s, who advanced the theory of free trade and specialisation in production in an area of comparative cost advantage? Briefly explain his reasons for recommending free trade (thus opposing the then government's protectionist policies of the time). (2 marks)
2. List and outline the two most important economic benefits that President Donald Trump hopes to gain from the 2018–19 trade war. (2 marks)
3. What government actions have other countries taken in retaliation or defence against the US? (2 marks)
4. List and clearly outline three important reasons why most economists believe that countries and governments should generally seek to adopt policies that liberalise their international trade and relationships, and gradually work towards a government policy of free trade? (3 marks)

Area 4: Trade war cartoons (4 marks)

1. Copy and paste your choice of up to three informative cartoons about the recent trade war initiated by President Donald Trump in the last few years. Footnote the source's web address. Selecting one cartoon from your line-up, briefly explain what you think the message or thinking is that lies behind the cartoon. (3 marks)
2. Select one cartoon from another earlier instance of a trade war in global history. (1 mark)

Area 5: Will the United States' trade war impact us in Australia (10 marks)

Briefly but clearly explain how the United States' trade war with various countries, including China during 2018–19, may be likely to affect Australia's economic conditions. Include the following:

1. the global rate of economic growth (1 mark)
2. the size of Australia's CAD (1 mark)
3. the level of the exchange rate for the Australian dollar (A\$). (1 mark)
4. Australia's level of AD (1 mark)
5. Australia's inflation rate (1 mark)
6. the rate of growth in GDP (1 mark)
7. Australia's unemployment rate (1 mark)
8. profits of Australian companies, along with Australia's business confidence (1 mark)
9. the federal government's finances and levels of its budget tax receipts and spending outlays (1 mark)
10. Australia's share market and share prices for Australian companies. (1 mark)

Area 6: Conclusion (4 marks)

In summary, who if anyone, wins a trade war? Explain your answer. (4 marks)

Resources

 **Digital document** Expandable report template (doc-31551)

6 Globalisation

6.1 Overview

Numerous **videos** and **interactivities** are available just where you need them, at the point of learning, in your digital formats, learnON and eBookPLUS at www.jacplus.com.au.

6.1.1 Introduction

Take a look inside your pantry and you will readily see globalisation in action. Read the labels and you will most likely find that your food comes from a variety of countries. That Chinese-made T-shirt in your wardrobe may also be a clue that we live in a globalised economy, along with the movie you watched last night or the car that is parked in the garage. So, what is *globalisation*?

There are many definitions of **economic globalisation**, but an important aspect of most is the reduction or removal of government barriers limiting the free movement across national borders of business, trade (exports and imports), investment and even labour. Globalisation is therefore the economic unification or joining together of the world's economies, and its various commercial and financial markets. Globalisation involves taking *international specialisation* in the production by countries of particular goods and services, to an even greater level thereby increasing the economic *interdependence* and *interconnectedness* of all countries involved through **international trade** (see topic 5 for more information).

FIGURE 6.1 Globalisation requires that nations see themselves as belonging to a single, large, integrated marketplace. So, when we buy goods and services as consumers, our supermarket is the world.



6.1.2 What you will learn

KEY KNOWLEDGE

Use each of the following points from the VCE Economics Study Design as a heading in your summary notes.

- definition of the selected global economic issue/s
- economic reasons why the issue/s may be of importance to Australia and the global economy
- economic factors that might influence the extent and nature of the selected global economic issue/s
- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- gather and interpret statistical data on the selected global economic issue/s
- identify and discuss factors that influence the selected global economic issue/s
- identify trends, patterns, similarities and differences in economic data and other information
- evaluate the costs and benefits associated with action taken to address the selected global economic issue/s
- access and synthesise information gathered from a range of sources and draw conclusions.

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.



Resources



Digital document Key terms glossary (doc-31541)



To access key concept summaries and practice exam questions download and print the **studyON: Revision and practice exam question booklet** (doc-31546).

6.2 Economic reasons enabling the acceleration of economic globalisation

KEY CONCEPT

- economic factors that might influence the extent and nature of the selected global economic issue/s

Globalisation is not a new development. It can be traced back perhaps 2000 years. However, in the last 200–300 years, it has gained greater significance. During this time, there was a massive acceleration of internationalisation, specialisation in production and interdependence of many economies, including Australia. However, through history, its speed of progress has not been constant. The most recent *wave of globalisation* started in the 1970s and continues to the present day. The various phases or waves of economic globalisation are summarised in table 6.1.

TABLE 6.1 The waves of economic globalisation

Period	Description
The late 1700s to the early 1900s — one of the early waves of globalisation	The seeds of economic globalisation actually date back to the Roman Empire (and its many conquests), the Han Dynasty in China (and the famous ‘Silk Road’) and the Islamic Golden Age (with Muslim traders and explorers). However, in more recent times during the 1700s until World War I, the first big wave of globalisation gathered momentum. During these years, there were many examples of nations’ economies being linked to the global economy as suppliers of resources, manufactured goods, services, and even money capital or investment. Colonisation by Europeans (e.g. the Spanish, British, Portuguese and French) of Australia, parts of Asia (e.g. Vietnam, Malaysia, Indonesia), India, North America (e.g. the United States, Canada), South America (e.g. Cuba, Brazil, Argentina), the Pacific and Africa, encouraged production with a focus on exports of commodities such as wool, wheat, sugar, spices, cotton, tea, rubber and minerals. In some cases, production costs were kept low by exploiting workers and by the use of slave labour. Indeed, European entrepreneurs had investments in colonies around the world to take full advantage of the resources available. The cheap commodities produced by the colonies were then converted into value-added manufactured items back in countries such as Britain, Spain, Portugal, Holland, Germany and France. Finished goods were then re-exported at much higher prices. The 1800s thus saw the dramatic explosion of international trade and partial globalisation of capital on a scale not seen before. It was made possible by improvements in transport, industrialisation, rising incomes and technology.
1915 to 1947 — the slowdown in globalisation	The period including the two world wars, 1915 to 1945, saw less enthusiasm for internationalisation or globalisation. Faced with massive disruption to international trade due to war, rising foreign debt and a period of global depression in the 1930s, many countries including Australia used high tariffs to try and repel imports and protect their local workers and businesses.
1947 to 1970 — reassessment of change	Just after the end of World War II in 1947, the situation started to change slowly. The hope was for a new era of global prosperity and trade. With this in mind, the General Agreement on Tariffs and Trade (GATT) was signed. Its aim was to gradually reduce high tariffs which were an obstacle to international trade and global economic development . Between 1947 and 1970, world tariffs on manufactured goods fell from an average of 37.5 per cent to only 9 per cent. (Australia did not immediately follow the trend, choosing to maintain high rates of protection until a few years later.) Again, large amounts of foreign investment and multinationals took off, and free trade blocs (e.g. the European Economic Community or European Union as it is now known) started to emerge. Through the unification of national markets, these encouraged globalisation.
1970 to 2019 — the most recent wave of globalisation	Starting in the early to mid 1970s with Labor Prime Minister Whitlam’s 25 per cent tariff cuts, the Australian government gradually began dismantling our protectionist policies . Accelerated microeconomic reforms, including the encouragement of industry restructuring and ongoing tariff cuts, all followed during the 1980s, 1990s and beyond. More recently, there were further tariff cuts by Australia in 2005, 2010 and 2015, along with the signing of many free trade agreements. In addition, the labour market has been partly deregulated. This has involved the use of enterprise bargaining or agreements on a firm-by-firm basis, and the adoption of a productivity-based pay system. There were also other important developments that helped globalisation, including faster and cheaper transport (e.g. the use of shipping containers), improved telecommunications systems (e.g. fast internet connections) and the establishment of new trading blocs (e.g. APEC, NAFTA, CER and the expanded EU) that were committed to tariff reductions and the idea of free trade. This was reinforced by the creation of the World Trade Organization (WTO). Most of these multinationals originate in the US, Germany, the United Kingdom and Japan.

(continued)

TABLE 6.1 The waves of economic globalisation (*continued*)

Period	Description
Speculation about the future beyond 2020	Despite the acceleration of globalisation, some people feel that the current wave may be coming to an end. For example, doubt was generated by the global financial crisis (GFC) in 2008–09 and the ensuing uncertainties. Indeed, free market economics associated with globalisation is partly blamed for some of our recent economic problems. As a result, there have been calls for greater government regulation of global markets, and as unemployment rises in some countries, there are even demands from some for increased protection of local industry using tariffs and other devices. For example, in 2016, the UK voted to leave the European Union (Brexit) due in part to some people feeling threatened by globalisation and reduced trade protection of local industry. This separation has proved extremely difficult for the UK. Some suggest too that Donald Trump's ascendance to President of the United States, and the recent trade war with China involving higher tariffs on imports, are in part the result of disillusionment with the freer trade policies of former governments, and some of the negative impacts of globalisation on jobs and incomes. However, other commentators view globalisation as unstoppable and see a new era of globalisation involving unprecedented collaboration between governments to tackle pressing global issues including the management of scarce resources (e.g. water, oceans and air), pollution and climate change, and large population shifts (e.g. the recent influx of refugees into Europe). Perhaps the main challenge is to build varieties of globalisation that are economically, socially and environmentally sustainable where the benefits, and any costs, are divided more equitably among people than we currently see.

The acceleration of economic globalisation and the spread of multinational businesses (firms that produce and operate in more than one country and sell their goods and services in global markets) have been enabled by several developments (see figure 6.2).

FIGURE 6.2 Factors accelerating globalisation

6.2.1 Relaxation of government controls and the widespread adoption of freer trade

There has been a general relaxation of government controls (deregulation) in most economies, to be replaced by the forces of freer markets (demand and supply) and capitalism. In addition, international agencies like the *World Trade Organization* (WTO) sold the economic benefits of freer trade (reduced protection of industry) and globalisation. The policy of **trade liberalisation** has been especially important in encouraging globalisation. Most governments around the world have been reducing their protection of local industry by:

- cutting tariffs on imports
- abolishing quotas or quantity controls on particular types of imports
- lowering the payment of subsidies to local firms.

This freedom enables the spread of business internationally and the exploitation of global markets.

6.2.2 Faster, more efficient and cheaper transport and communications

There have been massive improvements in speed and reductions in the cost of international transport and communications. For instance, since 1930, sea freight costs have fallen by 80 per cent. This is partly due to the development of containers that could be efficiently stacked on special ships designed for the purpose. In addition, the cost of air freight fell by 3–4 per cent per year and passenger fares are down by 90 per cent. This means that transport costs associated with buying or selling goods abroad have become less important as a proportion of their final selling price. In turn, faster transport and lower costs cause businesses to be more aware of profit opportunities and able to move resources and production between countries. This enables nations to specialise in production, encouraging the expansion of global businesses and international trade.

6.2.3 Increased mobility of global capital and investment by business

Although natural and labour resources can be difficult to move between countries, money capital or investment resources are not. Being able to move investments in and out of countries gives businesses far more flexibility in their decision making. It allows them to change and restructure their operations as conditions change in particular countries.

6.2.4 Improved availability of new technology

There have been huge leaps in technology which permit even unskilled workers with low levels of education to be involved in modern production. This means that it can be attractive for multinationals to manufacture goods, even in **low-income countries** where education standards are low.

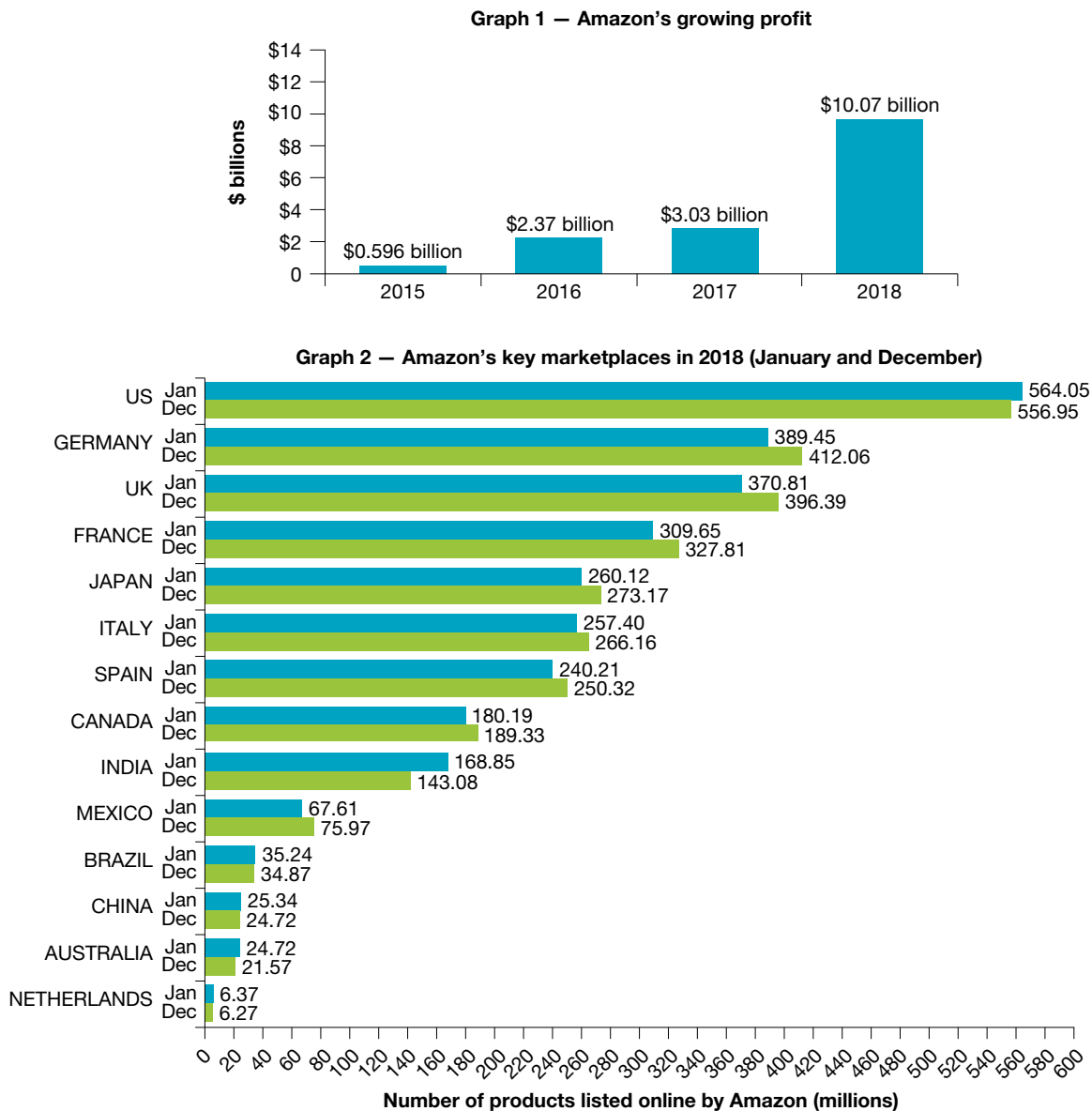
Moreover, new technology has also enabled the explosion of electronic banking and investment, further encouraging international trade and global financial transactions.

We might also think about how computers, and especially the evolution of a superfast and affordable internet, have not only enabled businesses to advertise and have a visible presence in markets around the world, but have allowed consumers to shop globally on-line at the click of a mouse from the comfort of their own lounge room, at any time of day or night. For instance, the internet can be accessed by:

- 97 per cent of Australian households with children aged under 15 years, and even in remote or very remote parts of the country the figure is 77 per cent
- nearly 60 per cent of Chinese households
- around 40 per cent world's population.

Amazon.com, one of the largest online sellers, generated US\$142 billion in mobile commerce revenues in 2018, up about 20 per cent on the previous year, and employed over 540 000 staff. Figure 6.3 shows that the company's profits grew impressively from almost \$0.6 billion to over \$10 billion over the four years to 2018. It also shows the January and December 2018 sales across its 11 marketplaces (including Australia) worldwide, and lists more than three billion products.

FIGURE 6.3 The growth in Amazon's profits and key marketplaces



Sources: Graph 1 was copied directly from Digital commerce.com, (see <https://www.digitalcommerce360.com/article/amazon-sales>) where it was sourced from Amazon.com, Inc. Graph 2 was copied directly from ScrapeHero, see <https://www.scrapehero.com/how-many-products-amazon-sell-worldwide-january-2018>.

6.2.5 A general belief that globalisation will improve our living standards

Another enabler of globalisation is a widespread belief by many (especially those living in rich nations) that it will help to make people better off, even in Third World nations. The simple explanation runs something like this. Globalisation, fostered by the removal of tariff protection, encourages countries to *specialise* in particular areas of production where they have a **comparative cost advantage** over other countries (or put another way, only produce those things where they have the lowest cost disadvantage). This improves efficiency in the way nations use their limited resources, lowers the unit cost and price of goods and services, expands the volume of world trade between countries, raises GDP levels for those involved, increases employment opportunities, lifts real incomes and purchasing power, and ultimately strengthens material living standards. This explanation was first suggested in 1817 by the well-known British economist, David Ricardo (1772–1823).



Weblinks Globalisation I — The upside: crash course world history
 What is globalisation?
 The New Rulers of the World (2001)

6.2 ACTIVITIES

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Check your understanding

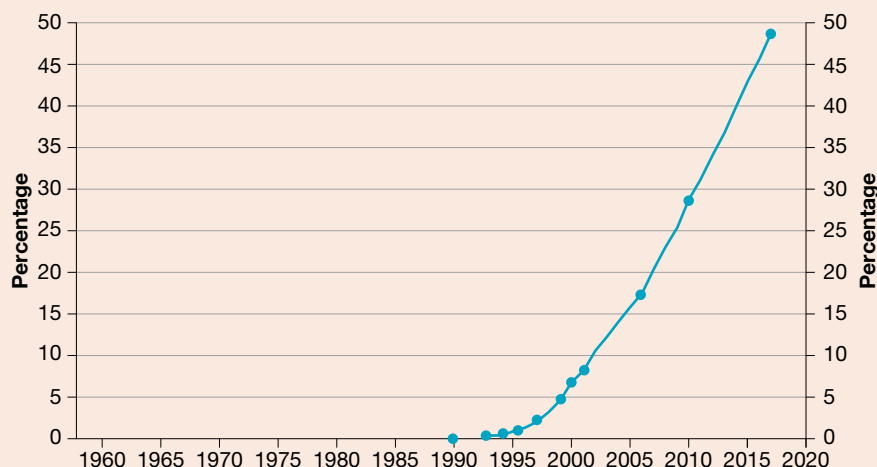
1. Define what is meant by *economic globalisation*.
2. Suggest three important developments that acted as a catalyst to accelerate globalisation.

Applied economic exercises

1. (a) It took 38 years after its invention for radio to be used by 50 million consumers, 16 years for personal computers, 13 years for TV, and only four years for the World Wide Web (WWW)! Examine figure 6.4.

FIGURE 6.4 The change in internet usage in selected countries and global access

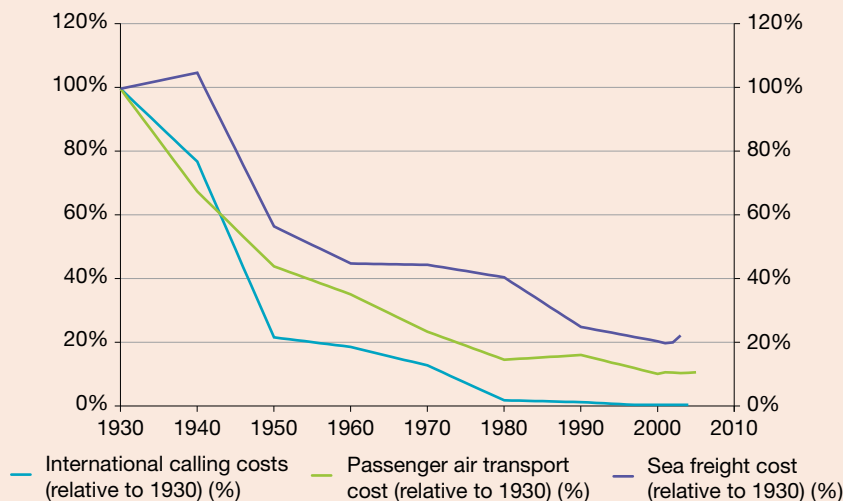
Internet users (per 100 people)		
Country	1998	2016 or 2017
Iceland	36.3	98.2
UK	13.7	91.6
Japan	13.4	90.9
Austria	15.4	87.9
Australia	30.8	87.0
Germany	9.9	84.4
High-income countries	15.1	81.7
France	6.3	80.5
Saudi Arabia	0.1	80.1
USA	30.1	76.2
Russian Federation	0.8	76.0
Argentina	0.8	71.0
Brazil	1.5	60.9
China	0.2	54.3
Indonesia	0.3	32.3
Sri Lanka	0.3	32.1
India	0.1	29.5
Nigeria	0.0	25.7
Timor-Leste	0.1	25.2
Mozambique	0.0	17.5
Low-income countries	0.0	13.6
Niger	0.0	10.2
Papua New Guinea	0.2	9.6
Madagascar	0.1	9.8



Source: Table of data derived from the World Bank, <https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2017&start=1998>. Graph copied directly from the World Bank, see <https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2017&start=1977>.

- Describe the trend in internet usage between 1998 and 2017, as a percentage of the population in
 - the world (1 mark)
 - a selection of countries. (1 mark)
 - In what way could internet usage be one factor that might help to explain why some countries have low incomes while others have higher incomes? (2 marks)
 - How has the rise in the WWW helped to facilitate the globalisation of commerce, and the expansion of multinational business and trade? (2 marks)
- (b) Examine the data contained in figure 6.5, showing changing transport and communication costs as a percentage of those in 1930 as the base or year of comparison for the subsequent years.

FIGURE 6.5 The percentage change in transport and communication costs against the levels in 1930



Source: Graph copied directly from Our World in Data, see <https://ourworldindata.org/grapher/real-transport-and-communication-costs?time=1930..2005>.

- Referring to the graph and quoting data, describe what has happened to the cost of transport and communications over the years since 1930. (2 marks)
 - Why has the cost of sea freight gone down so much since 1930? (2 marks)
 - How has the trend in transport and communications costs helped the process of globalisation and the spread of multinationals? (2 marks)
- (c) How did colonisation by European powers centuries ago help lead to globalisation? (2 marks)
2. Using the internet, present a report about Amazon.com and answer the following questions:
- Provide a short history of the main milestones in the company's development. Place these on a timeline. (4 marks)

- (b) How much profit did the company generate in the most recent years available and how has this changed since it was established? In which country (or countries) does Amazon pay government tax? **(2 marks)**
- (c) These days, how many staff does Amazon employ worldwide? **(2 marks)**
- (d) Giving reasons, why do you think this multinational has been so successful? **(2 marks)**
- (e) What are the main types of goods and services sold by the company? **(2 marks)**
- (f) How does Amazon represent an example of a multinational corporation? **(2 marks)**
- (g) How does the company hope to continue to boost future sales and profits? What new areas does it hope to develop in the coming years? **(2 marks)**

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6.3 Economic reasons for the growth and extent of global business

KEY CONCEPT

- economic factors that might influence the extent and nature of the selected global economic issue/s

At the centre of globalisation, and leading the charge, are **multinational businesses** (also called *transnationals*). These firms undertake production in more than one country, and operate across national borders as they grow their operations and markets. Additionally, globalisation allows firms to produce on a larger scale, primarily for the global market rather than locally, just for domestic consumption.

To give you an idea of the massive scale of some global businesses, let us take a look at just a few statistics. Currently it is estimated that:

- 69 of the largest 100 economic entities of the world are multinationals, not countries
- multinational corporations account for around 33 per cent of the world's GDP
- about 26 per cent of global economic activity was created by the largest 200 companies (including Walmart Stores, Microsoft, McDonald's, IBM, General Electric, Royal Dutch Shell, Exxon, BP, Toyota, Ford, General Motors, JPMorgan, Nestle), with many individual firms adding more value annually to production than the entire GDPs of some countries
- the top 200 corporations had total sales greater in value than the combined GDPs of all countries, excluding the nine biggest economies in the world.
- just three multinational companies — Apple, Shell and Walmart — have combined sales revenue bigger than the total output of Belgium, Russia, and Sweden

The staggering importance of multinational businesses is partly illustrated in figure 6.6 (see next page). Clearly, global business is now of huge significance for the world's living standards.

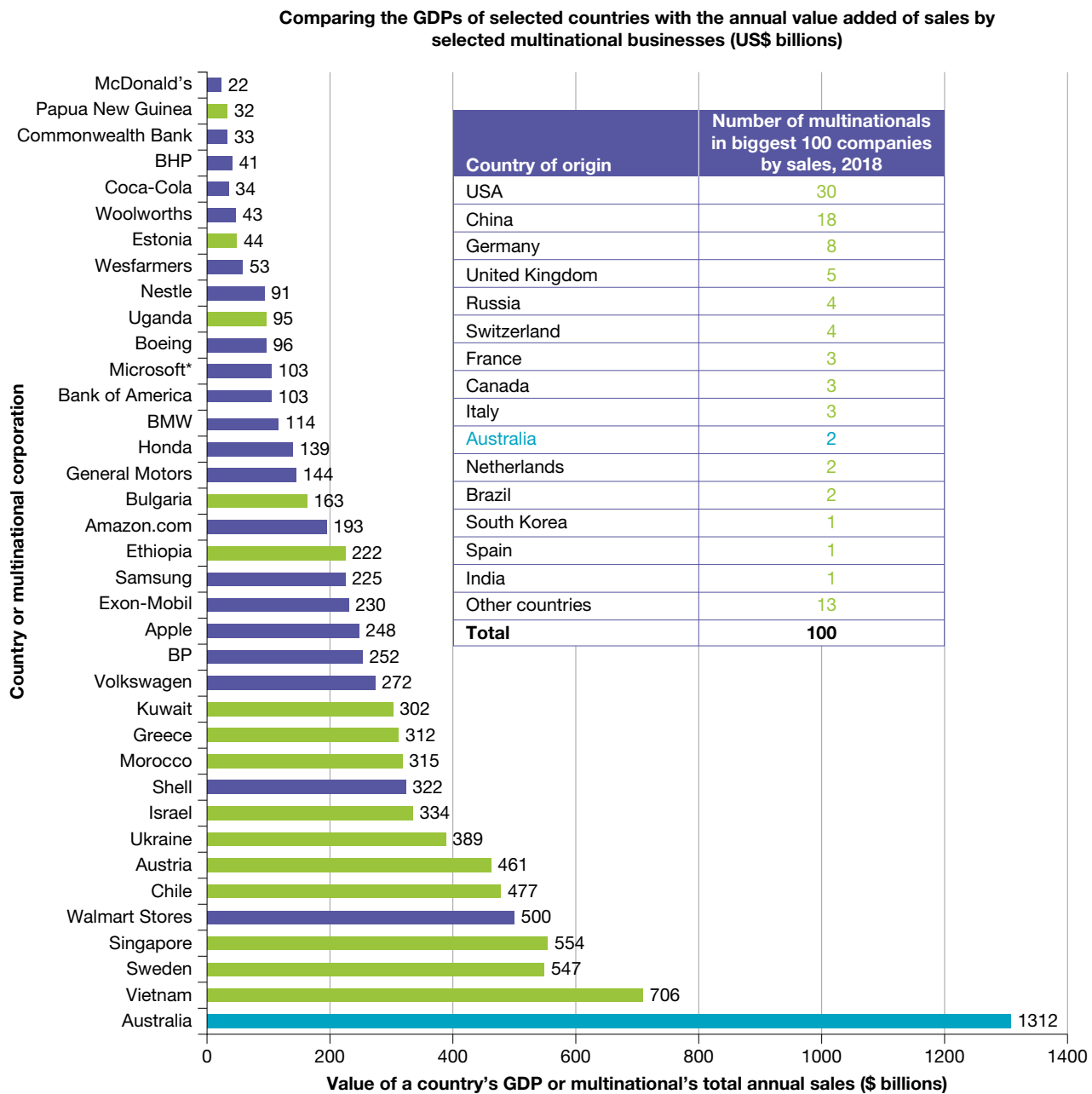
There are many reasons that may help to explain why some businesses have found it attractive to expand across national borders and operate in global markets (see figure 6.7, page 371). However, most of them stem from the desire to maximise profits by increasing efficiency and cutting their production costs.

6.3.1 Globalisation helps minimise labour costs

In some labour-intensive industries (e.g. where more labour rather than machinery or capital equipment is used, as in clothing, aspects of car manufacture, rubber production, toy making), wages represent the largest input cost for businesses. Because wage rates vary greatly between countries, some firms go hunting the world in search of cheap workers. Figure 6.8 (see page 372) compares average hourly minimum wages in

different nations. From this information, it is hardly surprising that some local firms take their operations overseas to low-wage countries. Currently, for example, many labour-intensive (as opposed to capital-intensive) areas of manufacturing and other types of production are located in countries such as India, Sri Lanka, Vietnam, Mexico, Bangladesh, the Philippines and Indonesia, where hourly pay rates are less than \$3 (in international dollars or purchasing power parity, called PPP). These levels contrast sharply with high labour costs in countries like Australia, France and Luxembourg where minimum wage rates can exceed \$11 per hour (PPP). In addition, wages over the past decade have actually fallen in some countries, causing companies to review their location strategy. Given that foreign investment or money capital is quite mobile, setting up or moving a factory overseas, where labour is cheap, can help boost the profits of multinationals.

FIGURE 6.6 Comparing the annual size of GDP in selected countries with the annual value of sales of large multinationals (\$ billions)



Source: Data derived from Forbes, 2018, The world's biggest public companies, https://www.forbes.com/global2000/list/7/#header:revenue_sortreverse:true. For GDP, data derived from Wikipedia, the free encyclopaedia, List of Countries by GDP (PPP), 2018, see [https://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(PPP\)](https://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)).

FIGURE 6.7 Why are some businesses keen to become global multinationals?



6.3.2 Globalisation increases access to natural resources

Some countries have very limited access to cheap natural resources (e.g. minerals and agricultural land). Here we think of Singapore, Britain, Taiwan and Switzerland. This can become an incentive for some of their companies to become multinationals. Their overseas operations can give them access to cheaper natural and labour resources so they can make even larger profits.

6.3.3 Globalisation helps firms gain economies of large-scale production

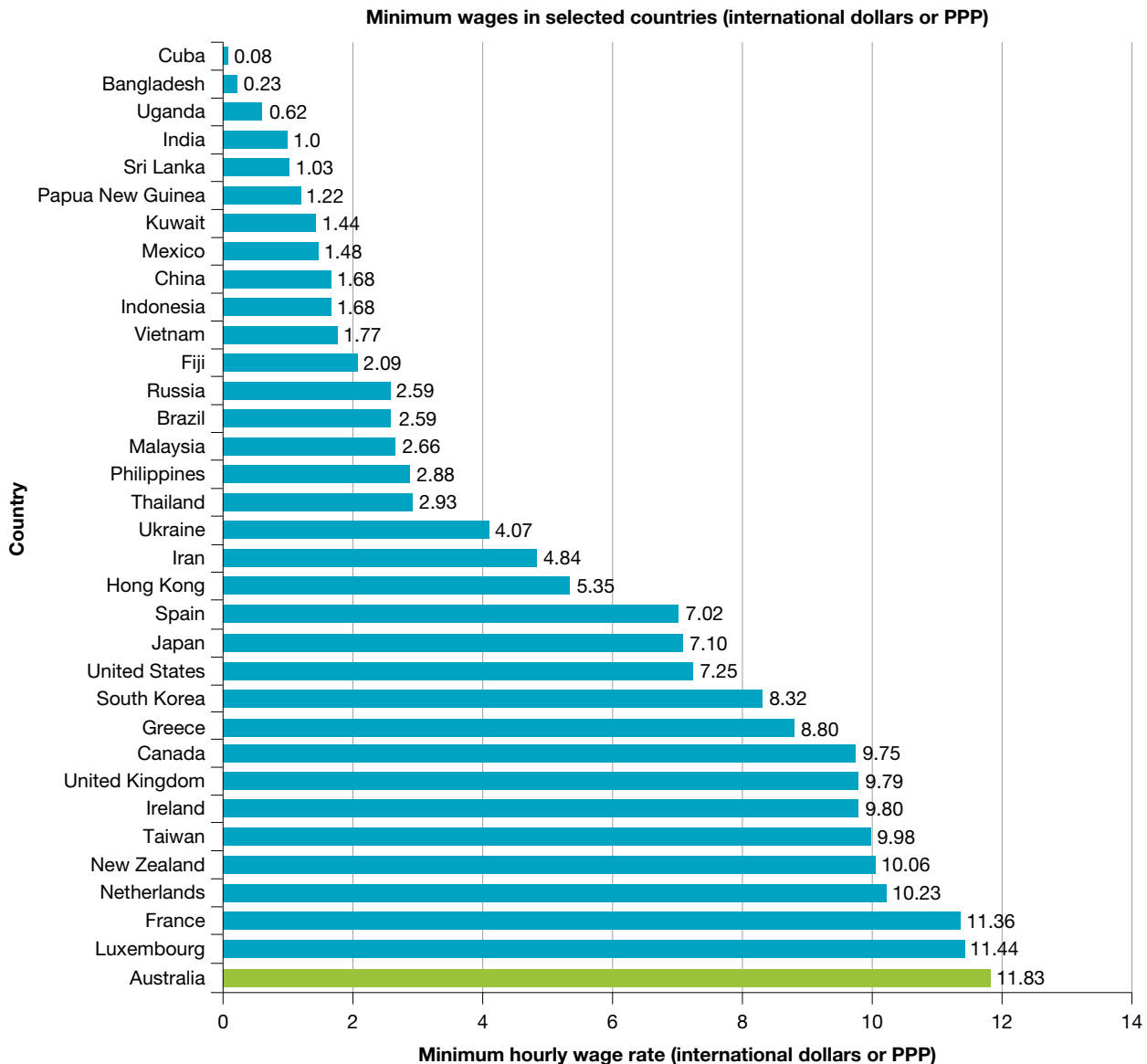
Globalisation can help companies to grow bigger by encouraging specialisation in production and opening up new, larger markets overseas. For some firms, producing on a large scale is cheaper and has lower *average costs per unit*, than small-scale operations with shorter production runs. Economists refer to these cost savings as **economies of large-scale production**.

Consider why the prices of many previously expensive and for some, unaffordable goods, have now come down so much. For instance:

- cars with advanced safety technology
- long-haul air travel and shipping transport
- laptops with ultra-fast processing speeds

- assemble DIY, flat pack furniture
- household electrical appliances.

FIGURE 6.8 Where in the world can firms find low wages and minimise labour costs?



Source: Data derived from Wikipedia, the free encyclopaedia, countries selected from a table, see http://en.wikipedia.org/wiki/List_of_minimum_wages_by_country.

In these and other cases, some of a firm's *fixed* and *variable production costs* have come down as its level of output rises, thereby cutting its average unit costs of production.

There are many *sources of lower average unit costs* in production that can strengthen a firm's profits and its **international competitiveness**. For example:

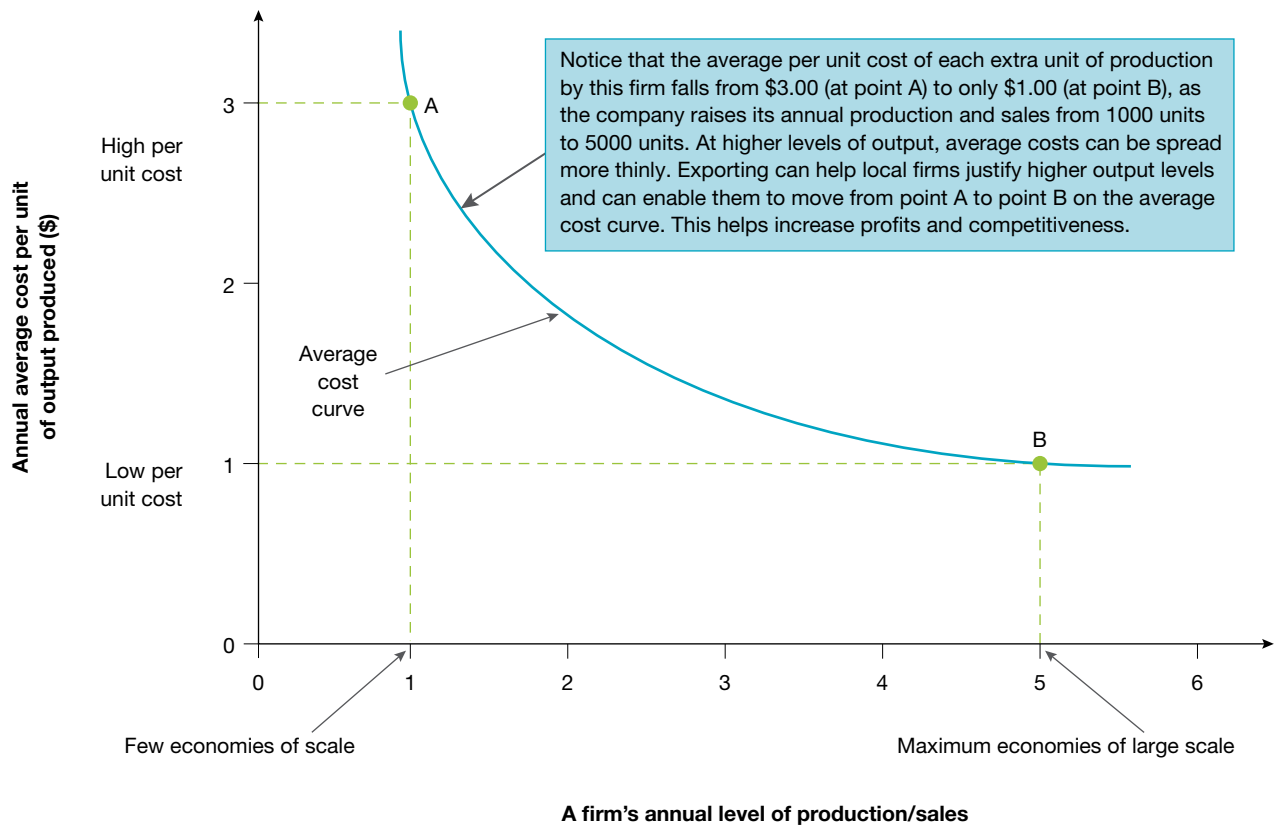
- Large firms with high output volumes can spread the initial expense of high-tech industrial robots more thinly over bigger output volumes, knowing that their average production costs per unit will often be lower than using labour resources to do the same work.
- Company product *research and development* can be spread over higher levels of output (e.g. drug companies conducting expensive research and developing new medical drugs).
- Marketing and advertising are more affordable when sales volumes are larger.

- *Management structures* can be improved, allowing a better use of skills and greater specialisation and thereby improve efficiency.
- *Borrowing loans or credit* from banks is often cheaper for large firms.
- *Raw materials* and transport can often be purchased more cheaply in bulk.
- Firms can reduce unit costs by taking advantage of both **horizontal integration** (where firms are joined together in the same industry) and **vertical integration** (downward or upward in different but perhaps related industries, e.g. an iron ore firm overseas combining with a steel producer in the home country).

While the situation varies greatly between industries, some estimates suggest that the average manufacturing cost can fall between 70 and 90 per cent when firms double the size of their output. Even so, firms need to be mindful of the possibility of *diseconomies of large-scale production* for firms. This can occur when they grow their output beyond the ideal level, causing average production costs to rise.

The spreading of a firm's average costs over higher annual levels of output to gain economies of large-scale production is illustrated in figure 6.9.

FIGURE 6.9 Globalisation can increase economies of large-scale production for businesses (i.e. reduce their average costs of production per unit of output).



6.3.4 Globalisation takes advantage of favourable government policies

Globalisation of companies enables firms to take advantage of government policies in both their home country and in the country they visit. With great competition between nations to attract foreign business investment, some governments are willing, for instance, to:

- pay generous **subsidies** (cash payments) to visiting multinationals
- provide *lower company tax rates* (or even tax holidays) and other concessions (e.g. cheap power, water, transport) to transnational businesses

- ignore their concerns or dilute their *environmental standards*
- use tariffs to *protect visiting firms* from import competition.

All these aspects can help to seduce overseas companies to relocate offshore in search of lower costs and improved profits. Some well-known multinational chemical, car and electronics companies have acted for these sorts of reasons. In one instance, a French multinational rubber product manufacturer did not like its government's decision to introduce indicative economic planning (i.e. greater government control over its business decisions) many years back, so it set up three plants overseas for every factory it built at home.

6.3.5 Globalisation helps to minimise transport costs

To help minimise shipping and other transport costs and maximise profits, some multinationals will set up subsidiary plants in the centre of populated markets, wherever these may be located.

6.3.6 Globalisation increases flexibility in business decision making

Sometimes, companies become globalised to improve the flexibility of choices they have in decision making about production and investment. For instance, multinational corporations such as Michelin, Alcoa, Toyota, Ford and Fiat have operations located around the world. In the case of car makers, it is claimed by some that globalisation gives them advantages because they can move or source aspects of production (e.g. engine assembly, car panels, leather and tyres) wherever the overall costs of specific operations are lowest.

Resources

-  **Weblinks** The age of uncertainty — the big corporation
 The Impact of Globalisation series
 Multinationals and the developing world
 Ethics of consumption — cultural capitalism
 Multinational
 Corporations 101: The ABCs of the international economy

6.3 ACTIVITIES

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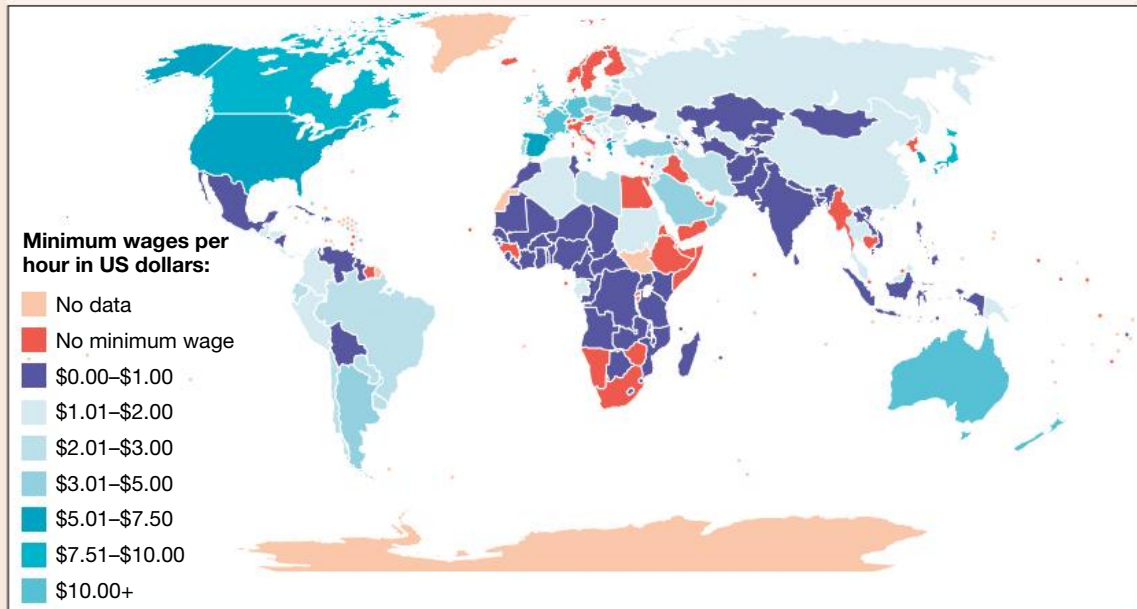
1. What are *multinationals*? Give *three* important examples.
2. How does each of the following factors help to explain the expansion of multinational business around the world?
 - (a) Differences in wage costs between countries
 - (b) Differences in the natural resources of countries
 - (c) Economies of large-scale production
 - (d) Favourable government policies operating in some countries
 - (e) Flexibility in decision making by companies

Applied economic exercises

1. (a) What are transnational or *multinational* companies? Are they significant in the global economy? **(2 marks)**
 (b) Companies grow and become multinationals for many reasons.
 - i. *Wages are cheaper in some countries.* Look at figure 6.10. Why are there large wage differences between countries? Which countries are seen by multinationals as low-wage countries? Explain how wage differences between nations lead to globalisation. **(3 marks)**
 - ii. *Firms can gain bigger economies of large-scale production.* What are economies of large-scale production? Explain how globalisation can help multinationals gain these economies, reduce costs and make better profits. **(2 marks)**

- iii. Governments will often try to attract multinationals to their country. Why are some governments keen to attract multinationals? Explain the methods they use to do this. (2 marks)

FIGURE 6.10 Map showing minimum wages in different countries



Source: Map copied directly from https://en.wikipedia.org/wiki/List_of_minimum_wages_by_country.

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6.4 The economic reasons for globalisation's importance for Australia's economy

KEY CONCEPT

- economic reasons why the issue/s may be of importance to Australia and the global economy

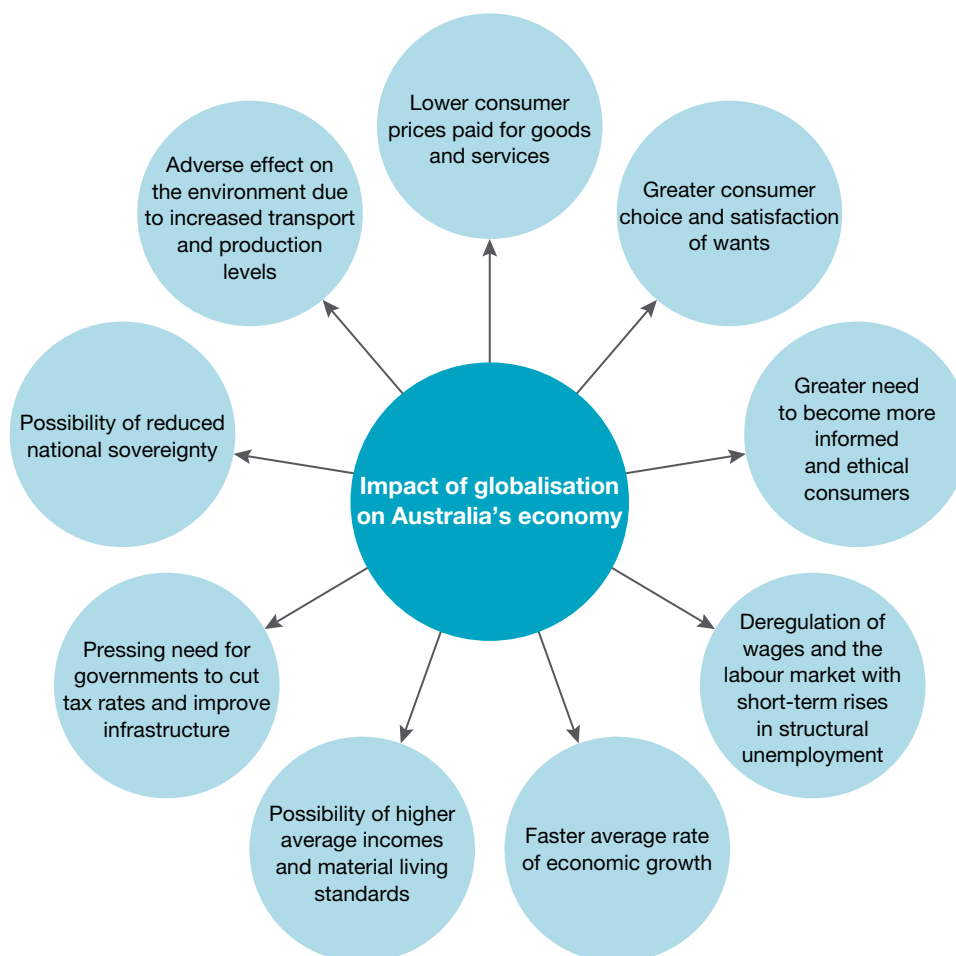
Some years back at the World Economic Forum, Nelson Mandela posed the question: 'Is globalisation only to benefit the powerful and the financiers, speculators, investors and traders? Does it offer nothing to men, women and children who are ravaged by the violence of poverty?'

Indeed, globalisation has become a hotly debated issue in recent times. Is it a good or bad thing for the world economy generally, and individual economies in particular? Before looking at the costs and benefits for Australia, it is worth remembering that globalisation has meant dramatic structural change including:

- reducing tariffs, necessitating cost cutting and greater *international competitiveness* among local producers
- increasing specialisation of local production in areas of *comparative cost advantage*
- lifting efficiency in *resource allocation*, usually involving less government regulation and a greater reliance on market forces
- *deregulating* the labour, capital, financial, communications, agricultural, transport and other markets to improve efficiency by encouraging stiffer competition in these markets
- improving *efficiency* and cost cutting through the restructuring of private and government businesses (e.g. privatisation)
- widely applying *new technology* to cut costs
- allowing the growth of *globalised multinational businesses* where production is sourced from the cheapest supplier in the world.

Unfortunately, when it comes to judging the effects of globalisation, opinion is divided and conclusive evidence in some areas is thin. To some it is a panacea, while for others it is a catastrophe. Perhaps this reflects the fact that globalisation impacts on particular groups and countries in different ways. However, for a moment, let us take a look at some of the good and bad effects on Australia's consumers, businesses, workers, governments and environment. Figure 6.11 provides an overview of the effects of globalisation on Australia.

FIGURE 6.11 Impact of globalisation on Australia's economy

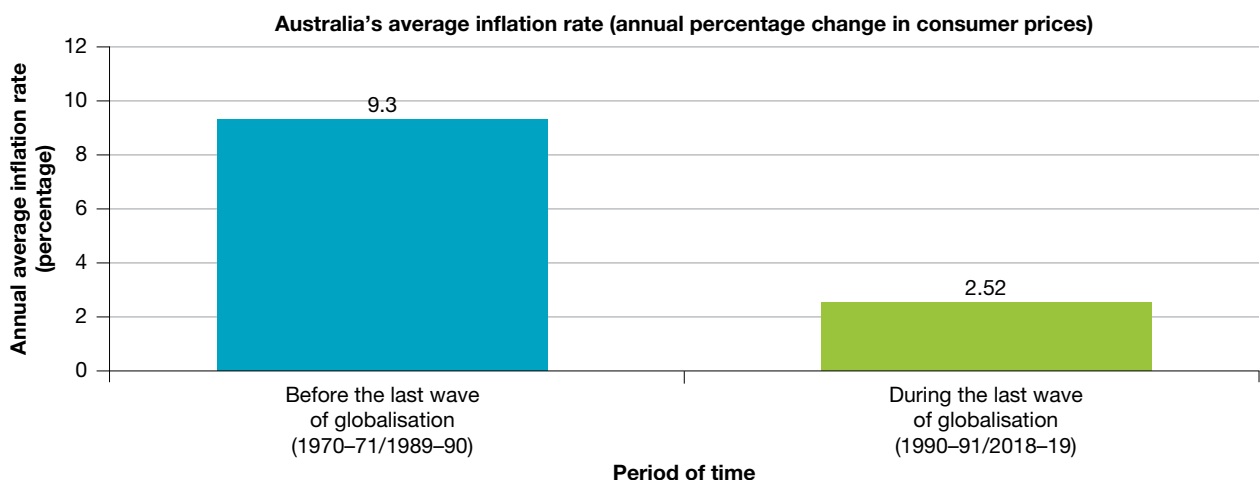




6.4.1 Lower consumer prices and slower inflation rates

One of the main benefits of the most recent wave of globalisation since 1990 is that Australian consumers have been able to buy better quality goods and services at much lower prices. As a result, the purchasing power of household incomes rose, lifting our material living standards. Figure 6.12 shows the spectacular 73 per cent fall in the inflation rate during the period 1990–91 to 2018–19 (i.e. the years covering the most recent wave of globalisation), as against the high levels during the period 1970–71 to 1989–90 (i.e. before the last wave of globalisation). While lower inflation was not solely the result of changes in government policies that helped to globalise the Australian economy (including tariff cuts to promote more competition, labour market reforms involving the use of enterprise bargaining and performance-based pay, the privatisation of government businesses, stronger competition policy involving the ACCC, deregulation of the capital market, and tax reform involving lower tax rates), these measures certainly helped depress consumer prices.

FIGURE 6.12 The recent wave of globalisation may have helped to slow inflation and improve the purchasing power of consumers.



Source: Data derived from ABS 1350.0, 6401.0.

Additionally, it is likely that exposing Australia's local and foreign-owned firms to greater global competition forced them to not just cut their costs and prices, but also improve their product quality.

6.4.2 Greater consumer choice and improved satisfaction of wants

Globalisation has expanded *consumer choice* when Australians buy goods and services. This is because households and businesses are freer to purchase whatever they like in markets around the world. The surge of e-commerce via the internet makes shopping and banking as easy as a click of a mouse, provided there is the know-how and ownership of computers. In fact, it was claimed that over 60 per cent of new Ford sales in the US were made via the internet. Similarly, online shopping for books, clothes, appliances and entertainment by Australian consumers during the past ten years is believed to have contributed to the slower growth in retail sales for bricks-and-mortar stores such as Harvey Norman, Myer and David Jones. Despite the convenience of e-commerce, this raises the questions of both equity and quality in making choices. In addition, there are concerns about whether, eventually, choice will be diminished as more efficient multinational companies come in and destroy local competitors and their product uniqueness.

6.4.3 Are we more ethical consumers?

Another development is that globalisation of communications may have gradually helped to make some Australian consumers more aware of the *ethical issues* involved in their choice of goods and services. Indeed, the concept of *Fair Trade* is now important in some markets (e.g. cocoa, coffee). Consumers have boycotted products grown or made in substandard conditions, or where there is worker exploitation or environmental damage. Here, we might think of examples such as clothing produced in sweatshops by child labour, and coffee purchased by multinationals at unfairly low prices that force hardworking farmers and their families to live in poverty.

6.4.4 How globalisation has affected Australian workers and the labour market

Especially during the recent surge in globalisation (i.e. the period from the early 1990s to today), Australia has progressively become a far more open economy, exposed to global competition. This has had significant impacts on our labour market.

Changes to the wage system

As noted already, wages are normally the biggest production cost for most businesses. During the 1970s and 80s, it became clear that Australian workers would not be able to enjoy continued high wages unless these were matched by strong productivity (indicated by GDP per worker per hour worked). To help deal with this problem, and avoid business closures and further rises in unemployment, the Australian government decided on partial **deregulation of the labour market** to improve our international competitiveness. These changes involved:

- the spread of enterprise bargaining and productivity-based agreements negotiated on a more flexible firm-by-firm basis, so that these now cover around 85 per cent of all employees
- the simplification and scaling back of agreements covered under the old centralised, complex and inflexible minimum wage system
- the promotion of union amalgamation and the erosion of union influence in wage negotiations
- some relaxation of the unfair dismissal laws so firms could get rid of unproductive or unnecessary workers.

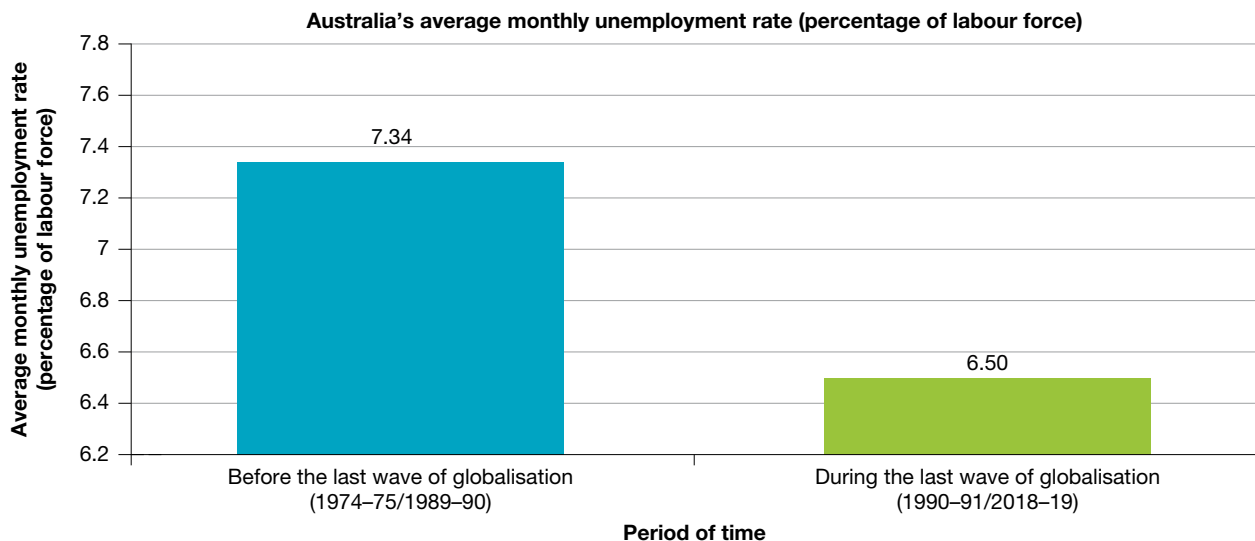
Some of the effects of partly *deregulating the labour market* are summarised in table 6.2.

TABLE 6.2 Some effects of globalisation on Australia's labour market

Effect	Description
Widening income gap	There is a widening gap overall in private or market incomes and pay, between those unskilled workers on minimum wages and those on enterprise agreements. Between 1990 and 2018, the latter group of workers have gained average rises almost two times greater than those on minimum wages. In addition, Australia's Gini coefficient for equivalised disposable income has increased by 10 per cent, suggesting growing inequality in income distribution.
Increasing number of part-time jobs	There are growing numbers of part-time jobs relative to full-time jobs because employers seek greater flexibility in staffing. This adds to income inequality.
Disadvantaged workers	Some groups of workers are disadvantaged in wage negotiations in the workplace (e.g. often female, non-English-speaking, part-time workers, the inarticulate and uneducated), increasing inequality.
Decline in unionism	There has been a dramatic decline in unionism in Australia (to only 13 per cent in 2018 for the private sector) and around the world. This means that unions are less able to take action to protect wages from being driven downwards towards the levels existing in poorer countries.
Rise in working hours	As in many other industrialised Western nations, there has been a significant rise in the number of hours worked and, as a consequence, a reduction in the amount of leisure time.

Effects on jobs and unemployment

The partial deregulation of Australia's labour market, which followed trade liberalisation and increased global competition, was intended to more closely link wage rises to productivity or **worker efficiency**. In turn, it was hoped that slower rises in wage costs would help make local firms more internationally competitive so they would expand their sales locally and abroad, rather than close down and leave workers unemployed. Overall, it seems that the most recent wave of globalisation (from 1990) may have contributed to an overall fall in Australia's average unemployment rate between 1990–91 and 2018–19. This is shown in figure 6.13.

FIGURE 6.13 Globalisation may have helped to reduce Australia's unemployment rate.

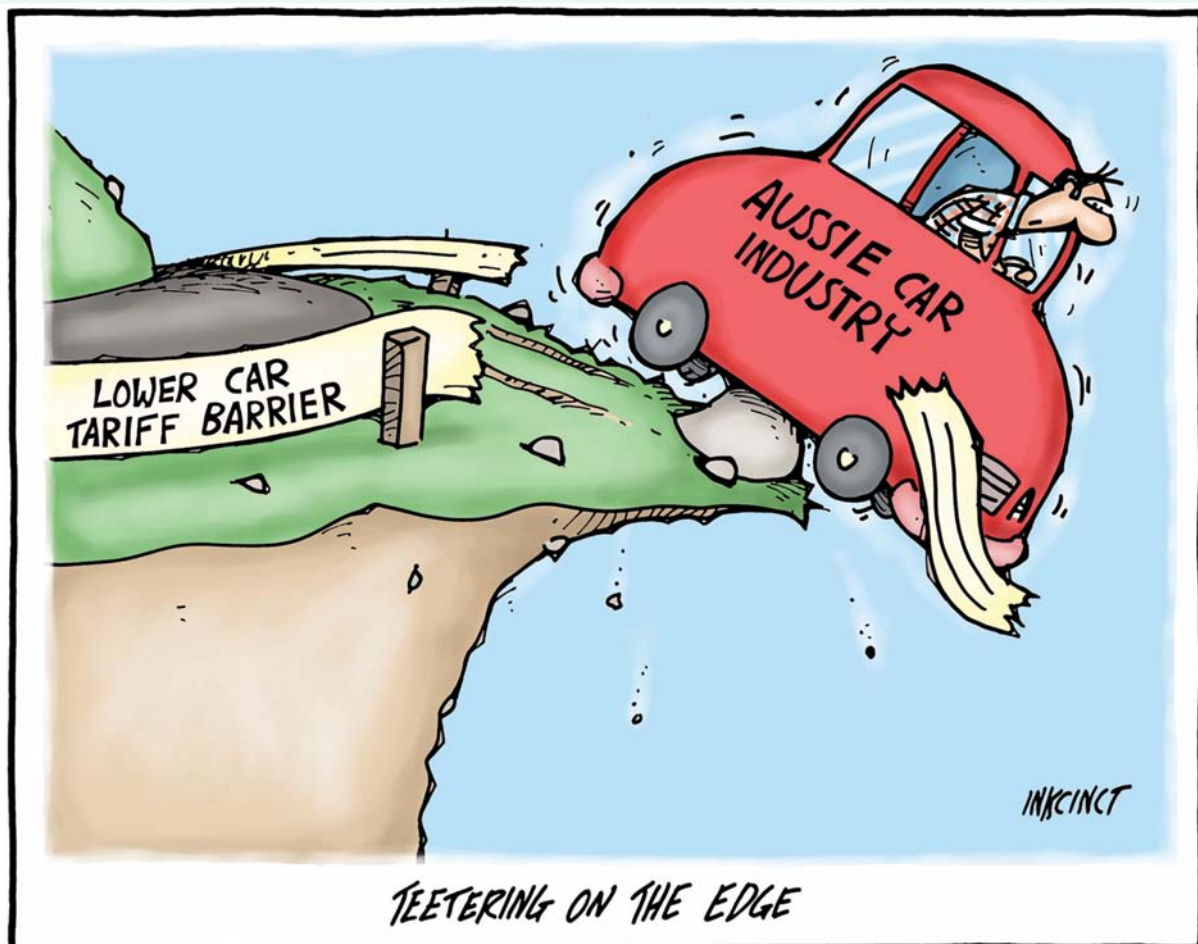
Source: Data derived from ABS 6202.0; RBA Statistics, Occasional Paper 8A.

After all, globalisation (encouraged by lower tariffs and the rise in free trade agreements) has allowed Australian businesses to increase their exports and produce on a far larger scale than would otherwise have been the case. This creates jobs and incomes.

However, the effects of globalisation and openness on employment and unemployment vary greatly between industries. Workers in competitive and efficient firms and industries (e.g. mining, finance, health), where the growth in sales and profits have been relatively strong, have gained better incomes and career paths.

By contrast, those employed in internationally uncompetitive parts of the economy (e.g. aspects of manufacturing including the car industry, and parts of the textile, clothing and footwear sector) have suffered greatly as businesses closed or relocated production overseas. This has caused a rise in **structural unemployment**. For example, some workers lost their job as companies downsized, relocated or closed. Here we might think of employees at Arnott's (2001), Heinz (2000), Bonlac (2000), Dye Works in Coburg, Qenos Plastics in Altona, Email oven and dishwasher appliances (2000), BAE systems (2000), Blundstone Boots, Feltex Carpets (2007), Brinton's Carpets (2007), Mitsubishi car plant (2008), Pacific Brands (in 2009, including Bonds underwear), BHP operations at Newcastle, Telstra and Qantas (some operations shifted offshore), Blue Scope Steel and Shell's Clyde refinery (2011), Alcoa (2014), Qantas Avalon (2014), BP Refinery (2014), Boeing (2014), Philip Morris (2014), Ford (2016), General Motors Holden and Toyota (2017), along with Esprit, Maggie T, Toys R Us, Avon, Roger David and Mountain Designs (2018). These and other domestic retailers have felt the pressure of consumers switching to online shopping with giants like Amazon.com.

FIGURE 6.14 Globalisation has led to business rationalisation and cost cutting. Some firms, such as Telstra and Qantas, have outsourced some of their operations overseas to take advantage of lower wages in other countries, enabling them to maximise profits. Others like Ford, General Motors Holden and Toyota, have largely relocated overseas.

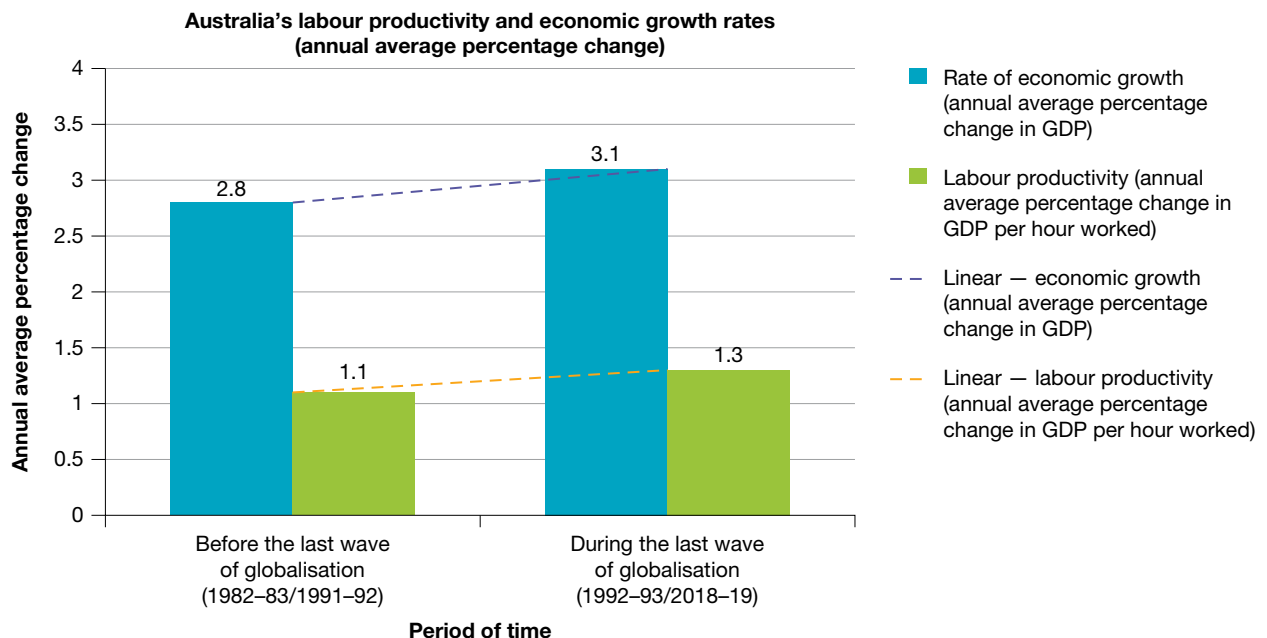


6.4.5 How globalisation has affected Australia's rate of economic growth

Among other things, tariff cuts, the adoption of freer trade, and the general easing of restrictions on foreign investment by the Australian government since the late 1980s, increased our economy's exposure to the forces of globalisation. Supporters of globalisation claim that the widespread use of these policies has helped to lift our rate of economic growth (GDP). Their reasoning goes something like this:

- **Better efficiency.** Greater openness involving lower tariffs and less protection under globalisation has forced Australia to allocate resources more efficiently into areas of production where we have a comparative cost advantage. Greater efficiency lifts economic growth because more output is produced from fewer inputs of resources.
- **Cost cutting.** Lower tariffs force Australian firms to cut production costs and lift efficiency in order to survive and compete against imports. Some firms may even be able to grow by earning more income from rising exports sales. This helps to boost economic growth.
- **Lower production costs.** Lower tariffs make it cheaper for Australian firms to import new equipment, and use more up-to-date and efficient technology in their production. This improves our competitiveness and sales, lifting GDP.
- **Expansion of export markets.** Lower tariffs (resulting from cuts by most governments here and around the world) have caused our exports to grow much faster than otherwise. For Australia between 1984–85 and 2018–19, exported production rose from only 14 per cent of GDP to over 25 per cent of GDP. Indeed, exported GDP has grown around 60 per cent faster than the rest of the economy.
- **More foreign investment.** The encouragement of foreign investment (by mostly easing restrictions on the international movement of money capital) has helped to lift the total level of business investment in Australia. Investment here by foreign businesses is often associated with using innovation and the latest cutting-edge technology. This boosts our efficiency and productive capacity, and increases economic growth (GDP).

FIGURE 6.15 The recent wave of globalisation may have strengthened Australia's productivity and accelerated economic growth.



Source: Data derived from ABS 1350.0, 5206.0 (Table 3); and RBA Statistics, Occasional Paper 8A.

By boosting Australia's efficiency, competitiveness and exports, increased exposure to globalisation since 1990 has probably helped to lift our growth rate for GDP. For instance, figure 6.15 shows that during the 1980s (prior to the recent increase in globalisation), our productivity was miserable, and GDP grew by a

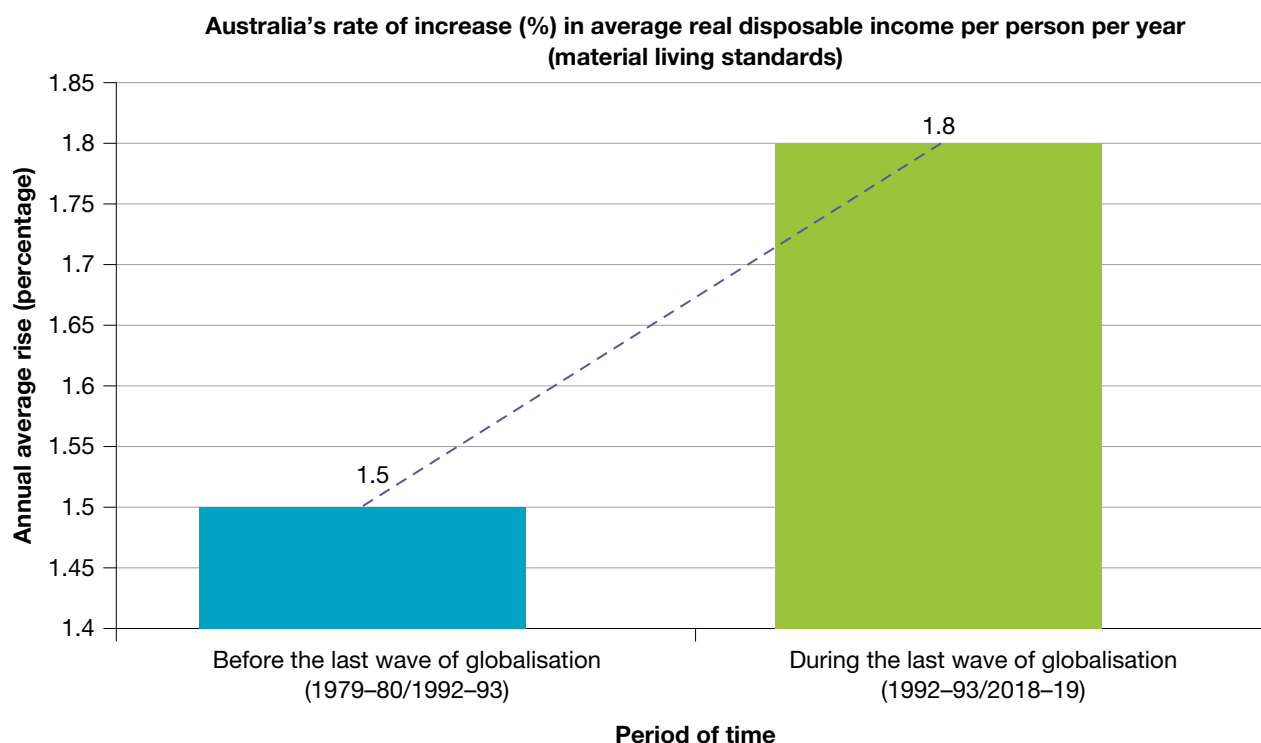
slow 2.8 per cent per year. By contrast (although this may be a coincidence), between 1992–93 and 2018–19 (during the last wave of globalisation), the average annual rise in labour productivity or efficiency was almost 18 per cent stronger, and our annual average GDP growth was about 11 per cent greater.

Although globalisation may have accelerated Australia’s economic growth, by increasing the interdependence of all economies, it may also have exposed our economy to more severe external shocks and disasters originating overseas. This relationship was clearly demonstrated in the recent global financial crisis (GFC) that started in the US and then spread through complex international financial markets to Europe, Asia and Australia during 2008–10.

6.4.6 How globalisation has affected Australia’s incomes and material living standards

As a nation, our average income per head of population depends on how much each of us produces (i.e. the size of our GDP per person). If globalisation has helped Australia to grow its production faster than our population, then we would expect average incomes to be higher than otherwise. In fact, this seems to have occurred. For instance, in the period from 1982 to 1992 (before the main wave of globalisation in Australia), average incomes per person grew slowly by only 1.5 per cent per year. By contrast, figure 6.16 shows that between 1992–93 and 2018–19 (following increased exposure to global influences), real household disposable incomes in Australia grew by around 1.8 per cent per year — around 20 per cent faster! By late 2018, real average incomes were nearly \$74 000 per person per year. With increased purchasing power due to higher incomes and lower prices, average material living standards rose more quickly than before.

FIGURE 6.16 Globalisation may have helped to increase the growth in Australia’s level of average real disposable incomes per person per year.



Source: Data derived from ABS 1350.0, 5206.0, RBA Occasional Paper no. 8A and RBA Statistics.

Additionally, globalisation and higher personal incomes have helped to raise more tax revenue. This then made the Australian government’s provision of welfare payments and community services (e.g. public education and health) more affordable and generous than otherwise, therefore supporting better living standards.

6.4.7 How globalisation has affected the government

Some mention has already been made about the impact of globalisation on the Australian government's decision to partly deregulate the labour market to make wage costs and labour more internationally competitive. However, globalisation has also pressured the government into implementing other aggregate supply, efficiency-promoting policies such as:

- reducing the rate of company tax so firms can strengthen their profits and international competitiveness
- building more efficient national infrastructure
- promoting competition through strengthening the Australian *Competition and Consumer Act 2010* that is enforced through the Australian Competition and Consumer Commission (ACCC) to conduct price surveillance and watch out for firms that are involved in anti-competitive behaviour including price fixing.

6.4.8 Has globalisation undermined our national sovereignty and created other problems?

Another consequence of globalisation, increased foreign investment and visits by multinational companies is the possible decline in *national sovereignty*. Foreign investors including overseas government-owned businesses, have been buying up Australian assets including mineral resources, rural and urban property, utilities including power and ports, and manufacturing businesses. This may create several problems:

- **National defence.** Some writers argue that overseas ownership, sometimes by foreign governments, may compromise our future resource and national security during times of international conflict.
- **Possible loss of government tax revenue.** Foreign investment and capital inflows have helped to expand businesses in Australia. In recent times, there have been media reports about some of these companies shifting profits to lower taxed subsidiaries located in low-tax countries, thereby depriving the Australian government of much needed tax revenue to pay for community services. Additionally, formerly locally-owned company icons that were household names to older generations (e.g. Aeroplane Jelly, Bonds, Vegemite and Arnott's) are now foreign owned, where it seems that at least some of the after-tax profits shifted overseas.
- **Housing affordability.** There have also been massive purchases of Australian property by foreign buyers with a keen eye for speculation and capital gains. In the case of residential property in our capital cities, some estimates put foreign buyers at over 40 per cent of the total sales during 2017–18. As a result, housing is now so expensive that many young families are priced out of the market and are finding home ownership unaffordable.

Finally, globalisation and the freer movement of people, goods, services and capital, has presented the government with some other very difficult issues — how to control the spread of terrorism (e.g. 11 September 2001; and the Bali, London, Jakarta, Spanish, Paris, German and Moscow bombings 2002–17) and the spread of weapons of mass destruction, illegal hard drugs, crime, worsening global pollution and warming, disease (e.g. SARS, Ebola and swine influenza), and massive shifts of illegal immigrants that could swamp an economy's resources and **infrastructure** (as seen in Europe in 2015–19). Without effective government regulation, all these things could undermine non-economic living standards and the quality of life.

6.4.9 How globalisation has affected the environment

Little statistical data is available about the effects of globalisation and multinational companies on Australia's environment. Even so, several points can be made:

Environmental effects of increased transportation of goods

Globalisation, with its emphasis on international specialisation in production and the growth of trade volumes (i.e. exports and imports), means there will be a rise in long-distance shipping and air cargo. Already, transport generates about 25 per cent of Australia's air pollution. This is because the burning of fossil fuels such as oil for transport involves the creation of greenhouse gases like carbon dioxide (CO₂). This contributes to global warming. Indeed, greenhouse gas emissions from international transport between

Australia and overseas have increased by almost 70 per cent over the past ten years. It is reasonable to conclude that globalisation has worsened this problem and that localisation (i.e. the opposite of globalisation) may have produced less environmental harm. Next time you have bottled water from Switzerland, prawn cutlets from Thailand, navel oranges from the US, feta cheese from Greece and olives from Spain, think of the environmental impacts.

Environmental effects of increased production of goods

Production of all goods and services involves the use of natural and environmental resources (e.g. soils, air, climate, minerals, forests and the biosphere). It stands to reason that if Australia's output or GDP rises as a result of globalisation, then there may be more environmental damage. Interestingly, in a report into the Australian-US free trade agreement (which commenced in 2005 and was designed to increase the volume of trade between these countries), various environmental problems were raised. These and others are listed below:

- Increased agricultural production in Australia (dairy and sugar especially) would mean more use of chemical fertilisers and pesticides that poison soils and cause blue-green algae blooms on rivers and lakes.
- Using irrigation to increase crop and meat production for export leads to soil salinity problems.
- Increased logging of native forests, mostly for the export of woodchips, causes environmental damage.
- Increased water use for growing agricultural exports (that make up only 3 per cent of our GDP) means we are exporting water from the world's driest continent, when many of our cities have recently been on water restrictions or are reintroducing them.
- Growing more exports has required increased land clearing. This, in turn, destroys the native habitat of local animals, biodiversity and recreation spaces.
- Increased mining of uranium for export raises serious ethical and environmental issues. For instance, how might this material be used and who is responsible for the safe disposal and storage of the radioactive waste?
- Mining permanently scars and pollutes the environment. This is especially the case with gold mining (which uses poisons for leaching), uranium mining (which discharges tainted water), and copper and other ore mining (which use much water to extract the ore). Here, we think of the well-documented case of an Australian mining company that jointly operated the Ok Tedi mine in Papua New Guinea. This activity and the discharge of waste poisoned the land, water, fish and livelihoods of the many Indigenous people dependent on the river.
- Ultimately, everything produced and consumed becomes waste. By accelerating this process, globalisation has added to our environmental problems.
- Foreign multinational corporations operating as guests in Australia, or our multinationals producing overseas, are basically profit-seekers. Wherever possible, they usually try to minimise costs by using free resources like air and the environment, especially if there is no cost of pollution or government policy to limit emissions (e.g. a carbon tax or an emissions trading scheme).



Increased environmental accountability by some multinational firms

Having focused on negative environmental impacts of globalisation, there are some hopeful signs. Some businesses, including multinational corporations, are becoming better global citizens. Increasingly, firms incorporate social and environmental reporting into their investor publications because at least some believe they have wider responsibilities than making money for shareholders at all costs. This may be driven by:

- fear that their poor reputation may result in consumer boycotts, and decreased sales and profits
- bad publicity in the media, perhaps driven by journalists and environmental groups such as Greenpeace or Friends of the Earth
- a backlash by shareholders that is reflected in a fall in the company's share price
- fear that the government will pass very strict new legislation that may limit the company's operations
- prosecution under environmental laws (including the proposed scheme to place a tax on CO₂ emissions)
- the desire by, and need for, firms to retain competent and ethical staff.

on Resources



Weblinks Globalisation easily explained

Globalisation

Who really wins from globalisation?

6.4 ACTIVITIES

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Check your understanding

1. Globalisation has brought *costs* and *benefits* for Australia. Giving reasons, explain how globalisation is likely to have affected each of the following:
 - (a) consumers and the inflation rate
 - (b) the labour market and unemployment
 - (c) Australia's rate of economic growth
 - (d) incomes and material living standards of Australians
 - (e) government policies
 - (f) national sovereignty
 - (g) the environment.

Applied economic exercises

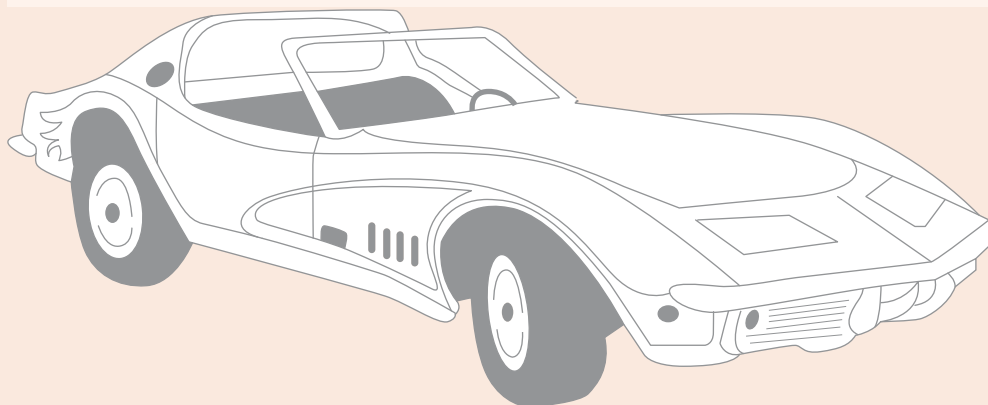
1. (a) Globalisation has meant that the Australian economy has had to undergo change and become more internationalised. What sorts of changes have been forced upon the Australian government and society due to economic globalisation? **(4 marks)**
(b) Outline *one* important cost and *two* key benefits to Australia of economic globalisation. **(3 marks)**
2. This question involves using the internet to research a company that used to operate in Australia but which, due to globalisation and the switch among many Australian consumers to online shopping in the global rather than the domestic market, has now closed or relocated its Australian operations overseas. For instance, you might investigate companies such as Bonlac, Dye Works, Qenos Plastics, Email oven and dishwasher appliances, Blundstone Boots, Feltex Carpets, Brinton's Carpets, Mitsubishi car plant, Pacific Brands, Shell's Clyde refinery, Alcoa, BP Refinery, Ford, General Motors Holden and Toyota, Esprit, Maggie T, Toys R Us, Avon, Roger David and Mountain Designs.
(a) What did the company originally produce in Australia? **(1 mark)**
(b) Why did it shift or close down all or most operations in Australia, and what role if any did globalisation play? **(2 marks)**
3. **The car game — multinational car companies battle to survive in a globalised market.**
(a) Globally, the automobile industry is dominated by a handful of huge multinational car companies. These firms account for billions of dollars of production and economic activity, create millions of jobs directly and indirectly in related supplier and service industries, and generate incomes for many families. The industry also affects the trade balance for many countries.

Currently, there is cut-throat competition through different models, styles, colours, gadgets, capabilities, specifications, advertising, warranties and pricing. Because of competition, globalisation and tariff cuts — both in Australia (where the last tariff cut from 10 to 5 per cent on imported autos occurred in 2010) and overseas — there have been massive structural changes altering the way the car industry operates and undertakes production. **Structural change** has involved the use of technology and automation to reduce the time taken to produce each vehicle (and hence costs). Most car manufacturers use mass production made possible through expanding export markets to gain economies of large-scale production. There has also been business rationalisation and closures of some plants or sections of the business, along with the shared use of technology and components, changed worker and management practices, recycling of waste and materials, and the use of performance-based enterprise agreements to determine worker pay and conditions. Some workers and managers have even lost their jobs (i.e. adding to structural unemployment) in the fight for survival, with some Australian and international companies closing down (e.g. the last car was produced in Australia in 2017).

The car competition activity — winner takes all!

- This is a one-lesson group activity involving teams of workers, with four students per team. The teacher will act as adjudicator.
- Each group is required to try and build eight cars called the 'Beast' (i.e. in the ratio of two per student per lesson) in the time allocated for the building activity. A sketch of this vehicle is shown in figure 6.17. Use the car game **cut-out template** digital document in the Resources tab to assemble and colour in your company's version of the legendary 'Beast'.
- Each group will represent a different company and country (e.g. Ford, USA; Toyota, Japan; Mercedes and BMW, Germany; Hyundai, Korea; Volvo, Sweden; Citroen, France; Alfa Romeo, Italy) and each is trying to survive the competition through structural change and by whatever (legal) means possible!
- The cars need to be of an excellent quality (e.g. paint evenness, attractiveness, panel fit, finish, durability) so that they will sell to consumers around the world and hence be internationally competitive. Quality control is vital.
- Before the teacher says 'start construction', teams will be allotted time (under an appointed manager) to think of strategies that will help them become internationally competitive and expand their sales across national borders in our globalised system. No manufacturing is to commence till the go-ahead is given, and there should be no cheating, foul play or industrial espionage!
- The first two companies/teams to finish their required number of cars to a top standard as judged by the teacher will win the race to survive. Poor quality car finishes and excessive time to complete the cars means reduced international competitiveness by making the price dearer and the car less attractive to fussy buyers.
- After exposure to global competition, assume there is only room for two large multinational auto companies left in the world. This means that the losing teams of workers will be retrenched when the company closes down. Working as a class, brainstorm the likely economic, social and political consequences on families, local towns and countries.
- Have fun playing the game, but take it seriously so that you can feel what it is like for businesses trying to survive competition and sell in globalised markets.

FIGURE 6.17 The famous 'Beast'



- (b) After playing the game, draft and write a quality research report that reflects on the *learning acquired from playing the car game*. You might like to consider some of the following questions:
- Explain the impacts of globalisation on some local industries (e.g. Australia's car industry) that closed down due to poor efficiency and competitiveness. For instance, consider the effects of structural unemployment on families and towns. **(2 marks)**
 - 'Globalisation also creates opportunities for new industries to grow in areas where there is a costs advantage.' Explain. **(2 marks)**
 - What actions might old firms take to restructure and survive the global competition, and for new firms to start up and grow? **(2 marks)**
 - What policies might the government use to help businesses take advantage of the opportunities for expansion created by globalisation? **(3 marks)**
 - Consider viewing the video *Working Class Man* (rated PG) featuring music from Jimmy Barnes. While set some years ago, this movie (among other things) draws out issues relating to how a US car plant was closed down in a small town because of inefficiency and foreign competition from the more efficient Japanese producers.

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Resources



Digital document The car game cut-out template (doc-32818)

6.5 The effects of globalisation on China's economy and living standards

KEY CONCEPT

- economic reasons why the issue/s may be of importance to Australia and the global economy

The past 50 years have seen a remarkable transformation of China, from a closed to a more open economy, integrated with global markets. Thanks to globalisation, China has become a factory for the world, and an Asian engine room for driving other economies like Australia's. For instance:

- In the last few years, the size of the Chinese economy has grown by an average of over 6.6 per cent a year, and is now the world's second biggest economy after the US. Given its global importance, what happens to the pace of economic activity in China is closely watched by all.
- China is our number one trading partner, purchasing over 30 per cent of our exports that are worth over \$120 billion a year.
- China offers a growing market for Australian exports, greatly boosting our GDP, employment and incomes.
- The success of China's economic transformation is the main reason for the welcome decline in global poverty rates.

As such, China offers an interesting case study on the effects of globalisation in a region that has become increasingly important in the global economy.

Since Chinese government reforms that encouraged greater openness and globalisation in the 1980s and 1990s, China has become very *competitive internationally* and able to export around the world. This has helped to accelerate its rate of economic growth and raise incomes, thereby allowing many millions of people to escape poverty and enjoy better material living standards. However, there have been costs, including those involving the environment. Figure 6.18 provides an overview of the impact of globalisation on China.

FIGURE 6.18 Impact of globalisation on China



6.5.1 Effect of globalisation on the policies of the Chinese government

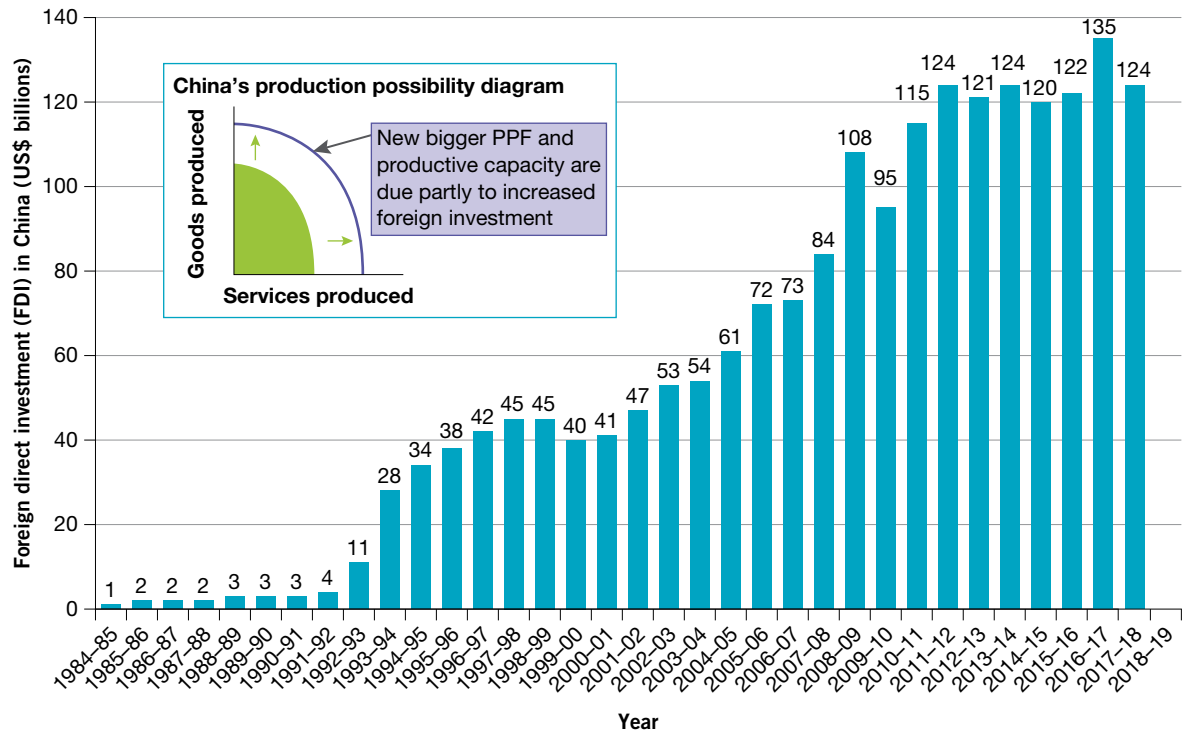
We will now examine several ways in which *globalisation* has required a big change in Chinese government policies.

Policy on foreign investment

For globalisation to occur, China's economy had to become far more open. It had to allow the inflow of foreigners and large amounts of international investment capital supplied by multinational companies that were eager to take advantage of cheap labour and a potentially large domestic market. Most of this overseas capital went into direct investment to start up and expand businesses, particularly in the populated provinces and cities near the eastern seaboard including Hong Kong. It helped to grow China's productive capacity and shift the production possibility frontier (PPF) outwards. This influx would not have happened had

the Chinese government not relaxed its controls on trade, capital and the economy. Figure 6.19 shows the growth in foreign direct investment into China.

FIGURE 6.19 The growth in foreign direct investment in China helped to provide the means for growing GDP.



Source: Data for the FDI graph was derived from Ministry of Commerce of the People's Republic of China, and see <http://www.chinability.com/FDI.htm>.

The values and principles underpinning the economic system

The Chinese government had to give up or modify some of its rigid socialist principles including the idea of state ownership of nearly all the means of production including farms, mines, factories and services. Indeed, following the flood of foreign-owned firms and the increased adoption of trade liberalisation (involving gradual cuts in tariffs and subsidies), nearly two-thirds of government business enterprises have been closed down because they used backward technology, had high costs, could not compete internationally and were unprofitable. Capitalist principles of profit as the guide to how resources are used, and what goods and services are produced, had to be incorporated into the Chinese economic model. It also meant that the socialist ideal of equality in income had to be largely abandoned.

The policy on freedom

While there is still the huge issue of limited social and political freedom and the lack of human rights in some areas, the regime has gradually become more open and transparent than previously.

Policies related to poverty and urbanisation

As we shall see, globalisation sharpened inequality in living standards between rural areas and cities. This encouraged a huge influx of people into the cities. Policies were then needed to attack all the problems associated with increasing urbanisation and industrialisation (e.g. housing, education, health, water and sewerage, power, transport, pollution and waste disposal), and to deal with poverty and growing inequality.

Legal policies

To promote an environment where foreign investors are confident, laws relating to the ownership of property (including intellectual property, patents and copyright) and the conduct of business had to be modified.

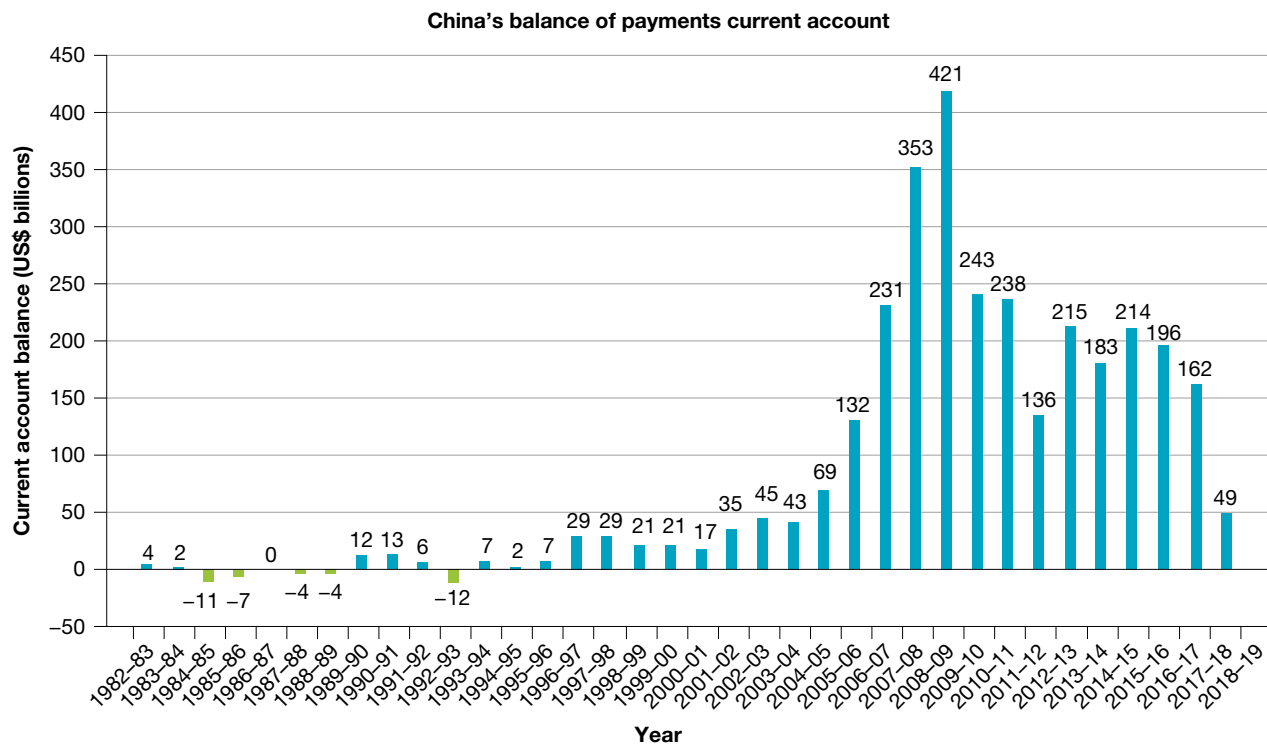
Membership of the WTO

In 2001, China became a member of the **World Trade Organization (WTO)**, which is committed to free trade and the orderly conduct of international transactions between countries. This imposed requirements or obligations that had to be met (e.g. lowering tariffs, cutting producer subsidies, relaxing **import quotas**, protecting intellectual property, improved government transparency in decision making, and freeing or deregulating key markets from government interference), and involved a change in government policies.

6.5.2 Effect of globalisation on China's export income and capital inflow

Globalisation and the associated huge influx of money capital from abroad, have contributed to a spectacular increase in the volume of trade (i.e. both exports and imports) between China and the rest of the world. As shown in figure 6.20, this is now partly reflected in China's generally large balance of payments current account *surplus* in recent times (during the last wave of globalisation, as opposed to some deficits in earlier years).

FIGURE 6.20 With globalisation, increased exports and capital flows have strengthened China's balance of payments current account (US\$ billions).

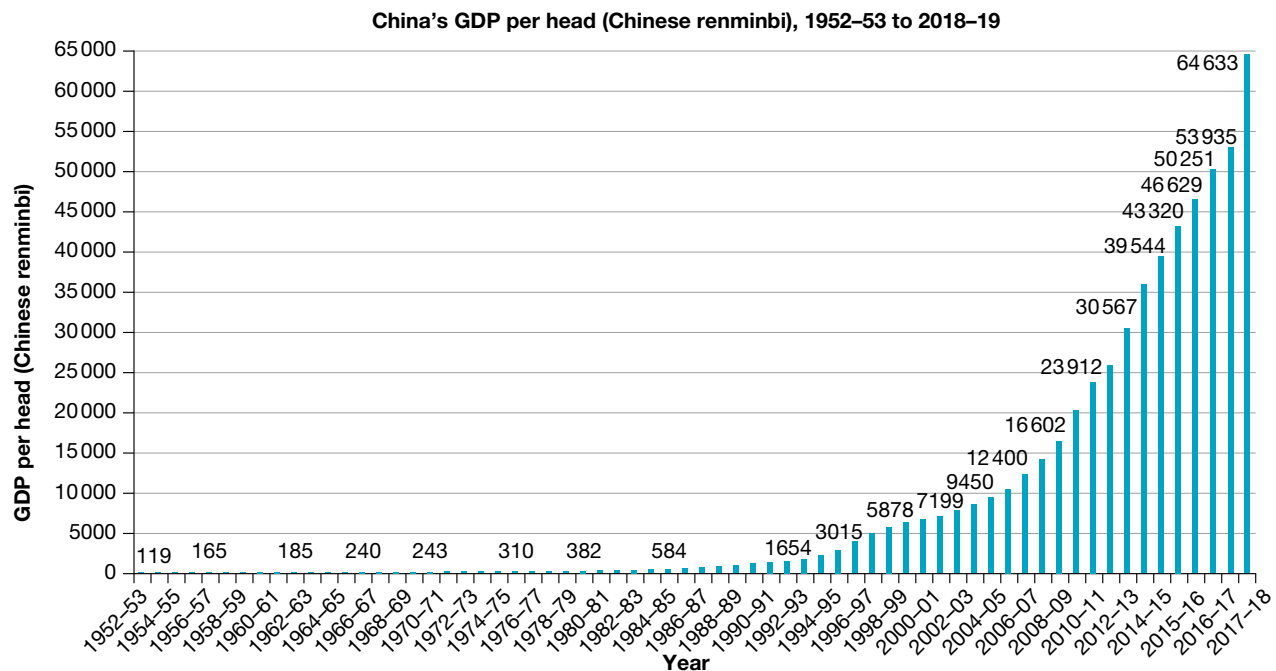


Source: Data derived from Ministry of Commerce of the People's Republic of China, www.chinability.com/CurrentAccount.htm and other sources.

6.5.3 Effect of globalisation on China's GDP and on the material living standards of households

Globalisation has helped increase China's export income, greatly boosting aggregate demand and the level of national production or GDP. Because China's population has only grown slowly, at around 0.7 per cent in recent years (partly due to the government's one-child policy for families that was enforced till the last few years), there has been a significant rise in average GDP and income per person. This is shown in figure 6.21. In addition, high levels of investment, much of it from overseas, along with improvements in education, have also helped to increase efficiency, especially in manufacturing. This, too, has helped to increase GDP, average income per person and material living standards.

FIGURE 6.21 The growth in China's average living standards indicated by the accelerated rise in GDP per head (in Chinese renminbi, currently equal to a bit less than A\$0.20) during the latest wave of globalisation.

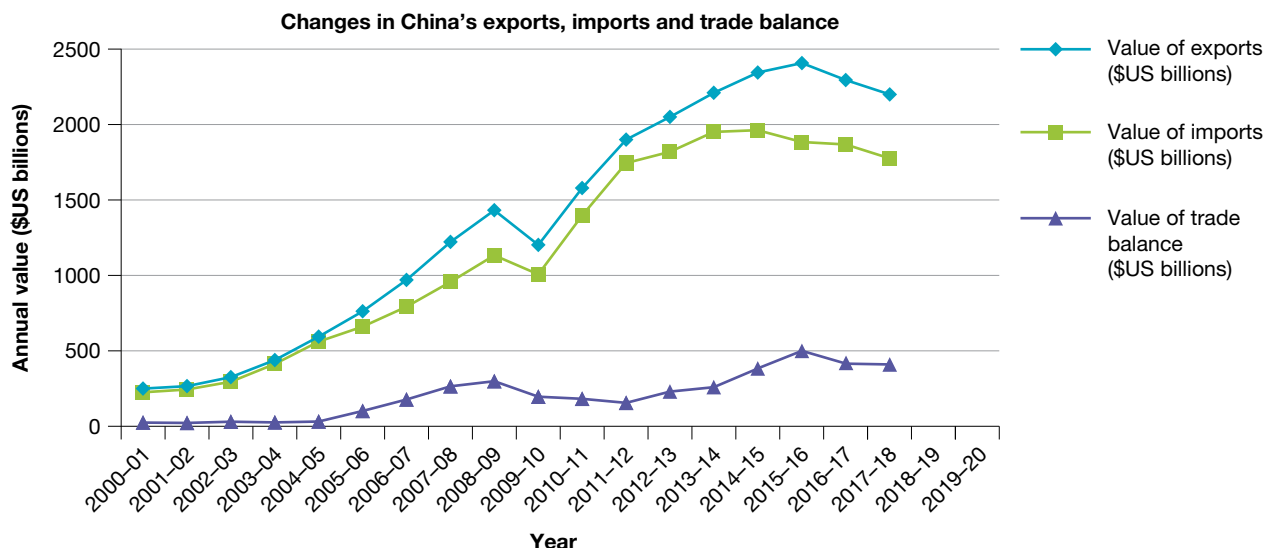


Source: National Bureau of Statistics, China Statistical Yearbook; National Bureau of Statistics plan report and other sources including https://en.wikipedia.org/wiki/Historical_GDP_of_China.

6.5.4 Effect of globalisation on China's economic stability

Globalisation has meant that China now feels global instabilities more than previously. During the GFC in 2008–09, China's exports to the world slowed, causing its growth rate in GDP for 2009 to be down from over 13 per cent to around 8 per cent. This meant rising unemployment, falling incomes and lower material living standards. The impact of the 2008–10 GFC on China's exports and GDP can be seen in figure 6.22. However, despite the negative impact of instability, globalisation has also made it possible for China to grow its production and GDP, lifting millions of people out of poverty.

FIGURE 6.22 The global recession with falling exports caused China's rate of economic growth to slow.



Source: Data reproduced from the Chinability website, see <http://www.chinability.com/Trade.htm>; and statistics supplied by the Ministry of Commerce of the People's Republic of China, see <http://english.mofcom.gov.cn/article/statistic/BriefStatistics/201807/20180702768502.shtml>.

6.5.5 Effect of globalisation on China's income distribution

Globalisation has helped to increase the average incomes of workers in the manufacturing cities of China's eastern seaboard. However, because agriculture has not enjoyed the same spurt in efficiency as the manufacturing industry (with 30 per cent of the population living in rural areas), there is much income inequality, and rural unemployment and poverty are still quite high. Figure 6.23 shows the overall rise in income inequality since the early 1980s. Notice the clear upward trend line for China's Gini coefficient (where 0 is total equality and 1 is total inequality), from 0.249 in 1982–83 to a high of 0.491 in 2008–09. However, since then there has been an overall decline to 0.467 in 2016–17. Even so, income distribution is far more uneven than in Australia, where the Gini is 0.323. In addition, China has 637 billionaires and 1.6 million millionaires (in US\$ terms), yet 6.5 per cent of the population is living in severe poverty on less than US\$1.90 per day.

FIGURE 6.23 Globalisation has contributed to growing income inequality (measured by the Gini coefficient where 0 = equal and 1 = unequal).



Source: Data derived from various sources including Zen Gu'an and Hu Jinjing, 'On the income gap between urban and rural residents since the end of the 1970s and its impacts on rural consumption', *Economic Review*, no. 1, 2008; the UN Human Development Reports 2007–08 to 2017–18 and other sources including Asia Review, see <https://asia.nikkei.com/Economy/Rising-inequality-imperils-China-s-push-for-quality-growth>. *Note: Data for 2003–04 not available.

As in many western nations, income inequality in China reflects the following influences:

- the forces of demand and supply conditions in the labour market, where the better skilled workers usually receive higher pay
- the level of access to and completion of education, where those with tertiary and technical qualifications receive much higher incomes
- the divide between rural regions and cities, with lower incomes in rural and more remote western provinces than in cities of the eastern seaboard
- whether a person works in a private multinational corporation or in the often less efficient state-owned enterprises
- one's age — the very young and old receive lower incomes

Despite this growing income gap, the number of people living in extreme poverty has declined dramatically — by over 800 million people. This has largely been driven by globalisation, rising export incomes and employment, and demographic shifts in the location of the population, from low productivity rural jobs in remote areas to better paid manufacturing and service jobs in the eastern cities. Additionally, around 80 per cent of rural villages now have made roads, 96 per cent have electric power, 75 per cent have telephones, 95 per cent have primary school attendance, 75 per cent have hospitals and qualified doctors and 90 per cent have cable TV. It is highly unlikely that the same progress would have been made without globalisation. Even so, despite this progress, there are still perhaps 5 million Chinese people living in poverty.

6.5.6 Effect of globalisation on China's environment and non-material living standards

While Chinese globalisation has accelerated export production, increased incomes and reduced poverty in rural areas, one of its great costs is the extensive damage that has been inflicted on the natural environment. In other words, there is a *trade-off* between the pursuit of material progress and protecting non-material wellbeing.

One issue for China is the huge rise in the demand for electricity resulting from industrial growth. It has meant that, on average, two new coal-fired power stations have been built each week in recent years, spewing out high levels of emissions. Indeed, recently China was reported as having 9 of the 25 most polluted cities in the world for air quality (although India has taken the lead). It has also been claimed that only 1 per cent of China's 600 million city dwellers breathe air that is considered safe! In addition, one study claimed that Chinese air quality was to blame for 1.6 million deaths a year or over 4000 per day. CO₂ emissions are now almost double those of the US at over 9 billion metric tons in 2017; together, these economies produce over 40 per cent of the world's total CO₂ emissions. In turn, these and other toxic wastes released into rivers, soils and air contribute to global warming, climate change, severe weather events and serious health problems. In China, there are reports of cities with unusually high cancer rates, and of tainted food resulting from environmental pollution, slack standards of quality control and unethical behaviour by some companies. These outcomes erode the quality of life for the Chinese and lower their non-material living standards. Having said this, the government has begun to accelerate its efforts to clean up the environment, by tightening laws and improving enforcement.

Resources

 **Weblinks** China — trade liberalisation and investment reform
Chimerica

6.5 ACTIVITIES

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Check your understanding

1. Identify and explain the key changes in Chinese *government policies* that helped to accelerate globalisation in China.
2. Explain how globalisation in China has affected each of the following:
 - (a) the value of exports
 - (b) the level of GDP
 - (c) economic instability
 - (d) the level of inequality in income distribution.

Applied economic exercises

1. 'Globalisation has transformed the Chinese economy.' After examining table 6.3, answer the questions that follow.

TABLE 6.3 Globalisation and its impacts on China — some statistics

Chinese indicator	Change over the period
Change in real GDP	29 fold, 1990–2018
Average growth rate in real GDP	9.9 per cent, 1990–2018
Growth in population	22 per cent, 1990–2018

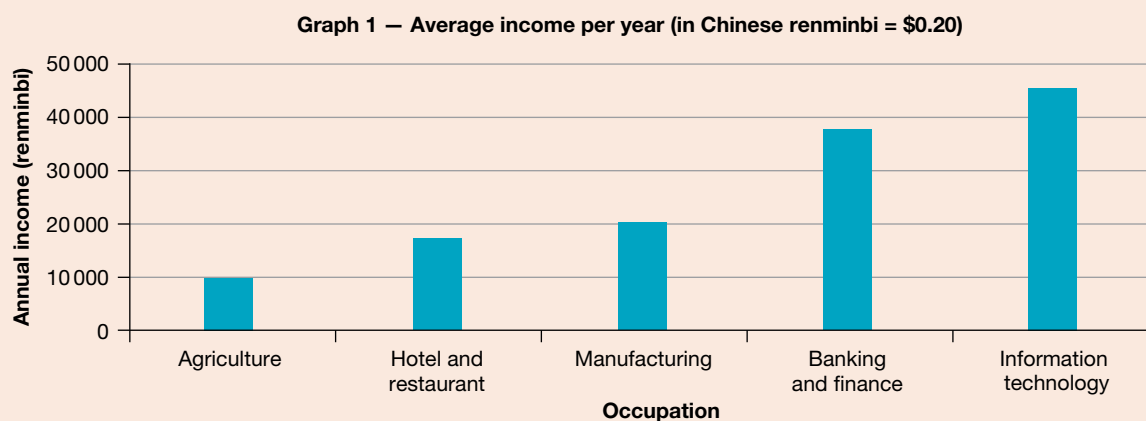
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TABLE 6.3 Globalisation and its impacts on China — some statistics (*continued*)

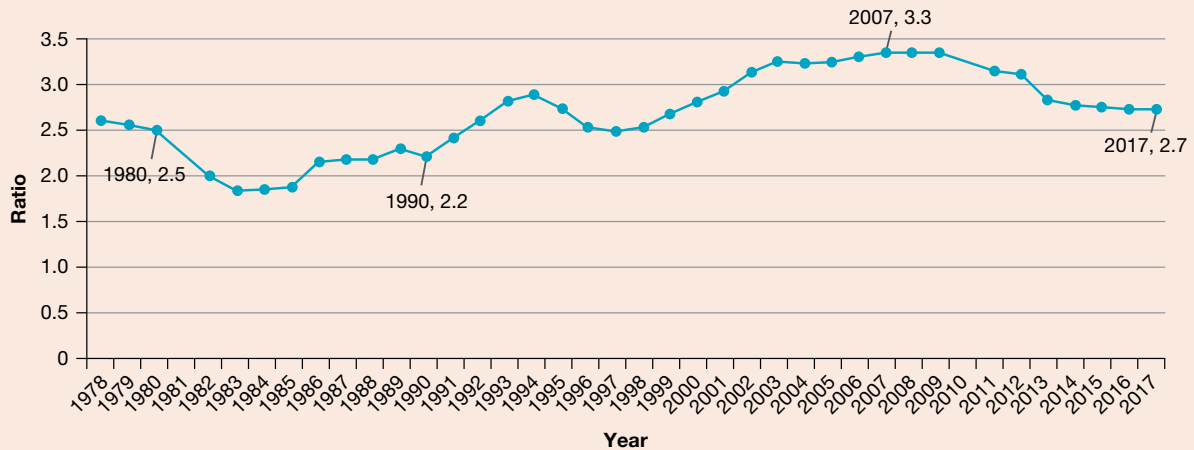
Chinese indicator	Change over the period
Growth in average real GDP per head	22 fold or 8.9 per cent a year, 1990–2018
Percentage change in Gini coefficient	53 per cent rise in income inequality, 1990–2017
Rise in CO ₂ pollution emissions	Around a 270 per cent rise 1990–2018, accounting for 30 per cent of all global emissions
Comparison of happiness index	Ranks 86th out of 151 countries, 2018
Change in average life expectancy	Rise from 69 to 77 years, 1990–2018
Change in adult literacy rate	Rise from 78 to 96.4 per cent, 1990–2018
Official unemployment rate	Rise from 2.3 in 1990 to 3.9 per cent in 2018
Change in inflation	Average annual rise of 3.5 per cent 1994–2018, with lower rates in recent years

Source: Data has been derived from various sources including Wikipedia, the free encyclopaedia, Historical GDP of China, see https://en.wikipedia.org/wiki/Historical_GDP_of_China; Happiness index score, see <http://www.happyplanetindex.org/countries/china/>; Life expectancy, see http://www.china-profile.com/data/fig_WPP2008_L0_1.htm; Adult literacy rate, see <http://www.uis.unesco.org/literacy/Documents/UIIS-literacy-statistics-1990-2015-en.pdf>; Unemployment, see <http://www.nber.org/digest/oct15/w21460.html> and other; Inflation, see <http://www.inflation.eu/inflation-rates/china/historic-inflation/cpi-inflation-china.aspx>.

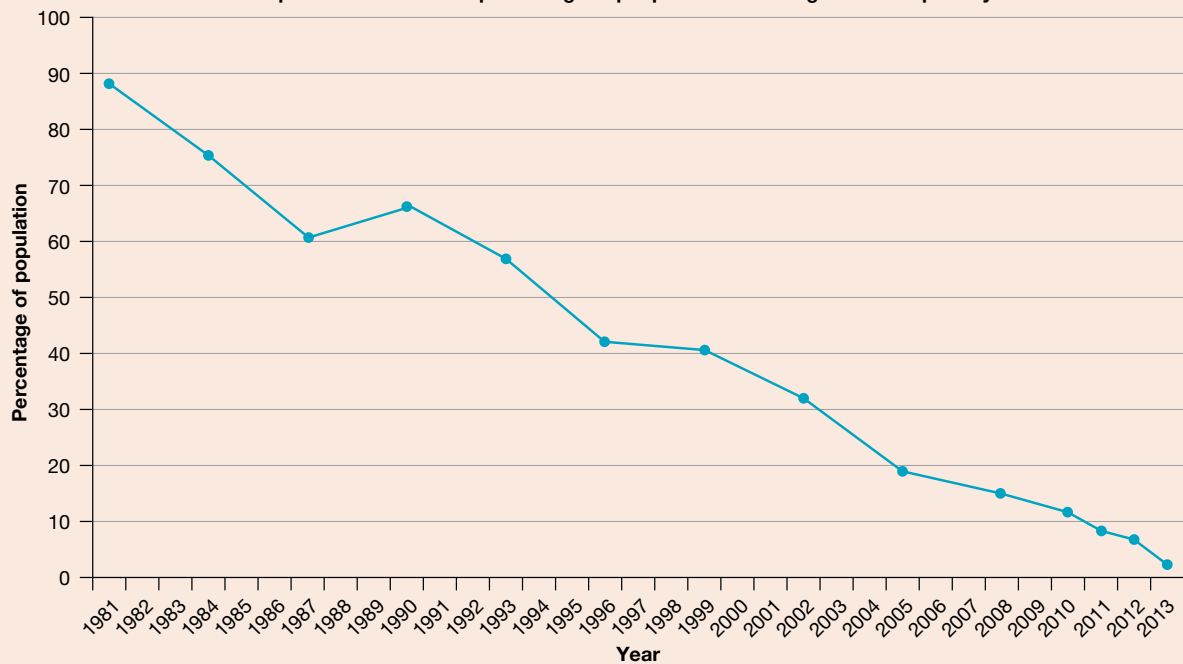
- The size of China's economy measured by GDP grew 29 fold over the years 1990–2018. Identify and outline *two* reasons why economic growth in China has been so rapid. (2 marks)
 - Why might you normally have expected China's inflation rate to accelerate between 1994 and 2018? (2 marks)
 - How has the growth in urban manufacturing in China helped reduce rural unemployment and **underemployment** rates (where people are not working to capacity)? What urban problems have been created as a result? (4 marks)
2. Globalisation has contributed to growing income inequality in China. Examine figure 6.24 containing graphical and statistical data about income inequality in China.

FIGURE 6.24 Income differences in China by occupation

Graph 2 – Trends in the ratio of urban to rural per capita disposable incomes



Graph 3 – Trends in the percentage of people in China living below the poverty line



Source: Graph 1 data derived from state Bureau of Statistics of the People's Republic of China, China's Yearbook of Statistics, China's Statistics Press and other sources. Graphs 2 and 3 were copied directly from IMF Working Paper: Inequality in China — Trends, drivers and Policy Remedies, pp. 5, 6, 7, 10, see <https://www.imf.org/en/Publications/WP/Issues/2018/06/05/Inequality-in-China-Trends-Drivers-and-Policy-Remedies-45878>. Graphs 4 and 5 were copied directly from CISION, PR Newswire, 'China White-collar average salary dips in the first quarter of 2018', see <https://www.prnewswire.com/news-releases/china-white-collar-average-salary-dips-in-the-first-quarter-of-2018-300622146.html>.

TABLE 1 The highest paid occupations in China, 2018 (in Chinese renminbi, equal to around A\$0.20)

Top ten highest paid occupations in the first quarter of 2018	
Occupation	Average monthly salary (RMB)
Senior management	19 936
IT management/project coordination	14 515
Securities/futures/investment management/service	12 229

(continued)

TABLE 1 The highest paid occupations in China, 2018 (in Chinese renminbi, equal to around A\$0.20)
(continued)

Top ten highest paid occupations in the first quarter of 2018	
Occupation	Average monthly salary (RMB)
Civil servant/public institution/research institute	11 695
Real estate development/broker/agency	11 124
Sales management	11 117
Software/internet development/system integration	10 188
Banking	10 176
Trust/warrant/auction/pawn	9858
Hardware development	9720

TABLE 2 Average monthly income by employment type, 2018 (in Chinese renminbi, equal to around A\$0.20)

Average monthly salaries from different types of companies in the first quarter of 2018	
Type of company	Average monthly salary (RMB)
Public companies	8368
Wholly foreign-owned enterprises	8307
State-owned enterprises	8112
Joint ventures	8109
Public institutions	7524
Private companies	7377

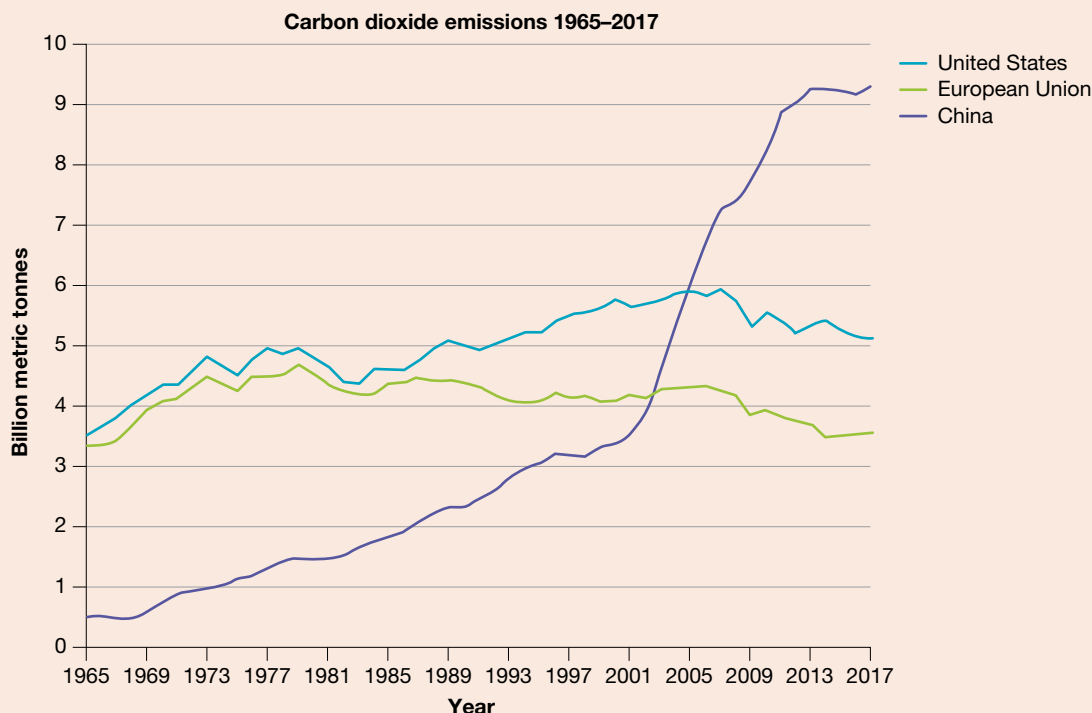
TABLE 3 The operation of the labour market — the ten jobs in highest demand in China

Top ten occupations with the highest job demand in the first quarter of 2018	
Ranking	Occupation
1	Sales
2	Administration/logistics/secretary
3	Software/internet development/system integration
4	Sales management
5	Education/training
6	Finance/auditing/tax
7	Human resources
8	Civil engineering/construction/decoration/municipal engineering
9	Customer service/pre-sales and after-sales support
10	Marketing

- (a) Graph 1 shows differences in Chinese annual incomes measured across various occupations.
- Why do you think income differences in China today are so much larger than in previous times, such as following the socialist revolution of 1949 and the subsequent three decades or so to the early 1980s?
- (2 marks)**

- ii. Explain why average incomes in agriculture are lower than those in manufacturing, and even lower than those in banking/finance and information technology. **(2 marks)**
- (b) Graph 2 shows changes in the ratio of urban to rural incomes in China.
 - i. Quoting data from the graph, describe the overall trend in the ratio of urban to rural incomes over the period shown. **(2 marks)**
 - ii. Suggest one important reason why those Chinese living in urban areas, especially on the eastern seaboard, receive higher average incomes. **(2 marks)**
- (c) Graph 3 shows changes in the percentage of Chinese people living in poverty.
 - i. Referring to data on the graph, describe the trend in the percentage of people living in poverty in China. **(2 marks)**
 - ii. Explain how globalisation has helped to reduce poverty in China. **(2 marks)**
- (d) Tables 1 and 2 show the best paid jobs in China by occupation and type of company, while table 3 shows the jobs in highest demand during 2018.
 - i. Which occupations receive the highest pay? **(1 mark)**
 - ii. What types of companies pay the highest incomes? **(1 mark)**
 - iii. Outline how the labour market works in China (as in most countries) to influence wage levels and allocate labour resources. **(2 marks)**
- (e) Perhaps using Australia as an example, suggest *three* ways whereby the Chinese government might use policies to help slow the rise in income inequality. **(3 marks)**
3. Globalisation in China has brought many benefits as well as costs.
 - (a) What is meant by *economic globalisation*? **(2 marks)**
 - (b) Identify three important benefits for the Chinese attributed to the effects of globalisation. **(3 marks)**
 - (c) What has been perhaps the most important cost or trade-off for the Chinese of fast economic growth spurred on by globalisation? **(2 marks)**
 - (d) Examine figure 6.25 showing changes in CO₂ emissions between 1965 and 2017.

FIGURE 6.25 Trends in the CO₂ emissions by China, USA and the European Union



Source: Graph copied directly from Forbes, 'China emits more carbon dioxide than the US and EU combined', Robert Rapier, quoting *BP Statistical Review of World Energy 2018*, see <https://www.forbes.com/sites/rrapier/2018/07/01/china-emits-more-carbon-dioxide-than-the-u-s-and-eu-combined/#72cd0585628c>.

- i. Quoting data from the graph, describe the trends in CO₂ emissions by these three countries or areas. (2 marks)
- ii. Suggest likely reasons why emissions in China have risen so much, while those in the US and the European Union have started to fall. (2 marks)

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6.6 International responses to globalisation and their effects

KEY CONCEPT

- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

To some extent, globalisation has been encouraged by the existence of *three* important international institutions — the World Trade Organization (WTO), the World Bank, and the International Monetary Fund (IMF). While supporters of these institutions claim they have helped to reduce world poverty and increase living standards in low-income nations by growing international trade, there are many vocal critics who believe that these organisations exist for the benefit of rich nations (e.g. the US) and greedy transnational businesses. More extreme elements say they should be abolished because they have done more harm than good in Third World nations. Indeed, recent meetings held by these and other affiliated organisations have often drawn violent and angry protests.

6.6.1 The World Trade Organization (WTO)

The World Trade Organization (WTO) is an international institution set up to:

- encourage the expansion of global trade as a means of accelerating economic growth
- establish and enforce rules for the conduct of trade between member countries
- settle trade disputes between countries.

The WTO came into existence in 1994. It was designed to carry on the multilateral (i.e. many nations) trade negotiations of its predecessor, the General Agreement on Tariffs and Trade (GATT) that was set up in 1948 after the end of World War II. Under this treaty, member nations organised what was called the Uruguay rounds of trade talks. These were aimed at reducing tariffs and other trade barriers such as agricultural subsidies that protected local producers of services, and manufactured and agricultural goods. Other rounds of negotiation followed including the Kennedy round, Tokyo round and the Doha round. Today, GATT is the central treaty on which the WTO is established. It is broken into agreements involving trade in goods and services, movements of capital or investment, intellectual property rights and the trading policies of member governments.

Critics of the WTO believe that free trade widens rather than narrows the income differences between rich and poor countries. Some claim that the organisation is managed in a way that allows rich nations to manipulate the rules of trade to suit their commercial interests. It is noted that only a few of the WTO's stated aims have actually been realised. Regrettably there are still massive agricultural subsidies provided to European and US farmers (but not Australian farmers) that have not been abolished, even though such a move may benefit poorer, less influential developing countries.

6.6.2 The World Bank

The **World Bank** was established in 1944 and now involves 184 countries. It is an international financial institution set up to provide technical and financial help in the form of financial **loans** and **grants** to member nations. The money may be used for numerous purposes, such as to build schools to improve literacy, roads and bridges to develop transport, and water, gas and electricity infrastructure to assist growth in national production (GDP) and improve living standards. Initially the World Bank provided loans to help rebuild some European countries such as France after World War II. However, the emphasis soon shifted away from Europe to helping economic development in poorer countries, with the aim of reducing global poverty and improving people's living standards. One consequence of this lending was that Third World debt ballooned by around 20 per cent a year in the late 1970s and early 1980s. Servicing this debt required even more lending and, until more recent times, the problem just grew larger. After significant debt forgiveness, and attempts to improve the efficiency of Third World governments and economies who borrowed credit, the recent focus to 2015 was on promoting the United Nation's **Millennium Development Goals (MDGs)** that sought to improve the daily lives of people in low-income countries. Since then, the new 2030 agenda is the United Nation's **Sustainable Development Goals (SDGs)** involving 17 target areas including those related to poverty, education and health.

Critics argue that the underlying free market approach for economies pushed by the World Bank (i.e. involving reforms such as lower tariffs, market deregulation, privatisation, downsizing government) actually harms uncompetitive countries, especially if things are changed too quickly. Others say it is controlled by a few influential rich countries who manipulate lending to suit their international business and strategic aims.



6.6.3 The International Monetary Fund (IMF)

The **International Monetary Fund (IMF)** is a global organisation with headquarters in Washington. It keeps an eye on the world's financial system. It was set up in 1944 to help stabilise international exchange rates, promote economic development, provide **technical and other assistance** and act as a lender of last resort to governments. Nearly all United Nations countries contribute to a pool of money from which members (e.g. Argentina in 2018) can borrow on a temporary basis in times of crisis (e.g. 2008–09 to 2018–19) following government expensive financial rescue packages to boost confidence in the banking system. However, certain preconditions must be met by borrowers, perhaps including the privatisation of government businesses, the sale of public assets and running budget surpluses.

Again, this globalised organisation has its critics who often claim that it serves the interests of multinationals. For instance, it allowed mostly Western firms to buy up good privatised government monopoly businesses in poor countries and other assets at low fire-sale prices. In addition, in some countries including Eastern Europe, Argentina and Kenya, IMF policies have been seen as a cause of economic crises, suffering and lower living standards.



on Resources

 **Weblink** 20 years of trade liberalisation

6.6 ACTIVITIES

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Check your understanding

1. How has globalisation been encouraged by international organisations including the World Bank, the International Monetary Fund (IMF) and the World Trade Organization (WTO)?
2. Why are some groups hostile towards the work of international organisations such as the IMF and the WTO?

Applied economic exercises

1. (a) What are the main functions of the World Trade Organization (WTO)? **(2 marks)**
(b) Globalisation and the closer integration of the world's economies sometimes lead to disputes between members involved in trade. Using the internet, select and research a case study where the WTO settles a trade dispute.
One source of information can be found using the **Managing the challenges of WTO participation: 45 case studies** weblink, with a particularly interesting case at the **Bangladesh: Protecting intellectual property rights** weblink, both in the Resources tab. **(4 marks)**
2. Research the impact of international trade, globalisation and the WTO on the transformation of the Nigerian economy. (You could use the **World Trade Organization and the developing worldnigerian economy: A case study** weblink in the Resources tab and other sources.) Write a brief report on how international trade and globalisation have affected the Nigerian economy. **(5 marks)**

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 **Weblinks** Managing the challenges of WTO participation: 45 case studies
Bangladesh: Protecting intellectual property rights
World Trade Organization and the developing worldnigerian economy: A case study

6.7 Review

6.7.1 Summary

Definition and history of economic globalisation

- *Economic globalisation* refers to the spread of business, trade and investment across national borders, and the unification of local markets to become part of bigger international markets.

The acceleration of globalisation

- Globalisation is not new, but it has accelerated and gained momentum. It also seems to have advanced in phases.
- Globalisation has been *facilitated* recently by:
 - reduced government controls and the widespread adoption of trade liberalisation policies around the world leading to increased specialisation by countries

- cheaper, faster and better transport and communications
- technological advances including the internet
- the mobility of international investments
- a belief that globalisation improves incomes and living standards.

Reasons for the growth in global businesses

- There are also good reasons why some corporations go global (i.e. become multinationals or transnationals) — it is seen as beneficial for their efficiency, costs, profitability and growth.
- More specifically, the *benefits* for multinational corporations of globalisation relate to:
 - the minimisation of labour costs by moving to low-wage countries for labour intensive production
 - a greater access to natural resources than would be available in the country of origin
 - the gaining of better economies of large-scale production by expanding the size of the business; in this way, costs that are relatively fixed (e.g. product development, management) can be spread more thinly, reducing the per unit cost or price of the product
 - an ability to take advantage of helpful government policies offered in some countries (e.g. the absence of environment controls, offers of generous tax concessions or exemptions, provision of free land or cheap power) that are good for business profits
 - the desire to minimise transport and storage costs
 - improvement in the flexibility in decision making by companies.

The effects of economic globalisation on stakeholders and the overall economy

- Globalisation has both good and bad effects on individuals, countries and regions. For Australia:
 - Globalisation and openness have helped lower inflation by exposing local producers to intense foreign competition as tariffs are reduced.
 - Globalisation and openness increased structural unemployment by forcing the closure of uncompetitive local industries and firms. However, in the longer term, globalisation can help increase employment in areas where there is good efficiency and a comparative cost advantage exists.
 - By forcing governments, firms and workers to lift efficiency, globalisation has probably helped to accelerate economic growth.
 - Globalisation has helped to grow Australia's GDP, incomes and material living standards.
 - Globalisation has necessitated partial government deregulation of the labour market, along with changes in other policies like reducing company tax rates.
 - Globalisation has increased consumer choice or product variety by giving our consumers access to foreign items — the world is now their supermarket.
 - Globalisation has worsened environmental problems due to increased consumption of fossil fuels in making and transporting goods and services, along with increased waste disposal issues.
 - Globalisation has undermined our national sovereignty and ownership.
 - Globalisation may have led to the spread of crime, terrorism, illegal drugs and uncontrollable migration, which could undermine both economic and non-material living standards of countries.

The impacts of globalisation on China's economy

- China provides us with remarkable insights as to the effects of economic globalisation. Over the last 40 years, it has transformed the Chinese economy, resulting in both good and bad effects. These include:
 - changing government policies (i.e. related to foreign investment, private ownership, economic and social freedoms, poverty, the legal system, and membership of international organisations)
 - raising the level of export income and capital flows (i.e. the dramatic rise in foreign investment often by multinationals, the explosion of export production, sales and income)
 - increasing GDP and material living standards (i.e. growing investment and exports boosted AD and led to increased GDP and higher average incomes or purchasing power)
 - adding to economic instability (i.e. severe booms and recessions originating overseas can cause significant instability in China due to its greater international exposure associated with globalisation)

- increased inequality in income distribution (i.e. growing inequality between incomes of workers living in the globalised cities on the eastern seaboard and those in the rural regions; rural poverty remains but has decreased as workers move to cities in search of jobs and better incomes)
- adverse environmental effects (i.e. the trade-off for rapid growth in exports, GDP and living standards has been environmental destruction and pollution that impacts on non-material living standards including health).

International responses to globalisation

- Internationally, there are mixed reactions to economic globalisation.
 - On the one hand, some people believe that it helps improve the living standards of all people, including those in low-income countries.
 - On the other hand, some believe that it mostly benefits rich countries and that it needs to be stopped.
- There are three complementary *international institutions* that have been set up to facilitate globalisation and expand international trade as a means of promoting economic development:
 - the World Trade Organization (WTO)
 - the International Monetary Fund (IMF)
 - the World Bank.



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6.7.2 Key terms

Comparative cost advantage occurs when a nation specialises in the production of those goods and services where it is relatively most efficient or where its costs disadvantages are least, thereby raising incomes and material living standards.

Deregulation of the labour market means that there is less government interference in how wages are determined in the labour market, and more reliance on the conditions of demand and supply of labour and the process of enterprise bargaining. Often, higher wages are linked to increases in efficiency.

Development is today defined as the economic, social, political and institutional changes that are needed in low-income countries to improve the material and non-material aspects affecting the quality of daily life.

Economic globalisation is the economic unification or joining together of the world's economies and its various commercial and financial markets.

Economies of large-scale production can occur when a firm produces on a large scale that enables it to spread its average production costs (i.e. costs including research, marketing and advertising, product research and development, some aspects of management, purchases of materials in bulk, and, sophisticated technology and equipment) more thinly over a greater volume of sales.

Enterprise bargaining is a more flexible alternative to centralised wage fixing and involves negotiations between workers and their boss on a firm-by-firm basis, with pay rises usually reflecting worker efficiency or productivity.

Foreign debt exists when a country has external liabilities from money borrowed overseas. The credit can be used to finance development projects, but often it is misused for other purposes. The downside of debt is the repayment of interest.

Free trade is the opposite government policy to protection. It exists when there are no tariffs, subsidies, quotas or other restrictions on the movement of goods, services and capital between countries.

Grants are straight-out donations of cash that do not need to be repaid. When used wisely, this is perhaps the best type of help that high-income countries can offer. Normally grants are allocated by private international aid agencies (e.g. World Vision), or given by individual governments in donor countries.

Horizontal integration occurs when firms in the same industry are joined together.

Import quotas are quantitative government restrictions imposed to limit imports through the issue of licences to importers. For instance, over the years, foreign cars, electrical goods, textiles and footwear have been restricted by this means, despite the fact that quotas may lead to reduced competition, higher prices, inefficiency and a misallocation of resources in the Australian economy. Since 1992, these quotas have been progressively abolished (except for the quota on cheese, which was abolished in 2001).

Infrastructure provides the services (like roads, railways, water, power and ports) used by producers of goods and services and the general community. It facilitates production and grows a nation's productive capacity.

International competitiveness means that local businesses are able to sell good quality goods and services at relatively low prices overseas without government assistance.

The **International Monetary Fund (IMF)** is a global organisation that keeps an eye on the world's financial system to help stabilise international exchange rates, promote economic development, provide technical assistance and act as a lender of last resort to governments.

International trade involves a nation exporting and importing goods and services.

Loans are of three kinds of *loans* — *hard loans* or credit offered at the normal market rate of interest; *soft loans* offered at a special discounted interest rate; and *tied loans* which have special conditions imposed such as requiring that the money be used to purchase exports from the donor country.

Low-income countries are currently defined as those where most people live on a mere \$2.86 or less per day (i.e. an average of \$1045 per person a year or less). Life is a real struggle, severe poverty is common place and living standards are low.

Millennium Development Goals (MDGs) were the targets for development in low-income countries that were set by the United Nations for the period 2000 to 2015. Among the eight goals was the halving of world poverty, improving access to education, and reductions in child mortality rates.

Multinational businesses or transnationals undertake production in more than one country, and operate across national borders as they grow their operations and markets.

Protectionist policies seek to restrict imports and advantage local producers, and involve the use of tariffs, subsidies and import quotas.

Structural change by businesses often involves finding ways of cutting production costs, lifting worker efficiency, and sometimes closing down or relocating business operations.

Structural unemployment occurs when firms change the ways they organise production perhaps involving the use of technology, the closure of inefficient branches or the relocation or closure of a business.

Subsidies are government cash payments made to local producers to make them more competitive by covering some of their production costs.

Sustainable Development Goals (SDGs) for the global community were set up by the United Nations to cover the period 2015–30. These included the eradication of poverty, access to clean water and sanitation, and action on climate change.

Tariffs are an indirect tax added onto the price of selected imports to increase the price of imports relative to the locally made good.

Technical and other assistance involves the donor country or a United Nations agency providing scientific, economic, educational, technical, industrial or agricultural personnel to advise on matters relating to economic development.

Trade liberalisation occurs when governments gradually reduce their protection of local industry by cutting tariffs on imports, abolishing quotas or quantity controls on particular types of imports and lowering the payment of subsidies to local firms.

Underemployment exists when those working are not employed to their capacity and could work more hours and produce more output per hour.

Vertical integration occurs when firms are linked downward or upward in different but perhaps related industries.

Worker efficiency is calculated as GDP or output per hour worked.

The **World Bank** is an international financial institution set up to provide technical and financial help in the form of financial loans and grants to member nations. The money may be used for numerous purposes, such as to build schools to improve literacy, roads and bridges to develop transport, and water, gas and electricity infrastructure to assist growth in national production (GDP) and improve living standards.

The **World Trade Organization (WTO)** is an international organisation that is committed to free trade and the orderly conduct of international transactions between countries.



Digital documents Key terms glossary (doc-31569)

Crossword (doc-31579)

Wordsearch (doc-32657)

Match-up definitions (doc-32662)

6.7 Review questions

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6.7 Exercise 1: Multiple choice questions

- Economic globalisation *involves*:
 - multinational and transnational companies.
 - the movement of money capital and production from country to country.
 - a move towards the creation of a single international market for particular goods or services.
 - all of the above features.
- Concerning economic globalisation, which statement is generally *true*?
 - The process has been underway now for at least 200 years.
 - The process did not start until the 1940s.
 - The process did not start until the 1980s.
 - The process did not start until the 1990s.
- The process of economic globalisation has *not* been helped by:
 - the continued existence of tariffs and other government controls in different economies.
 - market deregulation in Australia and elsewhere.
 - cheap electronic communication and faster transport systems.
 - international differences in the cost of labour and other resources needed for production.
- Concerning economic globalisation, which of the following is *false*?
 - David Ricardo was an Italian economist who made the idea of globalisation popular in the 1990s.
 - Colonisation by European nations in Africa, India, Asia, Australia and the Americas resulted in the international growth of commodity trade.
 - The Great Depression of the 1930s and World War I and II slowed the process of globalisation.
 - International agreements and organisations such as WTO, World Bank, IMF and the creation of the EU have helped globalisation.
- Which statement about the annual sales of Walmart stores and other multinational corporations is *false*? Walmart's annual sales are higher than:
 - Australia's GDP.
 - Israel's GDP.
 - Sweden's GDP or General Electric's annual sales.
 - Singapore's GDP or Ford's annual sales.
- Which statement is generally *false*? Economic globalisation helps:
 - corporations take advantage of differences in labour costs that are an important consideration in the manufacture of some goods.
 - provide corporations with access to natural resources that would not otherwise be available in their country of origin.
 - increase per unit costs of production for corporations by diversification in production.
 - increase the flexibility of corporations in decision making to maximise profits.

7. Economic globalisation is *helped* by governments that:
- A. have fewer or no environmental laws.
 - B. impose higher tax rates on foreign companies.
 - C. have minimum wage legislation as in Australia.
 - D. offer production subsidies only to locally-owned firms.
8. Economies of large-scale production gained by some multinational corporations most accurately involve:
- A. mass production.
 - B. lower variable costs as production is increased.
 - C. lower per unit fixed costs because these costs can be spread more thinly over more units of output.
 - D. the exploitation of labour as a means of lifting profits as companies get bigger.
9. Which of the following is *not* normally an effect of economic globalisation?
- A. Economic growth is usually increased by greater efficiency and larger export volumes.
 - B. Inflation is increased.
 - C. The product range for consumers is likely to increase.
 - D. Governments need to consider the effects of their policies on the reaction of global traders and markets and the impact on the inflation rate, since these considerations affect our international competitiveness.
10. Economic globalisation may *cause*:
- A. the disappearance of some national companies or their takeover by foreign investors.
 - B. massive shifts in population and the spread of illegal drugs and crime from one country to another.
 - C. the depression of local wage levels towards those in cheap labour countries overseas.
 - D. all of the above.
11. Globalisation in China has led to:
- A. increased exports.
 - B. increased direct and portfolio investment that has grown productive capacity and expanded the country's production possibility frontier.
 - C. greater efficiency and cost cutting within local firms.
 - D. all of the above.
12. Which of the following is *incorrect*? Globalisation in China has generally tended to:
- A. increase pollution and health problems, lowering some aspects of non-material living standards.
 - B. reduce the Gini coefficient for the distribution of income between individuals.
 - C. decrease poverty.
 - D. cause people to move from rural areas to cities.
13. The opposite of *economic globalisation* is best described as:
- A. economic internalisation.
 - B. economic localisation.
 - C. economic corporatisation.
 - D. economic commercialisation.

14. Concerning international organisations and institutions in the global economy, which statement is *least* correct?
- A. The WTO believes in protection and the use of tariffs among member countries, so as to create more jobs.
 - B. The IMF supervises the global financial system and tries to promote a degree of exchange rate stability.
 - C. The World Bank is often criticised because its free market policies can damage fragile Third World economies.
 - D. The IMF is a lender of last resort to governments in financial difficulties, but this involves the borrowing countries meeting certain conditions.
15. Which of the following is *least* correct?
- A. Globalisation may lower the living standards of some workers, especially in the shorter term.
 - B. Globalisation may raise consumer prices.
 - C. Globalisation means that governments should partly deregulate the labour market.
 - D. Globalisation means that lower tax rates on companies may help firms compete with imported goods and services, both here and abroad.



Resources

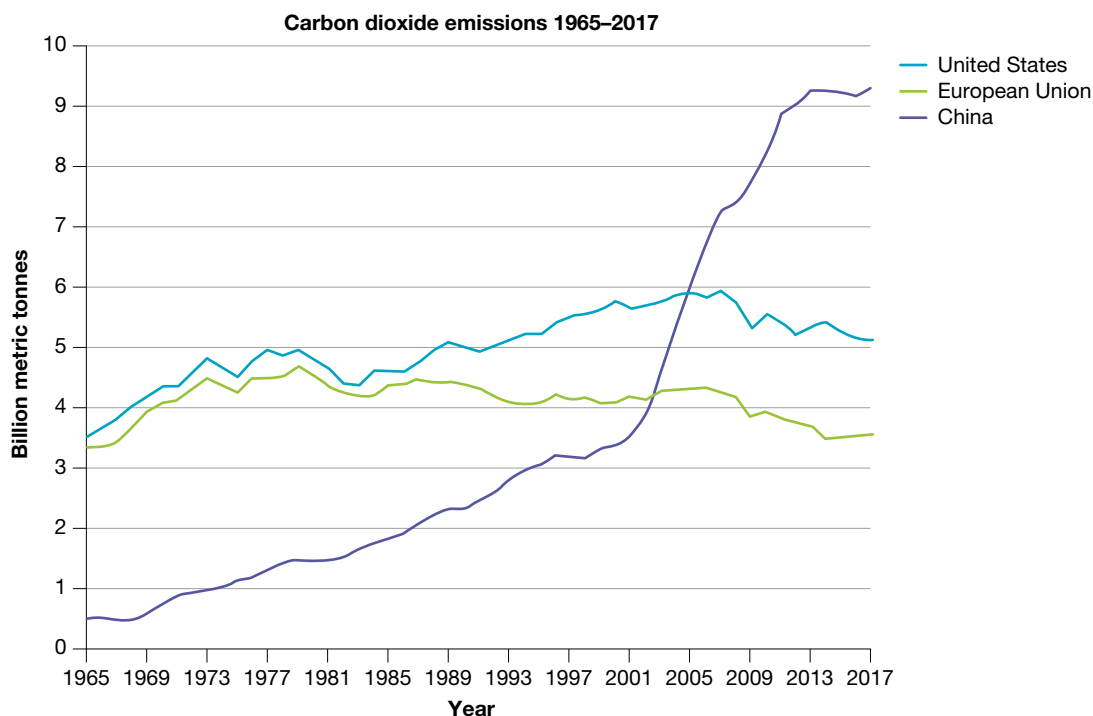


Digital documents Multiple choice answer grid (doc-31558)
Multiple choice answers (doc-31564)

6.7 Exercise 2: Extended response questions

1. a. Define the term *economic globalisation*. (2 marks)
b. Identify and outline three main developments that greatly accelerated the pace of globalisation during the last three decades to 2020. (3 marks)
2. a. Globalisation has enabled countries to *specialise* in producing the types of goods and services where they are most efficient. Explain, giving examples to illustrate. (3 marks)
b. Why do countries like Switzerland specialise in producing different goods and services to those we produce in Australia? (2 marks)
3. a. What are *economies of large-scale production*? (2 marks)
b. How might globalisation help a country or business to gain greater economies of large-scale production? (2 marks)
4. Countries that are globalised and more open to trade usually have faster rates of economic growth and lower rates of poverty than closed economies. Explain this relationship. (4 marks)
5. Globalisation in China has brought many benefits as well as costs.
a. Identify and outline *three* important *benefits* for the Chinese attributed to the effects of globalisation. (3 marks)
b. What has perhaps been the most important cost or *trade-off* for the Chinese of faster economic growth spurred on by globalisation? (2 marks)
c. Examine figure 6.26 showing changes in CO₂ emissions between 1965 and 2017.

FIGURE 6.26 Trends in the CO₂ emissions by China, USA and the European Union



Source: Graph copied directly from Forbes, 'China emits more carbon dioxide than the US and EU combined', Robert Rapier, quoting *BP Statistical Review of World Energy 2018*, see <https://www.forbes.com/sites/rpapier/2018/07/01/china-emits-more-carbon-dioxide-than-the-u-s-and-eu-combined/#72cd0585628c>.

- Quoting data from the graph, describe the trends in CO₂ emissions by these three countries or areas. (2 marks)
- Suggest likely reasons why emissions in China have risen so much while those in the US and the European Union have started to fall. (2 marks)

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6.7 Practice school-assessed tasks

AN ESSAY

Write an 800–1000 word essay on one of the following topics:

- Discuss the important costs and benefits of economic globalisation for Australia.
- Discuss whether the benefits of globalisation for the Chinese economy far outweigh the costs.

A CLASS DEBATE

After dividing into two teams (one for the affirmative and one for the negative), work with others to prepare a debate about *one* of the following topics:

- 'That economic globalisation is a blessing, not a curse for Australia and the global economy.'
- 'That economic globalisation must be stopped before it is too late. It is contributing to global terror.'

ANALYSIS OF VISUAL EVIDENCE – A CARTOON

There are many cartoons that could be used to extend your understanding of economics and the operation of markets. Use the internet to select a relevant cartoon about one of the areas we have studied (e.g. globalisation, the free market and the price system, demand and supply). Answer the following questions to help you analyse the cartoon selected.

1. What is the economic concept being presented in the cartoon?
2. What is the main message of the cartoon?
3. What is your reaction to the cartoon? Do you agree with what it is saying?
4. Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer.

A REPORT ON AN INVESTIGATION OR INQUIRY

Question 1: A report on an investigation into the nature and operation of multinational corporations

Outline of the task

This is a small group activity and it involves some research into various aspects of a multinational corporation such as American Express, BHP, Deutsche Bank, Exxon, Ford, General Electric, Johnson & Johnson, McDonald's, Microsoft, Nike, Shell, Sony and Union Carbide. You may like to find out information about the following:

- the structure and size of the organisation
- the reasons for its global expansion
- how the company gains a competitive advantage
- the use of technology in the corporation
- the nature of the relationship between the corporation and the host country
- criticisms of any multinational companies involving, for example, the use of sweatshops, child labour and profit shifting to minimise tax.

Presentation

Your investigation and report could be presented as:

- a poster or wall chart
- a class report using a set of PowerPoint slides with charts, pictures and tables
- a newspaper feature article.

Question 2: Have those multinationals invaded your home?

Outline of the task

An alternative for your research could be to conduct a survey in your home of the basic goods and services purchased by your family. Discover what proportion of the 'basket' of items in your home is produced or sold by foreign-owned multinationals as opposed to locally-owned firms. (*Note: The Australian Made Campaign could be useful for this purpose.*) Use your survey results to:

- construct graphs showing the degree of foreign business penetration into the Australian market
- find out more information about a number of the companies noted in your survey (e.g. their home base, their size, their marketing strategies, their impact on the Australian economy, and so on).

Your *basket* of items for the survey might include:

- electrical appliances such as a TV, computer, fridge, stove, hot water system, toaster and vacuum cleaner
- car
- breakfast cereal
- banking
- shoes
- fruit and vegetables
- underwear
- hair shampoo
- insurance
- magazines.

Presentation

Your group's findings could be reported in various ways. For example:

- a PowerPoint data show involving computer-generated slides presented to the class
- a wall chart or poster
- a class talk, perhaps illustrated using overhead transparencies containing graphs, diagrams, flow charts, advertising materials, photographs
- a written report of 600-800 words containing graphs and other illustrative evidence.

References

The internet can be a great way to obtain information about some multinational corporations. Most companies have their own home pages.

Question 3: Where in the world would I set up a business? A presentation about taking your local business offshore

Outline of the task

Working individually or in small groups, your task here is to imagine that you are an owner of an Australian manufacturing business producing clothing. You want to expand your operations to become a multinational and are investigating possible countries for your expansion overseas. In making a decision about which country to locate your new operations, try to consider some of the following aspects:

- the level of wage rates or labour costs
- labour force size and level of education and training
- market size (located domestically and overseas)
- transport or freight costs of materials and finished goods (both domestically and to overseas)
- other production costs like electricity and water
- the cost of borrowing business credit to finance your expansion
- government policy towards overseas firms and the environment (in the selected country)
- the provision of infrastructure (e.g. government provision of water, power, transport)
- rates of company tax
- the availability and cost of the natural and other resources you require for production.

Whatever your decision, you should try to justify your choice of country by basing your verdict on real facts and actual data. To get you started and to show you what sort of factual data is available, take a look at table 6.4. This includes factors affecting production costs and business profitability in different countries.

Presentation

Your research and investigation could be presented as:

- PowerPoint slides
- a poster
- a written report.

Try to incorporate graphs, tables, diagrams and photos into your presentation.

TABLE 6.4 Factors affecting business profits and business location decisions in different countries

<i>Part A — Minimum hourly pay rates by country (latest)</i>		<i>Part B - Average labour productivity by country</i>	
Country	Minimum hourly wage rate (measured in international dollars PPP)	Country	Labour productivity index (percentage of productivity in USA, USA = 100 points)
Australia	11.83	Australia	82.7
China	1.68	Greece	53.7
Indonesia	1.68	Ireland	111.0
Cuba	0.08	Mexico	29.9
Ireland	9.80	New Zealand	58.9
Mexico	1.48	Japan	62.5
New Zealand	10.06	South Korea	45.0
Sri Lanka	1.03	Russian Federation	37.4
Taiwan	9.98	United States	100.0
United States	7.25		

Source: Data derived from Wikipedia, the free encyclopaedia, see https://en.wikipedia.org/wiki/List_of_minimum_wages_by_country.

Source: Data derived from OECD, Labour productivity levels in the total economy, see https://stats.oecd.org/Index.aspx?DatasetCode=LEVEL&_ga=1.45585120.573632593.1408106724.

Part C — Rate of company tax by country, 2019

Country	Company tax rate (percentage of profits)
Australia	27.5* to 30
Cayman Islands	0
China	25
Indonesia	25
Ireland	12.5
Mexico	30
New Zealand	28
Taiwan	20
United States	27 plus state taxes

Source: Corporate tax rates derived from KPMG, Corporate tax rates table, 2019.

***Note:** This rate will fall to 25 per cent in 2021–22.

Part D — Electricity costs or prices by country (2018 or most recent)

Country	Electricity costs per kilowatt hour (approximate, US cents)
Germany	33
United Kingdom	22
Australia	20
China	8
Ireland	28
Kuwait	1
Indonesia	1
India	6
Russia	5
Singapore	15
South Africa	9
Thailand	9
United States	13

Source: Electricity price data is derived from Statista, the Statistics Portal, see <http://www.statista.com/statistics/263492/electricity-prices-in-selected-countries>; International Energy Agency, an overview 2018; see <https://www.iea.org/publications/freepublications/publication/WorldEnergyPrices2018Overview.pdf>; and other sources.

Part E — Strike activity by country

Country	Strike rates (annual working days lost per 1000 workers)
Australia	86
Germany	17
Iceland	90
Italy	88
Japan	1
Mexico	22
New Zealand	20
Portugal	20
Turkey	28
United States	60

Source: Strike rates data derived from various sources including OECD, Measures of strikes, <http://www.oecd-ilibrary.org/docserver/download/8107021e.pdf?expires=1466252269&id=id&accname=guest&checksum=7A2B962E11114ECC2FA8E98C69E0CF79>; Nation Master, <https://www.nationmaster.com/country-info/stats/Labor/Strikes>, and other sources European Trade Union Institute, see <https://www.etui.org/Services/Strikes-Map-of-Europe>; and other sources.

Part F — Cost for businesses borrowing credit in different countries (annual interest rate)

Country	Cost of borrowing credit for business (interest rate, percentage)
Australia	5.20
Brazil	46.92
India	9.51
Indonesia	11.07
Italy	3.00
Japan	0.99
New Zealand	5.02
Philippines	5.63
United States	3.90
Vietnam	7.40

Source: Data derived from World Bank, Lending interest rates (mostly 2014 or 2015), see <http://data.worldbank.org/indicator/FR.INR.LEND>.

A BLOG OF MEDIA COMMENTARIES

Select a couple of articles from the media about *globalisation* as an economic issue. Set up a blog and initiate discussion based about these commentaries. For instance, these media commentaries may report:

- the activities and impacts of a multinational corporation operating in Australia or overseas
- the economic, social and environmental impacts of globalisation
- the impact of globalisation on government policies, here and overseas
- the latest activities of global institutions such as the WTO, IMF or World Bank
- local and international developments that accelerate or slow the rate of globalisation.

7 The challenges faced by developing nations in reducing poverty

7.1 Overview

Numerous **videos** and **interactivities** are available just where you need them, at the point of learning, in your digital formats, learnON and eBookPLUS at www.jacplus.com.au.

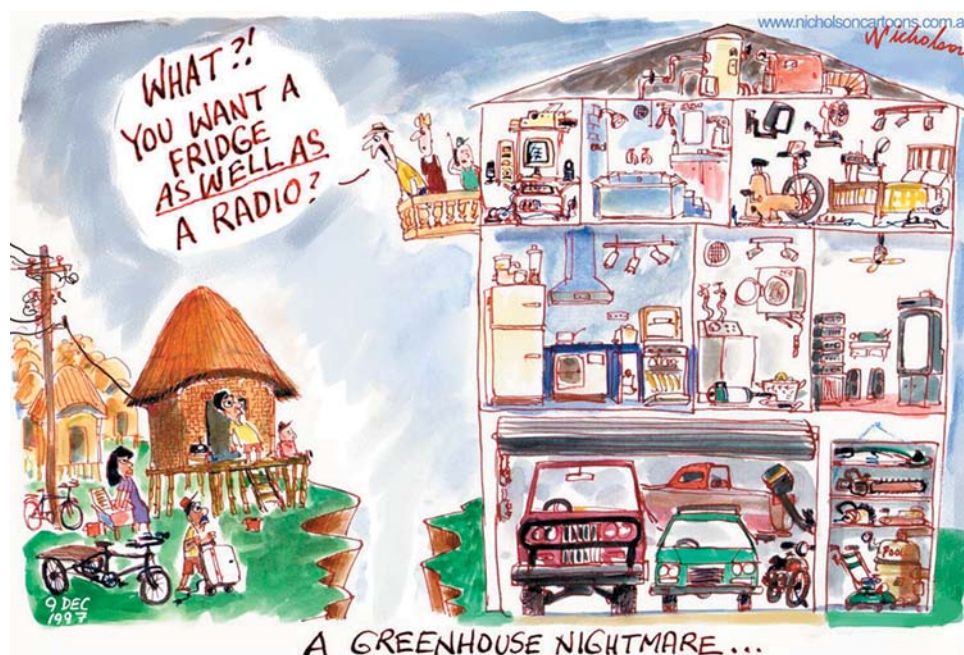
7.1.1 Introduction

It is a sad fact that for around 60 per cent of the world's 7.53 billion people living in **low-income countries**, life is a real struggle and living standards are very low. In addition, over 750 million of these people, or 11 per cent of the world's population, try to survive on incomes below the extreme poverty line. Here there is great physical deprivation, hunger, inequality, insecurity, poor health, illiteracy, persecution, and the absence of hope and opportunity.



In contrast, it is surely a great obscenity that many people in **high-income nations** grow obese from endless consumption, waste enough food each year to feed over 220 million starving people, and spend so much time at work that they are unhappy, stressed and have little time for relationships. With this in mind, the causes of low incomes, and lack of economic development in some countries, surely deserves our close attention as an important contemporary economic issue. In particular, we will examine the general causes of low-income in Third World nations and the challenges they face in accelerating development designed to alleviate poverty and improve general wellbeing.

FIGURE 7.1 There is great inequality in incomes and material living standards between those living in rich and poor countries. The general obsession of high-income earners with consumption not only depletes the world's resources, but it adds disproportionately to greenhouse gases, climate change and severe weather events that have a particularly adverse effect on those in low-income countries.



7.1.2 What you will learn

KEY KNOWLEDGE

- definition of the selected global economic issue/s
- economic reasons why the issue/s may be of importance to Australia and the global economy
- economic factors that might influence the extent and nature of the selected global economic issue/s
- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

KEY SKILLS

- define key economic concepts and terms and use them appropriately
- gather and interpret statistical data on the selected global economic issue/s
- identify and discuss factors that influence the selected global economic issue/s
- identify trends, patterns, similarities and differences in economic data and other information
- evaluate the costs and benefits associated with action taken to address the selected global economic issue/s
- access and synthesise information gathered from a range of sources and draw conclusions

Source: VCE Economics Study Design (2017–2021) extracts © VCAA; reproduced by permission.

7.2 Definition of development and its measurement

KEY CONCEPTS

- definition of the selected global economic issue/s
- economic reasons why the issue/s may be of importance to Australia and the global economy

What exactly is a developing nation and what is meant by the term *development*? This is not an easy question to answer since development means different things to different people.

7.2.1 How do we define the term *development*?

The notion of *development* implies that a nation has made some sort of progress. However, how this progress is defined has changed over time since the late 1940s, when Development Economics became a specialist area of study.

- **The traditional definition of development.** Until the 1970s, the traditional view of development in Third World countries was mostly about using economic policies to *accelerate the annual rate of growth in gross domestic product (GDP) or gross national income (GNI) per capita*. In turn, it was thought that somehow, these benefits would trickle down to improve the wellbeing of the general population. Frequently, it also sought to shift the typical structure of low-income economies away from agriculture towards manufacturing.

Here, development was narrowly equated with lifting incomes, and paid little attention to the mechanics of how any of the benefits might be distributed to the masses.

- **The modern view of development.** By the 1970s, despite some economically poorer countries experiencing faster rates of economic growth, it was becoming increasingly obvious that the general wellbeing of these societies was not improving, and that the concept of *development* needed to be redefined. A far broader, more human view of progress was required.

While the aim of accelerating the growth in GDP and GNI per capita were still seen as really important for development, it was not seen as the sole end, since real development must incorporate far more direct and inclusive ways of improving the quality of life in economically poor countries.

Today, most define **development** as a multidimensional process involving economic, social, political and institutional changes that are needed to improve the daily material and non-material wellbeing of all people in a society.

How might we actually know if there has been effective *development* in an economically poor country? Apart from higher real per capita incomes and purchasing power that is distributed widely among the majority of the population, what other changes would we see over a period of time? For instance, would we need to find evidence of the following:

- Are poverty rates declining?
- Are there improved job opportunities with less unemployment?
- Is inequality in the distribution of goods, services and incomes on the decline?
- On a daily basis, is there less economic and social insecurity?

- Are most people healthier, more literate, better clothed and properly nourished, and do they live longer lives?
- Do more people have the freedom of choice and opportunity to reach their potential, and achieve what they aspire with the resources they have?
- Is there improved justice, greater effectiveness and transparency in government and other institutions, and are there reduced levels of corruption?
- Is there better social inclusiveness for all people, including improvements in gender equality and the sharing of power?
- Is economic activity environmentally sustainable?
- Are more people happier?

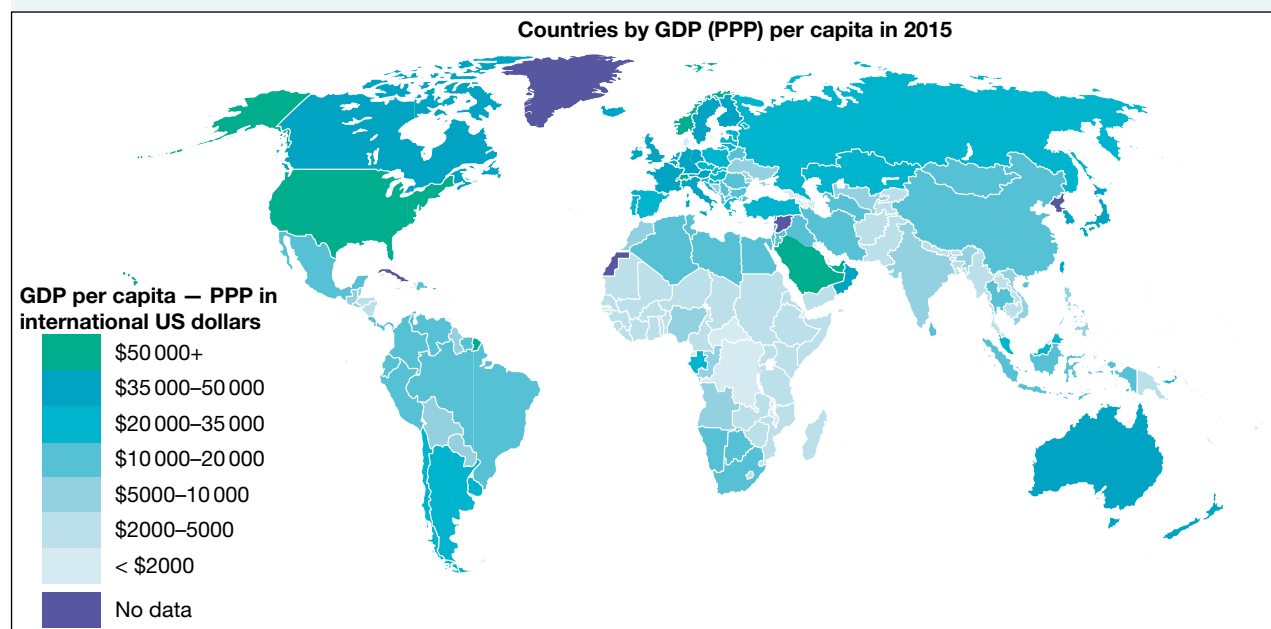
Progress on many of these fronts could be seen as *development*, thereby allowing most people to live with improved fulfilment and dignity.

7.2.2 Using average GDP or income to measure a nation's development

When examining the topic of *development*, often there is reference to low-, middle- and high-income nations, simply because income levels are one dimension of development or progress. Commonly, the real level of gross domestic product (GDP) or gross national income (GNI) per head is used as an indicator of what development means, even though these provide a rather inaccurate and narrow view.

In 2019, the World Bank, for example, defined *low-income countries* as those where people subsist on a mere \$2.72 or less per day (i.e. an average of \$993 per person a year or less). In contrast, *middle-income nations* have average per capita incomes of between \$2.73 and \$10.67 per day (i.e. between \$996 and \$3895 per person a year), while *high-income countries* have average incomes of \$33 or more per day (i.e. a minimum of \$12 045 per person a year). Figure 7.2 shows that most low-income countries are located in Africa and Asia. These nations usually have a high proportion of their population living below the severe poverty line (recently updated by the World Bank to include individuals on an income of less than US\$1.90 per day).

FIGURE 7.2 Global map showing where low-income developing countries are found



Source: Map copied from Wikipedia, the free encyclopaedia, [https://en.wikipedia.org/wiki/File:Countries_by_GDP_\(PPP\)_Per_Capita_in_2015.svg](https://en.wikipedia.org/wiki/File:Countries_by_GDP_(PPP)_Per_Capita_in_2015.svg).

For these low-income countries, one step required for development is to try and accelerate the pace of economic growth and lift its GDP and GNI at a faster rate than its population. In turn, higher per capita production and incomes can help solve problems like poverty, unemployment, inequality, illiteracy, hunger, poor health and low life expectancy, discrimination, insecurity, lack of opportunity and low living standards.

However, although GDP per capita is commonly used to define low-income countries, it really provides very limited information about development and the state of people's daily lives or wellbeing. This measure has several *limitations*:

- **The problem of unrecorded subsistence production.** GDP only measures the value of marketed goods and services *produced and exchanged* in the economy. Because a large percentage of the population in low-income countries is involved in subsistence production that is never marketed or sold, GDP per capita is likely to be an underestimation of actual levels of economic welfare.
- **The problem of unequal distribution.** Most importantly, average GDP per capita fails to take account of how evenly or unevenly goods, services and incomes are distributed or shared among all members of the population. Most low-income countries have extreme inequality, where the poorest 20 per cent of the population receives perhaps less than 4 per cent of the nation's income cake. Average GDP per capita is therefore a very inadequate guide of people's general consumption or access to basic goods and services.
- **Negative externalities.** On its own, GDP does not consider the costs to society and the environment (called *negative externalities*) of economic progress, yet such costs are often very high in low-income countries due to their overpopulation.
- **No consideration of the quality of daily lives.** Importantly, GDP fails to accurately tell us whether the quality of daily life for ordinary people is getting better in terms of life expectancy, health, access to clean water, education and health, standards of food and nutrition, lower poverty rates, improved justice and reduced crime, greater freedom and democracy, better human rights and opportunities for all. GDP tells us almost nothing about these important aspects of non-material wellbeing.

From what has just been said, development in low-income countries involves a far broader concept and requires more than simply growing the size of the economy, GDP or average GNI per capita.

7.2.3 Using the Human Development Index (HDI) to define a developing nation

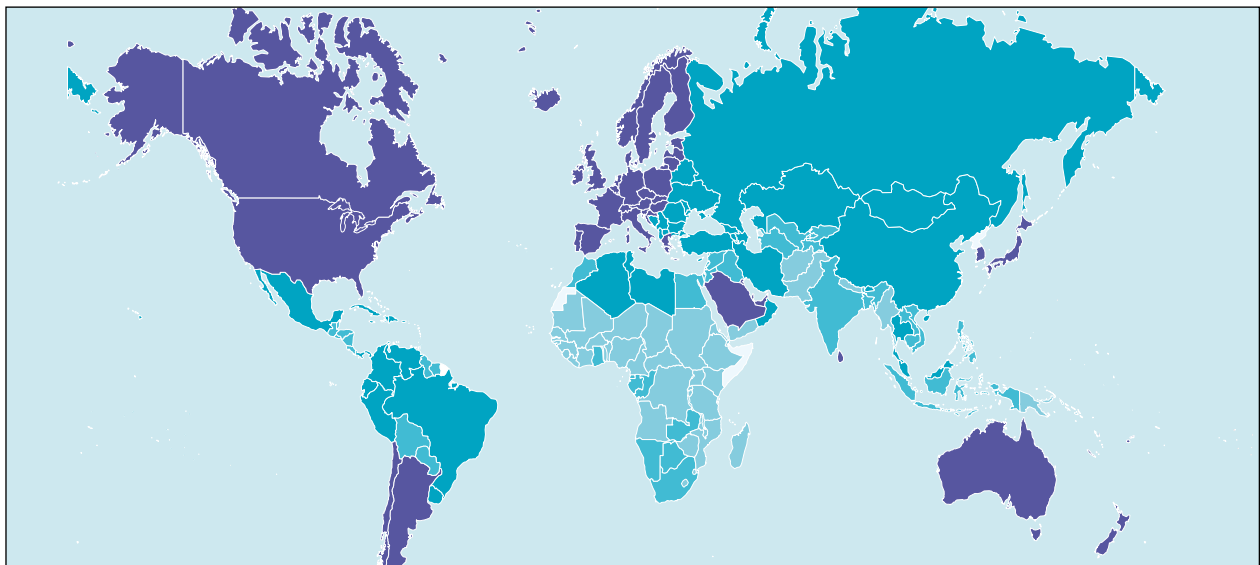
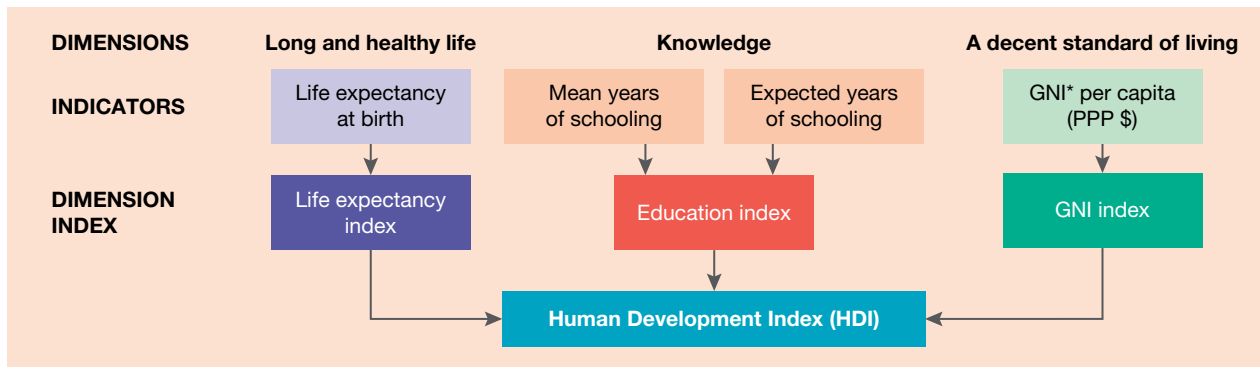
Given the limitations and narrowness of using GDP or income per capita as an indicator or measure of development, a broader measure of progress was devised called the **Human Development Index (HDI)**. Unlike GDP, this indicator reflects both economic and social conditions affecting the general material and non-material wellbeing of people.

The HDI is *not* just based on income per head (GNI adjusted to international dollars or PPP to expose its purchasing to reflect material living standards); it also reflects *three* other important indicators:

- life expectancy (years calculated at birth) to show whether people enjoy a long and healthy life,
- expected years of schooling (to assess access to knowledge)
- mean years of schooling (to assess access to knowledge).

Figure 7.3 shows the makeup of the HDI. It also shows the approximate levels of the HDI using a colour code (see the map key). A country score near 1 is highest, while a value near 0 is lowest. By using the **United Nations, International Human Development Indicators** weblink in the Resources tab, you can click on particular countries in the map and find detailed information about levels of human development in each country.

FIGURE 7.3 The Human Development Index (HDI): diagram showing the makeup of the HDI and map showing the HDI for different countries



Very high human development, index above 0.8

High human development, index around 0.7 to 0.8

Medium development, index around 0.6 to 0.7

Low human development, index below 0.5

Source: The HDI diagram is adapted from the United Nations Human Development Report, see <http://hdr.undp.org/en/content/human-development-index-hdi>. The map has been copied directly from United Nations Development Program, Human Development Reports, released December 2015, see <http://hdr.undp.org/en/countries>. *Note: GNI is fairly similar in value to GDP.

Table 7.1 indicates that typically, low-income nations also have lower HDI scores (e.g. in Africa, Niger on 0.354 points), whereas high-income developed nations usually have elevated HDI scores (e.g. Australia is in number three position with a score of 0.939 points).

on Resources



Weblinks United Nations, International Human Development Indicators

If the world were a village of 1000 people

What if the world were 100 people?

Nigeria: Work and jobs for the giant of Africa

Developed economy

Debunking Third-World myths with the best stats you've ever seen

What does 'Third World country' mean?

The slum: Risky business

TABLE 7.1 Ten countries with the highest and ten countries with the lowest Human Development Index (HDI) scores

Rank	Country	Human Development Index (HDI) (value)	Life expectancy at birth (years) SDG3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	Gross national income (GNI) per capita (PPP \$) SDG 8.5
1	Norway	0.953	82.3	17.9	12.6	68 012
2	Switzerland	0.944	83.5	16.2	13.4	57 625
3	Australia	0.939	83.1	22.9	12.9	43 560
4	Ireland	0.938	81.6	19.6	12.5	53 754
5	Germany	0.936	81.2	17.0	14.1	46 136
6	Iceland	0.935	82.9	19.3	12.4	45 810
7	Hong Kong, China (SAR)	0.933	84.1	16.3	12.0	58 420
8	Sweden	0.933	82.6	17.6	12.4	47 766
9	Singapore	0.932	83.2	16.2	11.5	82 503
10	Netherlands	0.931	82.0	18.0	12.2	47 900

Rank	Country	Human Development Index (HDI) (value)	Life expectancy at birth (years) SDG3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	Gross national income (GNI) per capita (PPP \$) SDG 8.5
189	Niger	0.354	60.4	5.4	2.0	906
188	Central African Republic	0.367	52.9	7.2	4.3	663
187	South Sudan	0.388	57.3	4.9	4.8	963
186	Chad	0.404	53.2	8	2.3	1750
185	Burundi	0.417	57.9	11.7	3.0	702
184	Sierra Leone	0.419	52.2	9.8	3.5	1240
183	Burkina Faso	0.423	60.8	8.5	1.5	1650
182	Mali	0.427	58.5	7.7	2.3	1953
181	Liberia	0.435	63	10	4.7	667
180	Mozambique	0.437	58.9	9.7	3.5	1093

Source: United Nations Development Program, Human Development Reports, 2018 statistical update, selected parts of the table were copied directly from <http://hdr.undp.org/en/2018-update>.

We should now be able to understand that using the HDI tells us far more about general living standards, wellbeing and the level of development, than simply using real GNI per head. Growing incomes is important but, on its own, it is not sufficient. Development is a multidimensional process whereby there are economic, social, political and institutional changes that widely improve the material and non-material aspects affecting the quality of daily life of all people in low-income countries.

7.2 ACTIVITIES

To answer questions online and to receive **immediate feedback** and **sample responses** for every question go to your learnON title at www.jacplus.com.au.

Check your understanding

1. How has the definition of *development* changed since the mid 1940s?
2. Why was it necessary to change the definition of *development*?
3. There are many measures of *development* that could be used for a country.
 - (a) How is average real *gross domestic product* (GDP) per head or average real *gross national income* (GNI) per head calculated? What are *three* main weaknesses of using these indicators as a measure of a country's level of *development*?
 - (b) What is the *Human Development Index* (HDI)? What are the specific indicators used to create this index, and why is this generally considered to be a better indicator of a country's *development*?

Applied economic exercises

1. Before answering the questions that follow, read the extract in figure 7.4. This report condenses the world's population of over 7 billion people down to just 1000, to give us a better grasp of the problems we face as global citizens.

FIGURE 7.4 Thinking of the world as a village helps us come to grips with some of the real problems in the world.

If the world were a village of 1000 people ...

Dona Meadows

If the world were a village of 1000 people, it would include:

- 584 Asians
- 124 Africans
- 95 East and West Europeans
- 84 Latin Americans
- 55 Soviets (including for the moment Lithuanians, Latvians, Estonians and other national groups)
- 52 North Americans
- 6 Australians and New Zealanders

The people of the village have considerable difficulty in communicating:

- 165 people speak Mandarin
- 86 English
- 83 Hindi/Urdu
- 64 Spanish
- 58 Russian
- 37 Arabic

That list accounts for the mother tongues of only half the villagers. The other half speak (in descending order of frequency) Bengali, Portuguese, Indonesian, Japanese, German, French and 200 other languages.

In this village of 1000 there are:

- 329 Christians (among them 187 Catholics, 84 Protestants, 31 Orthodox)
- 178 Moslems
- 167 'non-religious'
- 132 Hindus
- 60 Buddhists
- 45 atheists
- 3 Jews
- 86 all other religions
- One-third (330) of the 1000 people in the world village are children and only 60 are over the age of 65. Half the children are immunised against preventable infectious diseases such as measles and polio.
- Just under half of the married women in the village have access to and use modern contraceptives.

- This year 28 babies will be born. Ten people will die, 3 of them for lack of food, 1 from cancer, 2 of the deaths are of babies born within the year. One person of the 1000 is infected with the HIV virus; that person most likely has not yet developed a full-blown case of AIDS.
- With the 28 births and 10 deaths, the population of the village next year will be 1018.
- In this 1000-person community, 200 people receive 75 per cent of the income; another 200 receive only 2 per cent of the income.
- Only 70 people of the 1000 own an automobile (although some of the 70 own more than one automobile).
- About one-third have access to clean, safe drinking water.
- Of the 670 adults in the village, half are illiterate.

The village has six acres of land per person, 6000 acres in all, of which:

- 700 acres are cropland
- 1400 acres pasture
- 1900 acres woodland
- 2000 acres desert, tundra, pavement and other wasteland
- The woodland is declining rapidly; the wasteland is increasing. The other land categories are roughly stable.

The village allocates 83 per cent of its fertiliser to 40 per cent of its cropland — that owned by the richest and best-fed 270 people. Excess fertiliser running off this land causes pollution in lakes and wells. The remaining 60 per cent of the land, with its 17 per cent of the fertiliser, produces 28 per cent of the food grains and feeds 73 per cent of the people. The average grain yield on that land is one-third the harvest achieved by the richer villagers.

In the village of 1000 people, there are:

- 5 soldiers
- 7 teachers
- 1 doctor
- 3 refugees driven from home by war or drought

The village has a total budget each year, public and private, of over \$3 million — \$3000 per person if it is distributed evenly (which, we have already seen, it isn't).

Of the total \$3 million:

- \$181 000 goes to weapons and warfare
- \$159 000 for education
- \$132 000 for health care

The village has buried beneath it enough explosive power in nuclear weapons to blow itself to smithereens many times over. These weapons are under the control of just 100 of the people. The other 900 people are watching them with deep anxiety, wondering whether they can learn to get along together; and if they do, whether they might set off the weapons anyway through inattention or technical bungling; and, if they ever decide to dismantle the weapons, where in the world village they would dispose of the radioactive materials of which the weapons are made.

Source: Article by Dona Meadows copied from <http://www.gdrc.org/uem/1000-village.html>, and originally published by the Sustainability Institute, 31 May 1990.

- What is the most common nationality in this world of 1000 people? (1 mark)
- How would expenditure on defence compare with spending on health or education? (1 mark)
- What are the most serious causes of death in the global village? (1 mark)
- Of the village income of \$3 million, what proportion would the top 200 (i.e. 20 per cent) income earners receive relative to the lowest 200? (1 mark)
- What proportion of the population would be children and what proportion would be over 65 years of age? Suggest reasons for this situation. (1 mark)
- What percentage of married women has access to and uses modern contraceptives? In turn, what problems does this create for some low-income countries? (1 mark)
- The richest or best fed 270 people (i.e. 27 per cent) would eat food crops grown on 280 acres of the most fertile 700 acres of arable land available. How much land is left to feed the remaining 73 per cent of the people? (1 mark)

- (h) What proportion of villagers has access to clean drinking water? (1 mark)
- (i) What proportion of villagers owns automobiles? (1 mark)
- (j) What proportion of villagers is illiterate? Explain how this might affect production, income and living standards. (1 mark)
- (k) What percentage of children is immunised against preventable diseases? (1 mark)
- (l) Looking at the total village budget (public and private) of \$3 million available for spending (i.e. an average of \$3000 per person if it were divided evenly which, as mentioned, it is not), what area is regarded as more important — education, health or defence? (1 mark)
2. Use the information in table 7.2 to calculate GDP per capita for Australia, Vietnam and Sudan. (3 marks)

TABLE 7.2 GDP and population for Australia, Vietnam and Sudan, 2018

Country	Annual GDP (million international dollars or PPP)	Population (millions)	Annual GDP per capita (international dollars or PPP)
Australia	1 312 530	25.3	\$
Vietnam	705 774	95.4	\$
Sudan	198 356	41.3	\$

Source: Data derived from various sources including Wikipedia, the free encyclopaedia, see [https://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(PPP\)](https://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)) and https://en.wikipedia.org/wiki/List_of_countries_and_dependencies_by_population.

3. Carefully examine table 7.3, which contains seven possible indicators for the level of economic development in selected countries.

TABLE 7.3 Some possible indicators of economic development in selected countries

Country	1. Index of people above the poverty line of \$1.90/day (100 is best)	2. Life expectancy index (100 is long life expectancy)	3. Adult literacy index (100 is top score)	4. Education index (100 is top score)	5. Employment index (100 is zero unemployment)	6. Index of corruption perception (100 is least corrupt)	7. Index of gross national income per capita received in PPP (100 is best)
Australia	100	83	99	93	95	77	64
Niger	55	60	15	21	71	34	1.3

Source: Data derived from Human Development Report, see data.worldbank.org/indicator/NY.GDP.PCAP.CD; UNDP, Human development indicators, 2018, see hdr.undp.org/en/content/human-development-indicators-and-thematic-tables; Transparency International, see <https://www.transparency.org/country>; CIA World Factbook, OECD; NationMaster.com and other.

Your task is to try to calculate your own composite (i.e. single) index measuring the level of economic development, using any *four* of the seven indicators shown for Australia and Niger. Show your calculations and justify your choice of each of the four measures selected. It is also up to you as to whether you:

- score or measure your index out of 400, 100, 10, or any other number of index points
- weight some items or indicators in this index more heavily than others, because you feel they have a larger influence on the level of development.

(4 marks)

7.3 The factors limiting development and causing poverty in low-income countries

KEY CONCEPT

- economic factors that might influence the extent and nature of the selected global economic issue/s

Why is it that some countries are economically poor with low levels of development, while others are relatively rich? Unfortunately, there is no simple explanation that suits all cases, since each country is unique in certain ways. For instance, some nations have big populations, others are small. Some have many natural resources, others have few. Some have socialist economies, others use market capitalism. Some are on different sides of the equator. And some are former European colonies, but others are not.



However, having pointed out some of the differences among developing nations, it is possible to make a few generalisations about fairly common factors that interact to *restrict development*, limit per capita incomes, cause inequality and poverty, and check opportunities for all to be well fed and healthy, educated, and live long and fulfilling lives. These factors are summarised in figure 7.5.

FIGURE 7.5 Factors limiting development in low-income countries



7.3.1 Limited productive capacity

Perhaps the most common cause of poverty and slow development in some countries is the economy's current lack of *productive capacity*.

This restricts the level of output of goods and services, relative to the size of the population. It means that each person's income and slice of the production pie is small. As a result, average consumption of goods (e.g. food, clothing and housing) and services (e.g. health, education and transport) per capita is low. This causes poverty and subsistence living standards. Mention was made in topic 1 of the factors that can limit the size of a country's capacity or production possibility frontier (PPF). Basically, it comes down to *two* main constraints:

- **The volume of resources.** Natural resources (e.g. agricultural land, climate, water), labour (e.g. the provision of skills and physical effort) and physical capital resources (e.g. plant and equipment used in production such as tractors, railways, water, electricity system) per person in low-income countries is typically too small to allow for sufficient production or GDP. Perhaps the country is **overpopulated** given the quantity of resources available.
- **The productivity or efficiency of labour and other resources.** In low-income nations, the ratio of total output or GDP gained from each unit of labour, natural and capital resources used is tiny, relative to that gained in high-income countries. This restricts a nation's productive capacity.

The problem with limited efficiency and low output per hour is that real per capita incomes paid to workers are also low. This causes poverty, malnutrition, poor health, low access to education and limited opportunities. Clearly, poverty and lack of development will persist in these countries unless there is economic growth and the expansion of the nation's production possibility frontier (PPF).

7.3.2 Low savings and investment and the cycle of low-incomes and poverty

As we know, low-income nations have subsistence levels of production and income per capita, and hence high levels of poverty. After purchasing basic necessities (e.g. food, housing), little or no household income remains for savings (i.e. savings are income not spent). However, without savings (by households, firms or governments), there is limited finance for investment in capital equipment that is needed to start and grow businesses or provide government services or infrastructure, unless there is a rise in overseas borrowing or debt.

Even if credit is available in low-income countries, it is very expensive as reflected in high interest rate repayments of up to 40 per cent per year. These higher interest rates make borrowing credit to start businesses almost impossible, as the heavy repayments will eat into any possible profit. Many households also lack the basic requirements for gaining a credit rating. This means that they are unable to borrow from banks or local money lenders. In addition, if governments borrow to provide community services (as happens in many low-income countries), there is the ongoing burden of interest repayments for future generations.

Whatever the cause, low levels of investment in equipment and new technology mean that labour output per hour worked (i.e. **worker efficiency**) is very small indeed. This causes hourly pay rates, incomes and purchasing power to be limited, and hence living standards remain desperately low. One way to illustrate this problem is to use a diagram showing the vicious cycle of poverty. As shown in figure 7.6, the **poverty cycle** can start with poor savings, inadequate investment, weak efficiency and hence low incomes, which will persist unless the cycle is somehow broken. However, escaping this vicious cycle is not easy. As we shall see shortly, it may take considerable time and requires a combination of many strategies.

FIGURE 7.6 The vicious cycle of poverty and underdevelopment in low-income countries



7.3.3 Limited education and the cycle of low incomes

Low incomes in developing countries mean that many families cannot afford to send their children to school, especially to upper secondary levels or university. Governments, too, fail to allocate adequate resources to ensure that education is both affordable and available for all. In turn, low educational access and completion rates mean a lack of skills and knowledge, and the restriction of capacities and capabilities. This perpetuates the vicious cycle of weak labour productivity and hence low incomes as seen in figure 7.7.

FIGURE 7.7 Low access to education perpetuates the poverty cycle via weak labour productivity and hence low incomes.

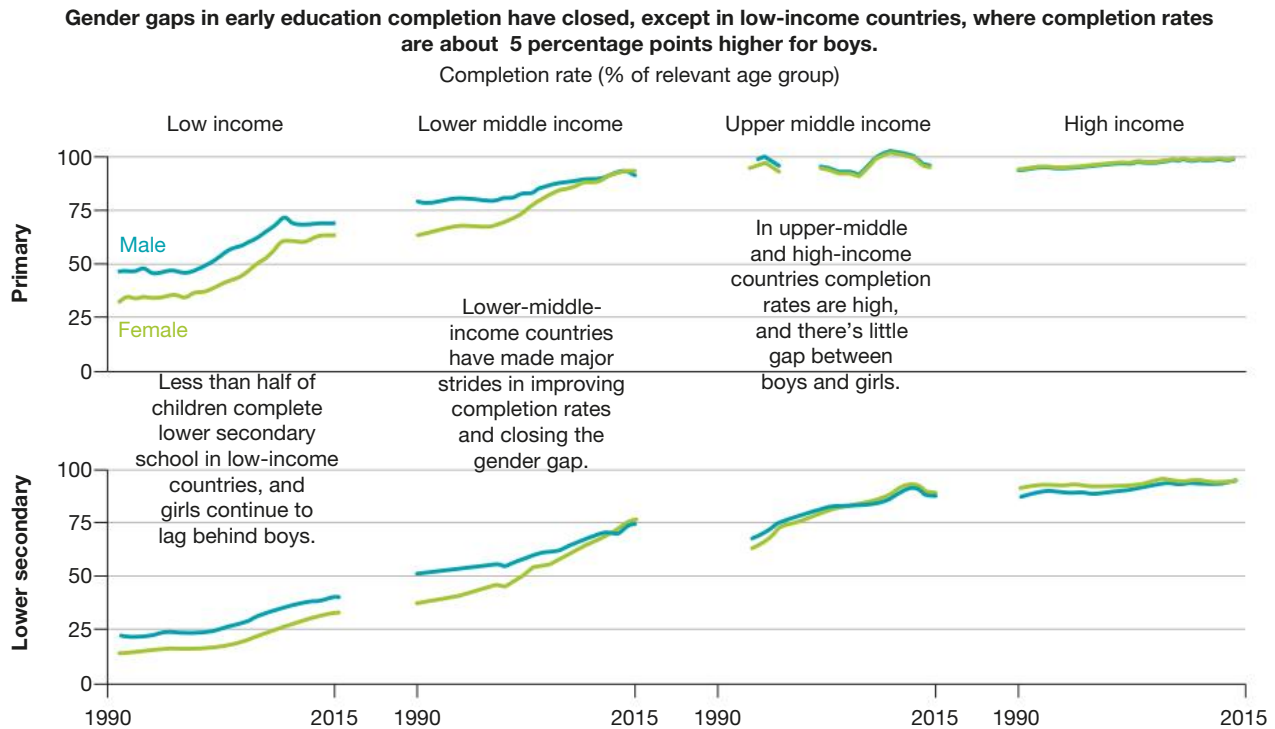


There is ample evidence of limited educational standards, opportunities and outcomes in low-income countries. For example, take a look at figure 7.8 comparing the great disparity in educational rates at primary and lower secondary levels, and by gender, for low-income nations against those for lower-middle, upper-middle and high-income countries.

Notice that for low-income countries:

- while completion rates for education have improved, they are still significantly lower than for high-income countries, especially at lower secondary levels where completion rates are less than half of those in high-income countries.
- females have significantly reduced access to education than males, whereas this is not the case in high income nations.

FIGURE 7.8 Differences in the completion rates of education by gender and income level



Source: Graph copied directly from the World Bank, Quality Education, Sustainable Development Goal, see <http://datatopics.worldbank.org/sdgatlas/SDG-04-quality-education.html>.

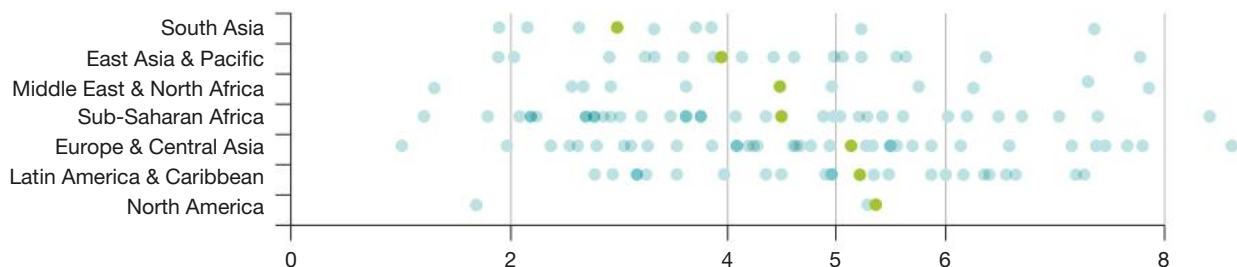
One reason for the poor access to education in low-income countries is that most governments allocate too few resources to this area. This is a real problem because investment in people (growing human capital resources) is critical in these countries to growing productivity and capacity, and unlike the situation in richer countries, these families cannot afford to pay for education.

Worldwide, governments invest around 5 per cent of the nation's GDP into education. However, figure 7.9 reveals that in some low-income countries and regions (like sub-Saharan Africa, South Asia and the Middle-East), this rate is 4–5 per cent less.

FIGURE 7.9 Government funding to provide educational opportunities by region and country

Education is an investment. All governments bear some responsibility for funding education; median spending on education worldwide is 5 per cent of GDP.

Government spending on education, by country and regional median, most recent value in 2011–16 (% of GDP)



Source: Graph copied directly from the World Bank, Quality Education, Sustainable Development Goal, see <http://datatopics.worldbank.org/sdgatlas/SDG-04-quality-education.html>. *Note:* On the graph, the green coloured dots show the region's average, and the blue dots show the particular countries that make up the region.

7.3.4 Problems involving population and the labour force

On average, the population of low-income countries is growing more than three times as fast as that of high-income countries. For instance, the average rate of population growth is around 2.2 per cent a year for economically poor countries compared with only 0.7 per cent in most richer countries.

FIGURE 7.10 Rapid population growth of over two per cent a year in low-income countries causes material living standards or GDP per head to rise more slowly. There are many causes of high birth rates, including a lack of education, limited access to contraceptives, high rates of infant mortality and economic insecurity.



Figure 7.11 shows that many factors contribute to rapid population growth. These include:

- the tradition of having large families (to counteract high infant mortality rates)
- restricted access to birth control (due to cost or religious beliefs)
- a lack of information about birth control and family planning, and
- in the absence of the pension system, there is a belief that having extra children is an insurance against old age since children can earn extra income for the family (given that child labour is usually tolerated).

Figure 7.11 also outlines some of the effects of rapid population growth in most developing countries.

Rapid population growth places enormous pressures on the resources of poor countries. It does this in several ways:

- **Farming problems.** Given that most families live in rural rather than in urban areas, the size of farms, and the ability of rural populations to feed themselves and create jobs, is progressively reduced by population growth. Farmers are forced onto less fertile land, so efficiency and incomes decline. This problem is worsened by the fact that, often, the best land is owned by the rich minority, who either fail to cultivate the property or, alternatively, impose harsh rental conditions on farmers (i.e. 50–80 per cent of the crop is taken by the landlord as rent). This contributes to low rural productivity and higher unemployment. It also means that productive capacity is wasted and the nation's output of food is lower than it could be. As a result, living standards and general wellbeing are depressed, and poverty rates rise.

FIGURE 7.11 The causes and effects of population growth in low-income countries

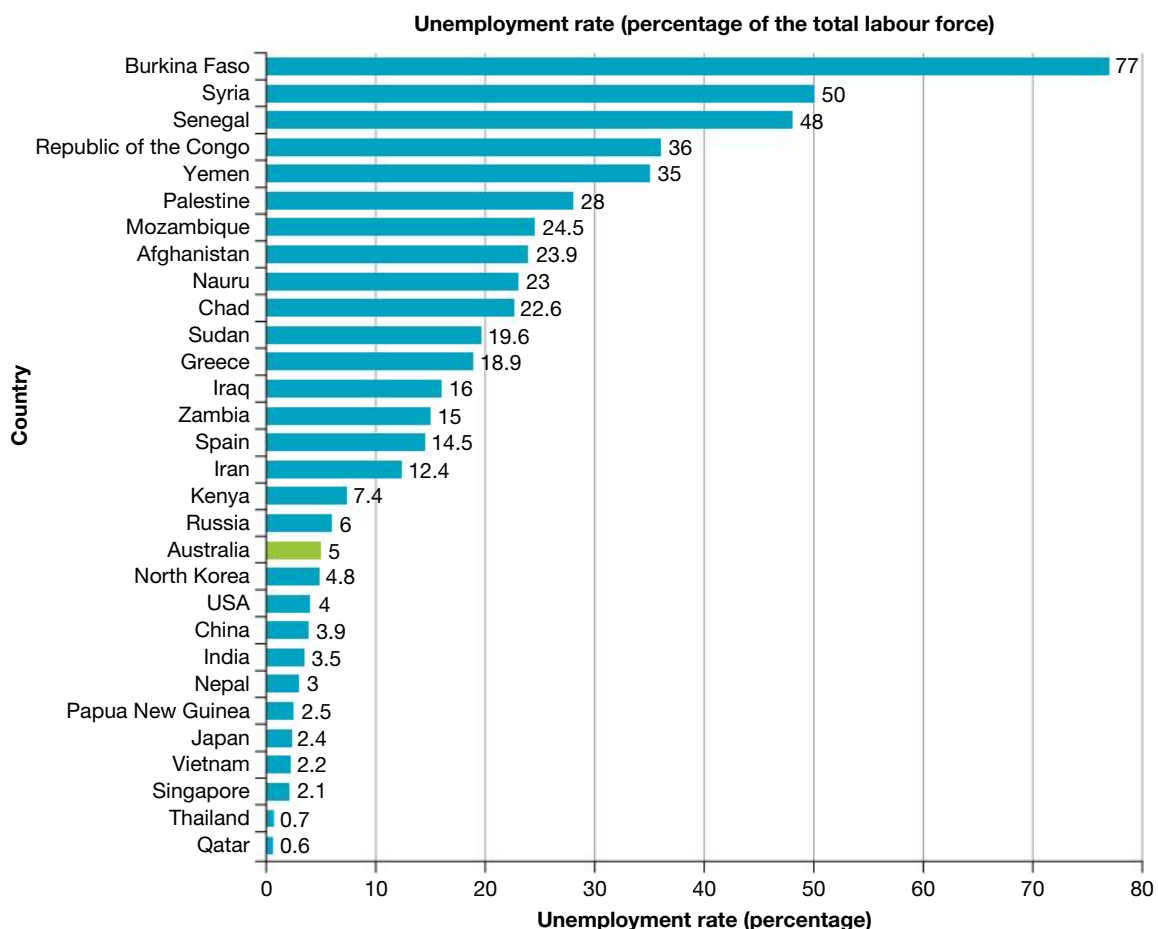


- **Urban problems.** In some developing countries, population growth has created a massive shift of people in search of work from overcrowded rural areas into the city where there are some jobs available in manufacturing. This creates severe urban problems involving inadequate transport, housing, waste disposal, pollution, sanitation, education, water supply and health services.
- **Infrastructure problems.** Usually, governments in low-income countries are expected to provide **infrastructure** and services such as education, health, water supply, sanitation, roads, railways, ports and electricity. However, government tax revenue is inadequate to provide these, due to low incomes, unemployment, corruption and tax evasion. Rapid population growth puts pressure on infrastructure that is already insufficient. It breaks down, is chaotic, congested, decaying and inefficient. Apart from causing people to live in miserable conditions, poor infrastructure also scares away new businesses. This means that production is depressed, there are fewer jobs, and incomes are lower than otherwise.
- **Unemployment problems.** High unemployment means that a country's output of goods and services is well below its productive capacity or physical limit. In many low-income countries, rapid population growth increases unemployment (i.e. when those 15 years of age and over who want work cannot find jobs). Figure 7.12 shows the massive scale of this problem, with rates in some countries over 25 per cent of the labour force. In addition, there is the issue of **underemployment** (i.e. when those working are not employed to their capacity and, for example, could work more hours and produce

more output per hour). Commonly, those who are employed are working at perhaps only 50–60 per cent of their potential. Together, unemployment and underemployment mean that a very large part of the country's labour resources are idle, and its economy is operating well below capacity and inside its PPF. As a result, production and income levels per head of population are low and poverty is rampant.

- **Problems in education and skills.** A rapidly growing population, as found in many low-income countries, makes it harder for the government to provide adequate education. In turn, this limits children's access to knowledge and skills, worsens teacher shortages and overcrowding at schools. In this situation, poor educational standards act to limit both the capacities and capabilities of the population (typically with youth literacy rates for 15–24 year olds of only 50–60 per cent). It shrinks a country's productive capacity, slows development and contributes to poverty.
- **Environmental problems.** Generally, more people mean that there is greater pollution. In part, this is because of the need to increase the production of goods and services. It often means that natural resources are overused and abused, resulting in environmental degradation. For example, to allow for the growth of agriculture to feed growing populations in Indonesia and Brazil, logging and the clearing of forests have occurred on a massive scale. This has led to the destruction of native habitat, extensive soil erosion, reduced water and river quality, and increased risk of mud slides that destroy villages and infrastructure. Again, poverty is increased and living conditions become more depressed.

FIGURE 7.12 High rates of unemployment in low-income countries restrict economic development, reduce incomes, cause poverty and lower living standards.



Source: Data derived from various sources including the CIA World Factbook. *Note:* Data mostly for 2016–18.

7.3.5 Smallness of the local or domestic market

Despite many developing countries having large populations, they have relatively small markets in which to sell goods. This is because incomes are low and there is great inequality in the distribution of incomes, limiting demand and purchasing power (see section 7.3.8). This is a problem because even if local businesses were to lift output, to whom could they sell? Because of this weakness in domestic spending, levels of domestic production will be limited unless export markets can be found for crops and other commodities. Unfortunately for businesses in low-income countries, poor



transport infrastructure, inadequate handling and storage facilities, and the continued existence of trade **protectionist policies** used by some high-income countries (e.g. **subsidies** and **tariffs** operated by France, Japan and the US), mean that the problem of a small domestic market remains as a disincentive for growing output. In turn, this limits the growth in employment and incomes, adding to poverty and reducing living standards.

7.3.6 Inefficient government and institutional failure

Democracy involves giving people the freedom, every few years, to choose who will govern them. Often, low-income countries have political dictatorships (rather than transparent and accountable democracies) and many institutions fail to efficiently operate and deliver fair outcomes. For instance:

- Ordinary people are usually powerless to judge or comment about poor government. The media is unable to expose rampant corruption, administrative failure, repression, abuse of power, the absence of the rule of law, and the poor treatment of citizens
- Officials often look after themselves, protect their friends, hand out special privileges to interest groups, and fail to use policies to redistribute income and equitably share the benefits of economic development.
- It is not uncommon in low-income countries with military dictatorships for scarce resources to be redirected into defence and away from providing basic social and economic infrastructure like health, education, clean water, transport systems transparent and accountable democracies — investments needed to facilitate the production and marketing of goods and services. Sometimes, too, defence spending is even financed using foreign borrowing that requires expensive debt repayments.

As a result of these administrative, institutional and political failures, vital economic and social change cannot occur. It creates yet another vicious cycle that reduces opportunities for the majority of people, slows development and undermines the quality of daily life.

7.3.7 Limited foreign trade, rising debt and interest repayments

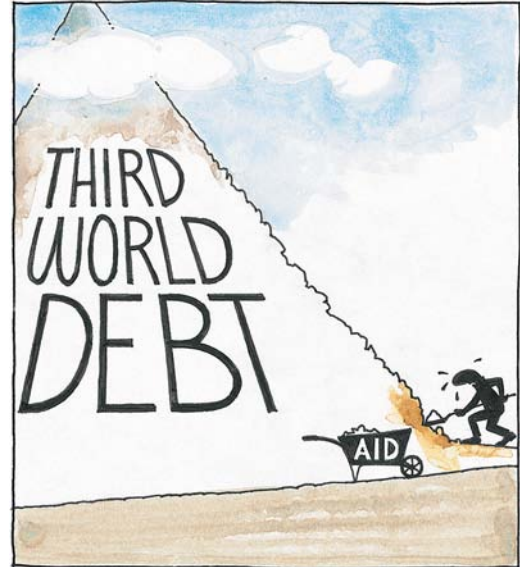
Countries need to export in order to help pay for necessary imports. Potentially, too, export markets could provide the incentive for businesses to lift output so as to help make up for the weakness of local demand caused by low incomes or purchasing power.

Nations also have to meet the burden of paying interest on their **foreign debt** or overseas borrowing. Unfortunately, there are many obstacles preventing low-income countries from being able to pay their way in international financial transactions with the rest of the world. As a result, most low-income countries have large deficits on their balance of payments current account, and massive levels of foreign debt. Let us take a closer look.

- **Limited agricultural exports.** It is common to find a large proportion of the population in low-income countries involved with subsistence agriculture. This obviously produces no surplus output to boost export sales and incomes. However, often the other more modern part of the rural sector produces for local and, especially, export markets. It entails growing cash crops and other food items (e.g. cocoa, sugar, coffee, spices, maize, timber, palm oil and rice). Unfortunately, there is little *value added* in this line of industry (due to the lack of processing) and so many of their commodities command only low prices internationally. Furthermore, high-income countries including the United States, Switzerland, Japan and the European Union, use tariffs and subsidies to protect their own rural industries. This all means that export incomes of poor countries are fairly low, and many nations face large current account deficits (CADs) and rising foreign debts.

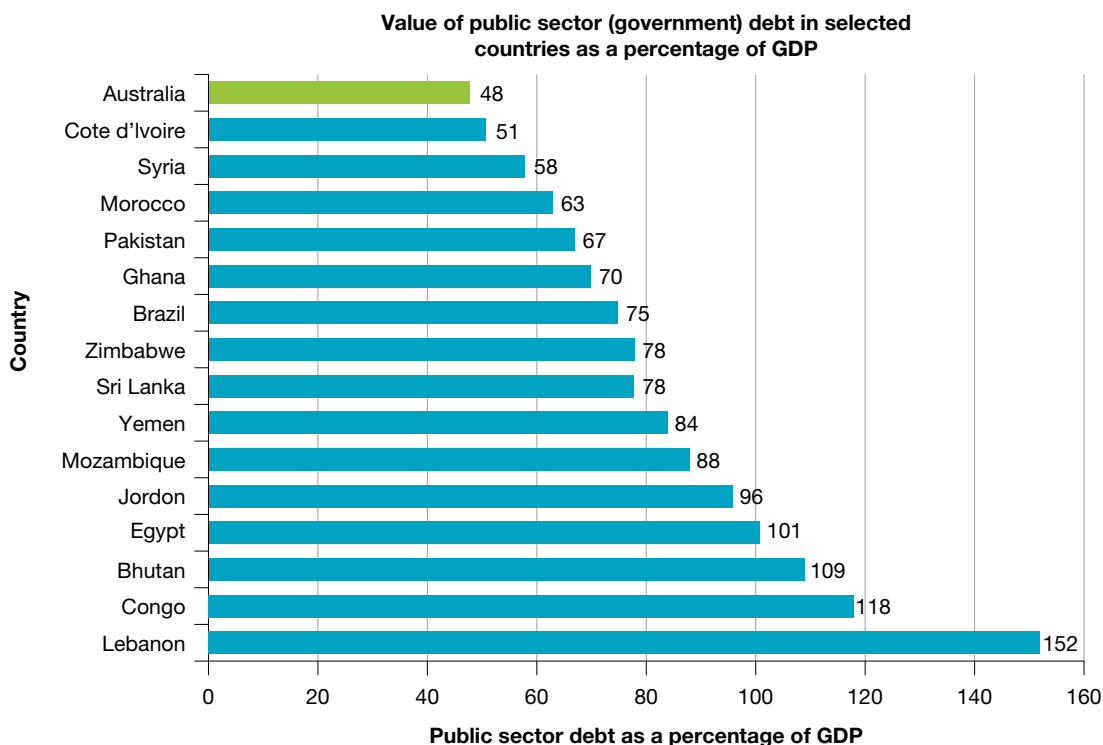
- **Limited manufactured exports.** There is a growing need in low-income countries to focus on basic manufactured exports (e.g. textiles and clothing, toys, simple electrical goods) produced in urban areas. This is often because opportunities and land for farming are limited, rural commodity prices are depressed, and incomes are low. As a result, unemployed or underemployed labour drifts to the cities in search of jobs in manufacturing. However, these countries' exports of simple manufactured or processed goods are often reduced by the existence of substantial tariffs, import quotas, export subsidies and other protectionist tricks used by high-income countries.
- **Increased reliance on imports.** Often there is a reliance on imports of food, oil and more elaborately manufactured items (e.g. equipment) because of obstacles that restrict domestic production in these areas. This adds to a country's trade and current account deficit.
- **The problem of overseas debt repayments.** There are many reasons why many low-income nations have high levels of foreign debt and problems with *debt repayment*. For instance, savings levels are usually low. This scarcity of savings causes local interest rates to be high, making finance for investment spending on capital equipment very expensive. Third World debt is also worsened by the fact that interest rates abroad are often lower than those offered locally, thereby encouraging the growth in debt. In addition, generous credit was previously made available at very seductive interest rates, sometimes by multilateral institutions like the **International Monetary Fund (IMF)** and **World Bank**. Governments in low-income countries often face serious financial problems, driving them into debt. On the one hand, the government's economic worries are caused by inadequate revenue. As noted previously, this is due to subsistence or low average incomes of the population and tax collection difficulties including corruption and institutional failings. On the other hand, with rapid population growth, the required level of government spending on basic social and economic infrastructure (e.g. services including health, education, transport, water supply, power generation) is massive. In addition, the borrowed money has often been misappropriated through corruption, wasted by incompetent officials on poorly selected projects, or misused for financing repression and military operations (e.g. often around 20 per cent of Third World debt is spent on military equipment).

FIGURE 7.13 When low-income countries borrow credit from richer countries, this creates the burden of repaying debt abroad, along with regular interest payments. These repayments cause scarce resources to be reallocated away from other uses such as government spending on water supply, and providing health and education that would improve the wellbeing of people.



A seemingly attractive solution to this problem of having limited foreign exchange to buy essential imports of goods and equipment, is for the private and government sectors to finance their spending by borrowing credit overseas. Unfortunately, this adds to the foreign debt of low-income countries. As shown in figure 7.14, public sector debt levels in many low-income countries like Lebanon or Congo, much of it money borrowed overseas, are very high compared with the size of their economy or GDP. One would have to question the capacity of these countries to ever repay the loans, without causing their citizens much pain and suffering.

FIGURE 7.14 The problem of public sector foreign debt (much of it borrowed overseas) in selected low-income countries and Australia



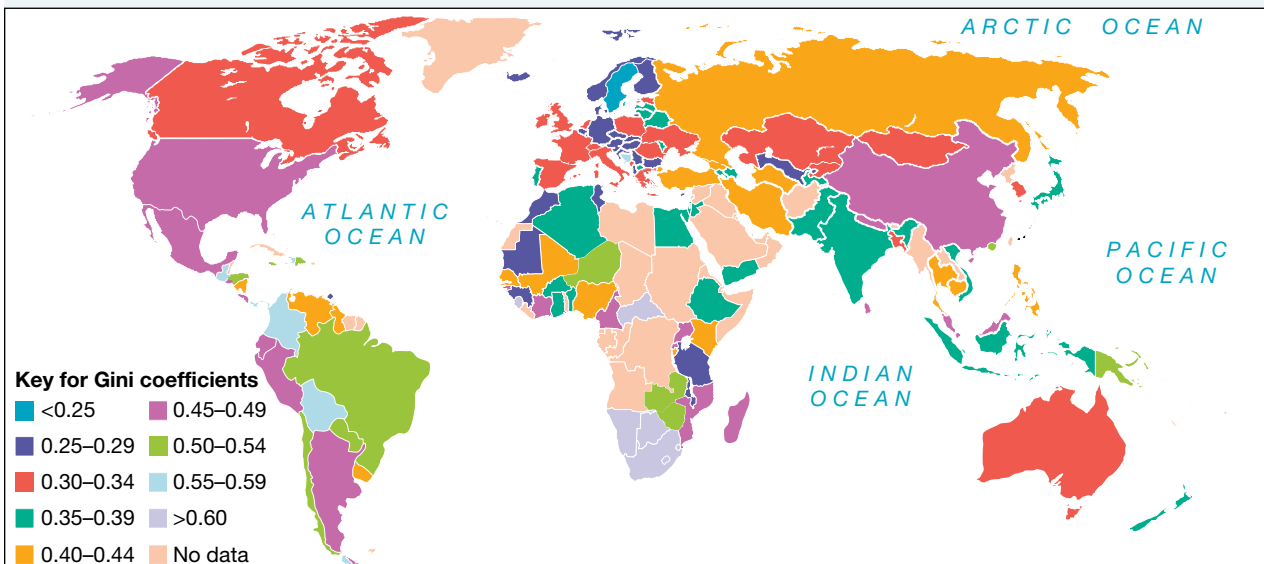
Source: Data derived from Trading Economics, see <https://tradingeconomics.com/country-list/government-debt-to-gdp>.

The other problem is that interest repayments on foreign debt can amount to billions of dollars annually, so government spending on necessary community services (e.g. health, housing and education) and infrastructure (e.g. water supply and transport) must be cut dramatically. This then contributes to even more poverty, further slowing development and depressing living standards. Perhaps we can now see why forgiveness of debt, offered by high-income countries in recent years, may allow struggling nations to make a new start and alleviate poverty. Although borrowing credit clearly has its dangers, moderate levels of government debt can be useful, provided that the borrowed funds have been used productively for financing important projects that add to the nation's productive capacity, self-sufficiency and the quality of daily life for ordinary people.

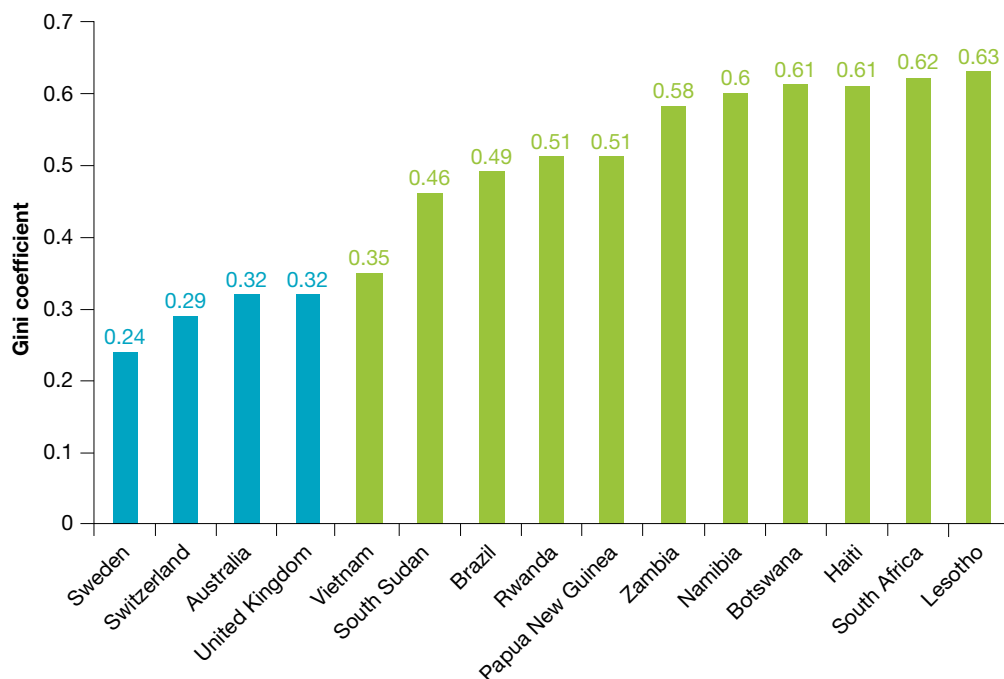
7.3.8 Great inequality in income and wealth

The gap in income and wealth between the rich and poor in low-income countries is even greater than it is in Australia. The Gini coefficient is often used to measure the levels of inequality. It is a number between 0 (meaning total equality) and 1 (meaning total inequality). As shown in figure 7.15, the Gini coefficient in many low-income countries (e.g. Namibia, South Africa, Botswana and Lesotho) is often very high, between 0.60 and 0.70.

FIGURE 7.15 Incomes are usually divided unevenly in low-income countries (Gini coefficient: 0 means total equality, 1 means total inequality).



Comparison of Gini coefficients in selected low-income developing and high-income developed countries



Source: Data derived from CIA World Factbook and other sources; map based on http://en.wikipedia.org/wiki/File:Gini_Coefficient_World_CIA_Report_2009.png.

By way of contrast, Australia's Gini coefficient for income is currently around 0.328 (i.e. relatively more equal). Frequently, inequality is reinforced by unequal ownership of land, official corruption, the absence of democracy and free speech, military dictatorship, closed markets, state and private monopolies, the caste system that ranks society, special favours involving deals with the government, and the abuse of social, political and economic power. In addition, undemocratic governments in these countries often do not have a real commitment to promoting a fair or equitable income distribution. As a result, the rich tend to get richer, the poor get poorer, poverty thrives and living standards remain low.

7.3.9 Historical problems

One thing that many low-income countries have in common (e.g. those in Africa, South America, Asia, Central Europe) is that during the 1700s, 1800s and early 1900s, they were colonies of European powers. For example, figure 7.16 shows the huge extent of colonial power in Africa for 1939.

Many of these nations were exploited for their cheap and obedient labour and for their natural resources. In the past, much wealth and income was sucked out, often leaving the local population worse off than before. It is hardly surprising, therefore, that most of these countries (e.g. India, South Africa, Indonesia, Vietnam and East Timor) pushed for independence through both peaceful and other means. In some cases, unfortunately, the end of European colonialism did not necessarily mean the end of poverty or faster development.

FIGURE 7.16 European colonies in Africa, 1939



on Resources

-  **Weblinks** Why some countries are poor and others rich
The new way of colonialism in Africa
Documentary: The dark side of chocolate
Cappuccino trail
Ethiopia, 30 years on from famine and Live Aid
Population and world resources
Stealing Africa — why poverty?

7.3 ACTIVITIES

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Check your understanding

1. Identify and explain the major commonly problems faced by low-income countries that slow the pace of development.

Applied economic exercises

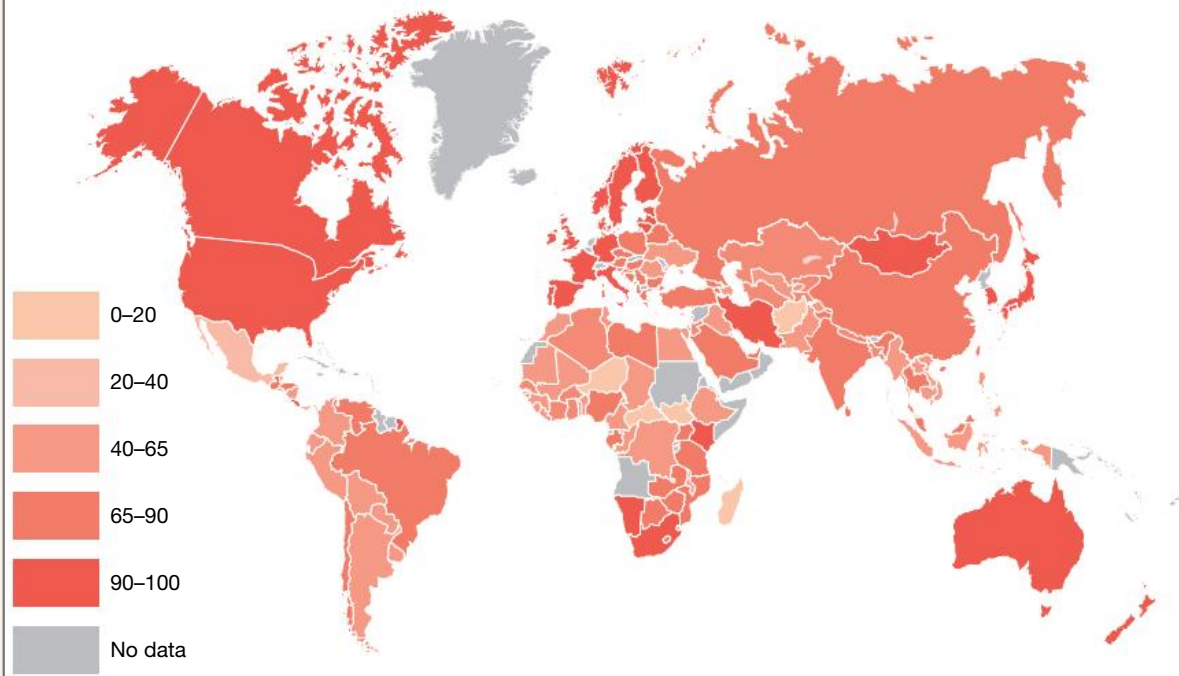
1. 'Low-income countries have limited productive capacity. One requirement for economic development is to grow this capacity.'
 - (a) Accurately define what is meant by an economy's *productive capacity*, explaining this using an appropriate hypothetical PPF diagram. **(2 marks)**
 - (b) By itself, growing capacity will not happen unless there are expanding markets, either locally or abroad. Explain. **(2 marks)**

- (c) Why are high levels of investment spending important for economic development? Use the *vicious cycle of poverty diagram* (figure 7.6 in section 7.3.2) to show why investment is inadequate and poverty is high in low-income countries. **(3 marks)**
- (d) What are economic infrastructure and social infrastructure? Provide two examples of each. Explain how poor infrastructure restricts development. **(3 marks)**
- (e) Identify and explain at least *four* important ways that rapid population growth tends to slow economic development in many low-income countries. **(4 marks)**
- (f) Why is the growth of exports so important for low-income developing countries? Identify and explain *two* reasons why the growth in their exports is limited, slowing economic development. **(2 marks)**
- (g) How might the development of democracy actually help to promote faster economic development in low-income countries? **(2 marks)**
2. One obstacle to development in low-income countries is the limited access of most people to *financial services*, bank finance and affordable loans. Examine figure 7.17 before answering the questions that follow.

FIGURE 7.17 Adult access to financial services and borrowing credit as a percentage of the population

Access to financial services benefits individuals and societies. Globally, 69 per cent of adults have an account with a financial institution or mobile money provider.

Accounting ownership, 2017 (% of population ages 15 and older)



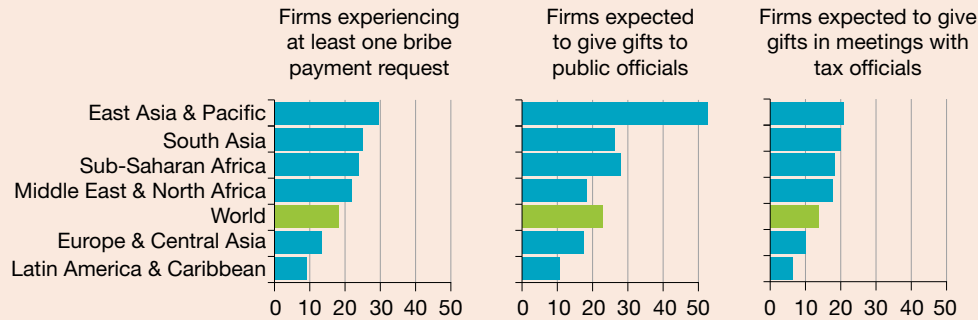
Source: Map copied directly from The World Bank, SDG Atlas, 2018, see <http://datatopics.worldbank.org/sdgatlas/SDG-08-decent-work-and-economic-growth.html>.

- (a) Quoting particular countries and statistics drawn from the map, contrast the access to financial services and credit of adults in low-income countries with those in high-income countries. **(2 marks)**
- (b) Explain the various ways limited access to financial services would slow the pace of development. **(2 marks)**
3. Institutional failure, government corruption and war are big problems in many low-income countries. Examine figure 7.18 before answering the questions that follow.

FIGURE 7.18 Comparisons of corruption among public or government officials between global regions and battle-related deaths in selected low-income countries

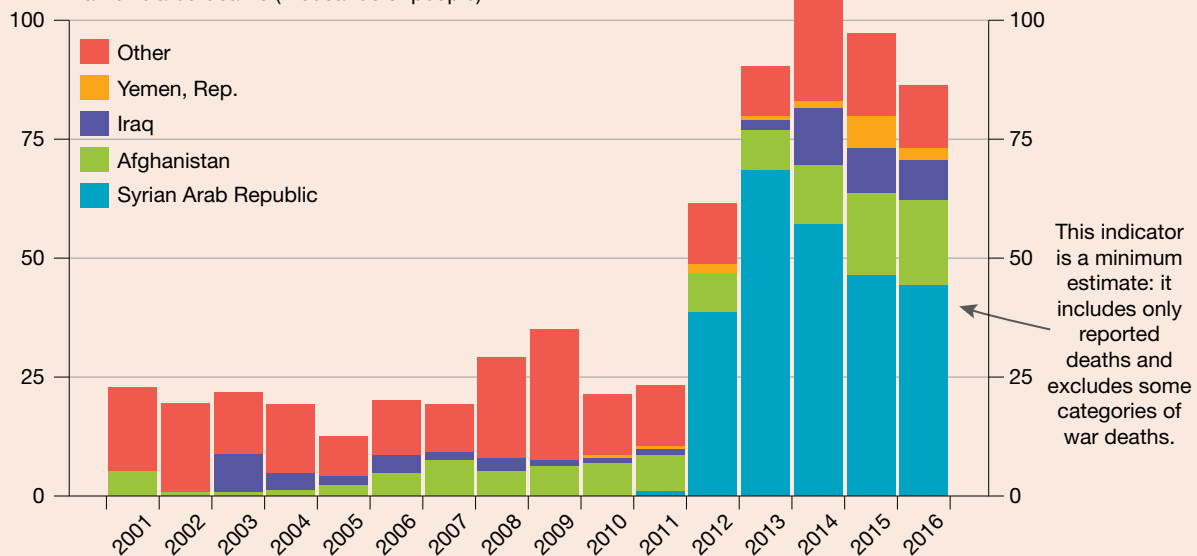
Corrupt public officials may make it harder for citizens and businesses to access government services.

Bribery and gifts (informal payments), 2016 (% of firms experiencing)



But battle-related deaths remain high because of the continuing Syrian conflict.

Battle-related deaths (thousands of people)



Source: Graphs copied directly from The World Bank, SDG Atlas, 2018, see <http://datatopics.worldbank.org/sdgateas/SDG-16-peace-justice-and-strong-institutions.html>.

- Referring to the top set of graphs and quoting figures, which low-income regions have the highest levels of official corruption? **(2 marks)**
- How would you expect high levels of corruption to lower levels of development? **(2 marks)**
- Which countries suffered the greatest number of casualties from battle-related deaths in the most recent years? **(2 marks)**
- Explain the various ways in which development is slowed by high levels of battle-related deaths and war. **(2 marks)**

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7.4 Actions by governments in low-income countries to help promote development and improve people's wellbeing

KEY CONCEPTS

- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

With so much suffering in low-income countries, there is a desperate need for effective measures to help unlock the capacities and capabilities of the population and the economy, promote development and improve the daily lives of all people.

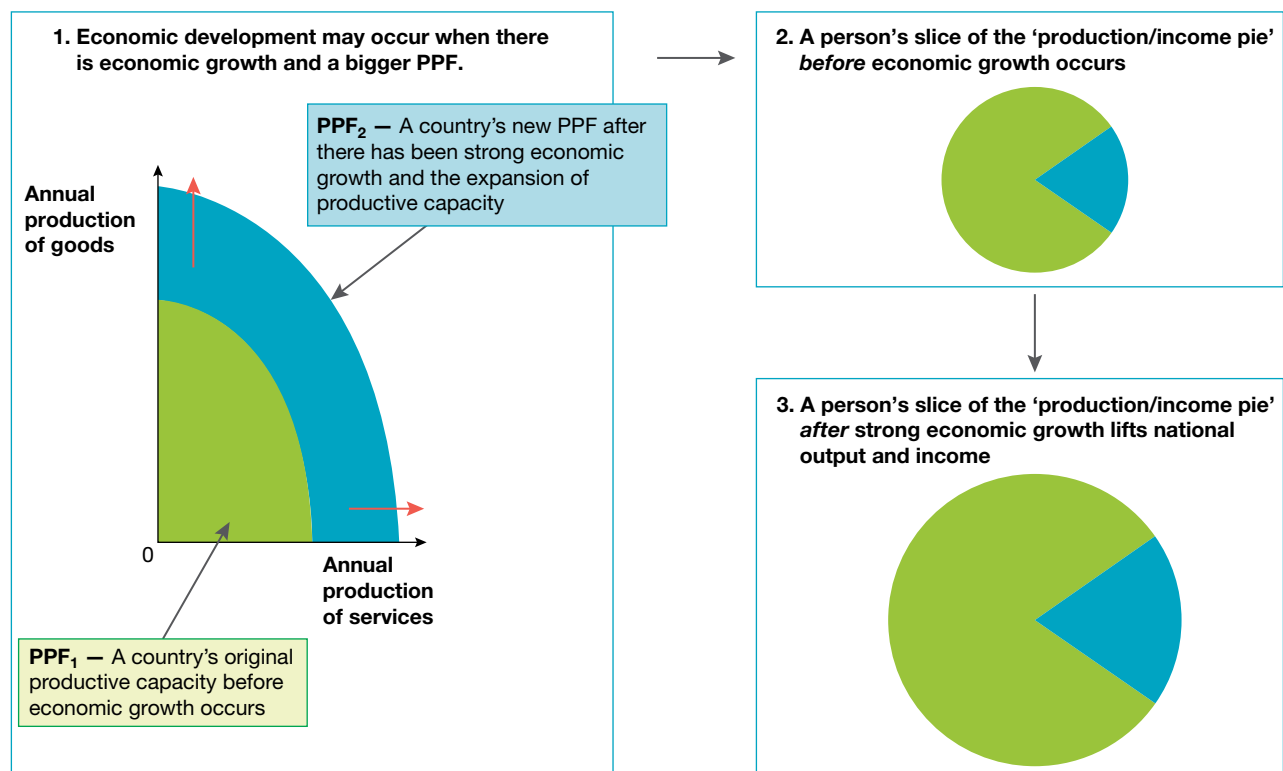
Unfortunately, there is no single solution to these development challenges. As we will see during this and the next few sections, action is needed on many fronts:

1. actions by governments in developing nations
2. actions through international collaboration
3. actions by developed nations

Let us begin by taking a look at some possible actions of governments in low-income developing nations.

As a starting point, most economists believe that one of the *development* priorities for governments in low-income countries is to implement policies that accelerate economic growth so that the economy's output of goods and services rises at a faster rate than its population. Ultimately, this involves growing a country's *productive capacity* (i.e. increase the size of the PPF) through access to more resources or, especially, by using existing resources more efficiently. As shown in figure 7.19, this means shifting the

FIGURE 7.19 How growing the size of the economy's productive capacity can lift incomes, cut poverty and improve living standards



production possibility frontier (PPF) outwards and to the right, through improvements in the volume or efficiency of resources. This allows for a rise in average incomes and better access to basic goods and services.

However, as we know, for real *development* to occur (as defined in the ‘modern’ sense), effective government policies are also needed to redistribute these goods, services and incomes more equitably for the benefit of all people, thereby reducing poverty and improving living standards

With this in mind, we now turn to consider some general types of government policies and reforms that may help to accelerate development. These are summarised in figure 7.20.

FIGURE 7.20 Government intervention that could accelerate development in low-income countries



7.4.1 Policies to lift investment levels

As mentioned, Third World nations have low subsistence incomes and high poverty rates. *Savings* (income or money not currently spent or consumed) are simply inadequate to finance the necessary *investment* in government infrastructure, and in plant and equipment required to set up or grow private businesses. Countries need to escape the *vicious cycle of poverty* and low development. Breaking out of this circle is not easy, but the following strategies may help:

- Governments must set up and supervise well run and secure banks and financial institutions to collect whatever household savings there are, so that these can then be available for financing the higher levels of investment required to grow productive capacity.
- Governments need to ensure that basic laws are in place to protect the rights of all people and that these are enforced fairly and efficiently. This not only creates greater certainty and incentive for business investment and expansion needed for jobs growth, but also allows ordinary people to live safer and happier lives free of repression.
- International capital inflow or foreign investment must be pursued — but with appropriate safeguards, again to break free from the cycle of low investment, low efficiency, few jobs and low incomes.

- International aid (private and government) needs to be encouraged to lift public sector investment levels and grow productive capacity (as long as these loans do not have harsh conditions attached that hurt the local community).
- A system of *microcredit* needs to be created where small sums of money, perhaps as little as \$100–200, need to be provided to those (especially women) who want to start up a tiny business and who would otherwise not qualify for a bank loan. This needs to be supplemented with some free basic business training. Together, this system could grow productive capacity, create employment, raise incomes, reduce poverty and improve the quality of daily life.
- The government needs to ensure that the rich, in particular, pay the required taxes (on incomes and luxury goods) to help finance important public investment and infrastructure projects that are essential for the growth in productive capacity, jobs and incomes.
- Government incentives (e.g. tax holidays) are needed to encourage private investment in projects that help promote national self-sufficiency and security in food and basic community services (i.e. social infrastructure). This could advance development.
- Measures (e.g. proper accounting and transparent recordkeeping, freedom of information and of the press) are needed to help avoid wasting or misusing the government's limited financial resources, to avoid adding to the burden of repaying debt that currently limits the government's capacity to provide necessary infrastructure including health and educational programs required for development.
- Exports (e.g. cash crops and basic manufactured items) from low-income countries need to be encouraged to help overcome the disincentives for production caused by the smallness of the local market, low incomes and weak domestic spending. This may be pursued through multilateral (perhaps through institutions like the **World Trade Organization or WTO**) or **bilateral free trade agreements (FTAs)** (between two countries) that are designed to reduce high levels of protection of primary industry, especially in high-income countries such as Europe, Japan and the US. This would help to boost national income, savings and investment.

7.4.2 Improve the provision of basic economic and social infrastructure

As we now know, having adequate economic and social *infrastructure* including quality education and health for all, electricity, water supply, transport, communications, and law and order, is an important key to development. It can help lift efficiency of resources, grow the nation's productive capacity, lower unemployment, lift incomes, alleviate poverty and improve the quality of daily life. However, problems here are difficult for governments to fix because of the scarcity of savings and lack of tax revenue. Various strategies were previously mentioned as to how governments might raise the necessary investment capital.

7.4.3 Manage debt levels

Debt levels in poor countries are often high and represent well over 100 per cent of their GDP in some cases. This causes crippling interest repayments that must be made to rich nations. It often forces governments to reduce the level of government spending on community services and infrastructure, restricting development.

FIGURE 7.21 When good infrastructure is not present in developing countries, it is often difficult to accelerate economic growth and improve the quality of daily life.



Debt levels therefore need to be cut to manageable levels, wasteful ‘white elephant’ projects that add little to welfare should be terminated, substantial military expenditures reduced and governments held accountable for all spending. Even so, some countries need a hand getting their debt under control. The International Monetary Fund (IMF) has provided full or partial debt relief to 36 countries equal to \$76 billion to 2018. This provides a breather, but is not a permanent solution. Additionally, borrowed money needs to be used efficiently for projects that bring widespread improvements in the capacity of the economy to produce goods and services that encourage national self-sufficiency and independence.

7.4.4 Reform government and key national institutions

Poor countries badly need good government. Most believe that this is more likely to occur if there is *political democracy*. Here, the majority of voters in regular and free elections can choose the government from a range of candidates representing different political parties. This helps to make governments more accountable than under dictatorships, improving the quality of outcomes that affect the daily lives of citizens.

In addition, it is also vital that there is freedom of speech and freedom of the press (i.e. where the media can be critical of government policies). These things add to administrative transparency, help to hold governments accountable for their actions, and reduce incompetence, corruption and war.

A strong legal framework is also important in poorer countries to ensure that laws protect the rights of workers, make child labour illegal so children gain an education, guarantee civil rights including free speech, protect the environment and promote strong price competition in domestic markets. While change is desperately needed, making it happen peacefully is often difficult. This is because those with power usually want to hang on to it by using military force, repression and resisting reform.

7.4.5 Reduce trade barriers and protection by rich countries

Many rich nations protect their farmers, manufacturing firms and miners from competition by poorer countries that are trying to export primary commodities (e.g. coffee, rice, soy beans, maize and sugar) and basic manufactured products. Here, we think of the heavy *protection* of farmers in the US, Japan and the European Union by means of tariffs, subsidies and **import quotas** that were operated in past decades. We also think of the attempts by Australia and some developing countries, through numerous rounds of multilateral trade negotiations, to convince these rich countries of the need to expand **free trade**. Progress here has been slow. However, as table 7.4 shows, tariff protection on products imported from the ‘least’ developed Third World countries came down during the last three decades.

TABLE 7.4 Changes in levels of tariff protection by selected developed countries on imports from the least-developed Third World countries

Country	Percentage of imported goods from least developed countries that are admitted free of tariffs 2000/2007	Average tariff rate on agricultural imports from least developed countries 2000/2007	Average tariff rate on textile imports from least developed countries 2000/2007	Average tariff rate on clothing imports from least developed countries 2000/2007
Australia	94.5/100.0	0.2/0.0	5.0/0.0	19.6/0.0
Canada	48.3/99.9	0.3/0.1	5.8/0.2	18.8/1.7
Japan	82.2/99.6	4.9/1.3	0.2/2.6	0.0/0.1
Switzerland	93.3/95.0	6.0/2.8	0.0/0.0	0.0/0.0
US	46.2/76.8	6.3/6.0	6.8/5.6	13.9/11.3

Source: Data derived from the World Bank, World Development Indicators 2010, Table 1.4, p. 44.

Indeed, if all rich countries reduced protection, it would further boost the export incomes of poor countries, thereby reducing their need to borrow money and run up a large foreign debt. It would also make essential imports of equipment, medicines and technology by low-income countries more affordable, and lead to higher living standards.

7.4.6 Reduce income inequality

Income inequality is often much larger in poor countries (typically the Gini coefficient is between 0.50 and 0.70) than in rich nations (where the Gini is generally less than 0.35). Apart from inequality causing most people to have little purchasing power, it also restricts the growth in domestic spending. This limits the size of the local market and acts as a deterrent for business expansion, the creation of jobs, higher incomes and lower poverty.

Frequently, inequality is reinforced by unequal ownership of land, official corruption, the absence of democracy, closed markets where competition is weak, state and private monopolies, special favours involving deals with the government, the caste system and the abuse of social, political and economic power.

Democratically elected governments can best deal with economic inequality by introducing policies including fairly progressive income taxes where rates (percentage of income paid in tax) rise with taxable income. This tax revenue could then be directed into financing programs that help promote development including:

- outlays to improve education and health outcomes
- the delivery of basic welfare payments so people in desperate circumstances can survive and live with some dignity
- the provision of basic economic infrastructure including water and electricity needed to grow the economy's productive capacity, jobs and incomes.

7.4.7 Reduce population pressures

Population in some low-income countries is growing quickly — at more than double the rate of high-income nations (some of which actually have declining populations). This places great strain on the government's provision of adequate infrastructure and services (e.g. transport, water, education, power, transport, law and health), and leads to unemployment, underemployment, wasted productive capacity due to idle resources, lower per capita incomes, poverty and poor outcomes for society's general wellbeing.

Governments can take action to slow population growth and relieve the great burden created by population pressures:

- Historical experience tells us that birth rates slow and families get smaller if there are improvements in general health (e.g. clean water supply and control of HIV-AIDS, malaria, measles and tuberculosis), better education standards, and lower child mortality (death) rates. Indeed, having large families currently reflects the uncertainties of infant survival and old age in countries where there is no proper government welfare system (e.g. unemployment benefits or old age pensions). Clearly, government spending to improve health and education must be given very high priority.
- Governments can try to persuade people to have smaller families through informative advertising and the education system.
- Governments need to enhance their family planning facilities and programs to provide better advice on contraceptives and health practices.
- Governments need to pass legislation that better promotes and enforces gender equality for women in terms of their rights. In addition, if women have opportunities and are encouraged and empowered to set up businesses and earn income from employment, birth rates tend to fall, easing population pressures and promoting development.
- Governments can use various negative tax and positive welfare incentives to help lower birth rates.

-  **Weblink** Overpopulation: The future of planet Earth
Ethiopia: Land of tomorrow
New insights on poverty

7.4 ACTIVITIES

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Check your understanding

1. Explain in general terms how *governments* in low-income countries might attempt to accelerate economic development.
2. How might *each* of the following *government policies* help accelerate economic development and improve the daily lives of people in low-income countries?
 - (a) Policies that lift investment levels
 - (b) Improved provision of basic infrastructure
 - (c) Control of debt levels
 - (d) Government reforms that promote democracy and greater openness
 - (e) Reductions in trade protection by rich countries
 - (f) Reductions in inequality in the distribution of income and wealth
 - (g) Reductions in the rate of population growth

Applied economic exercises

1. Examine the data in table 7.5 relating to the productive capacity or production possibilities for a hypothetical low-income country in northern Africa, called the Republic of Saradonia. This small country is primarily an agricultural economy, but it is starting to grow its manufacturing industry. Assume therefore that the country can choose to produce either manufactured goods or agricultural goods. This and other information is shown in table 7.5. Notice also that there are two parts to the table, one containing data for 2020 and the other containing data for 2025. Each table has rows numbered 1–3.

TABLE 7.5 Production possibilities for the hypothetical country of Saradonia, a low-income developing economy

Information for Saradonia, 2020	Production possibility A	Production possibility B	Production possibility C	Production possibility D
1. Annual production of manufactured goods in 2020 (millions of units)	250	200	100	0
2. Annual production of agricultural goods in 2020 (millions of units)	0	350	550	600
3. Population size (millions) in 2020 =	1.2 million	1.2 million	1.2 million	1.2 million
Information for Saradonia, 2025	Production possibility A	Production possibility B	Production possibility C	Production possibility D
1. Annual production of manufactured goods in 2025 (millions of units)	350	250	150	0
2. Annual production of agricultural goods in 2025 (millions of units)	0	400	650	750
3. Population size (millions) in 2025 =	1.3 million	1.3 million	1.3 million	1.3 million

- (a) Use rows 1 and 2 of the 2020 data from table 7.5 to accurately complete and fully label a production possibility diagram (see figure 7.22) similar to that shown in figure 7.19 at the start of subtopic 7.4. Your diagram should contain the production possibility frontier (PPF) for Saradonia in 2020. Next, accurately draw and clearly label a second PPF for Saradonia in 2025 using rows 1 and 2 of the 2025 data from table 7.5. **(4 marks)**

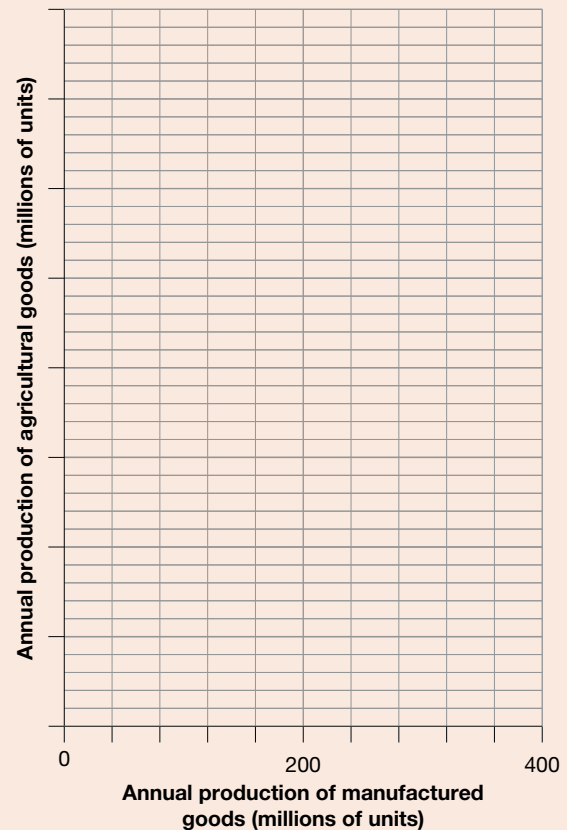
- (b) In general, the size of any nation's PPF is affected by two main sets of factors. Identify and outline these two factors, explaining how they might affect the size of the PPF. **(2 marks)**

- (c) Assuming that this nation is fairly typical of low-income countries, identify and explain at least six specific developments that could account for the growth in the size of Saradonia's PPF between 2020 and 2025. Using all the data in table 7.5 for 2020 and 2025, attempt the following: **(4 marks)**

- Explain what has happened to economic growth measured by the change in the total number of units manufactured and agricultural goods produced (millions of units) over the years 2020–25.
- Explain what is likely to have happened to average consumption per person and material living standards between 2020 and 2025. Giving reasons, would you draw the same conclusion had Saradonia's population grown at a faster rate to reach 1.5 million (not 1.3 million) by 2025?

- (d) The pressures of population growth create problems for many low-income countries. Imagine that you are a development economist advising the Saradonia government about its population policies. List and explain *four* key measures (in descending order) that you would recommend to the government in order to halve the birth rate over the next ten years without using force. **(4 marks)**
- (e) In order to finance development projects including investment in social and economic infrastructure, the government of Saradonia negotiated to borrow US\$5 billion as a hard loan through the World Bank. Assuming that this was spent on improving water supply, education and power generation, explain how this might affect economic development. What economic problems might result from this hard loan? **(4 marks)**

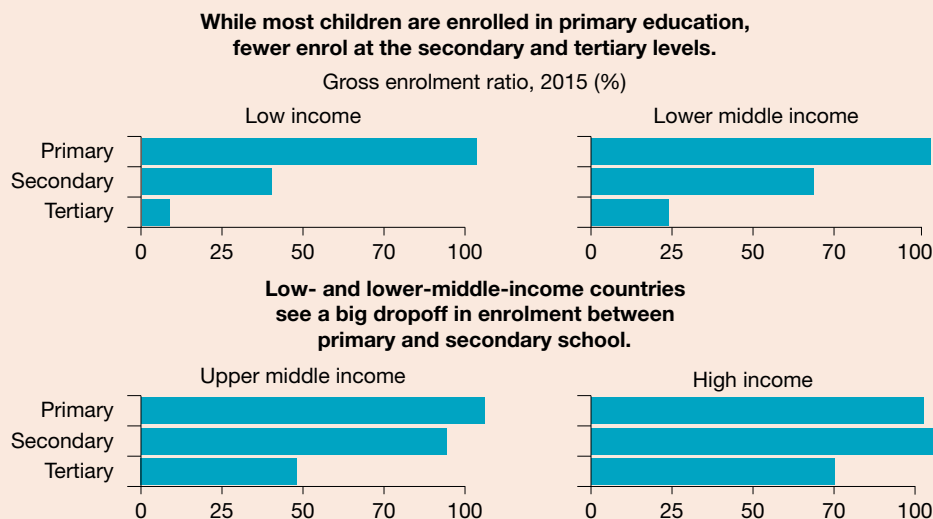
FIGURE 7.22 Production possibility diagram for Saradonia, a low-income developing economy



2. Governments need to improve education enrolments and retention rates. This is a key to accelerating development and alleviating poverty. Study figure 7.23 before answering the questions that follow.

- (a) What do the graphs tell us about educational standards in countries with different levels of development? **(2 marks)**
- (b) Governments in poor countries have limited financial resources. Even so, suggest *two* ways whereby such government might be able to finance increased investment in education designed to improve the nation's human resources and potential. **(2 marks)**
- (c) How might improvements in education accelerate development? **(2 marks)**
- (d) Currently, girls have less access than boys to education in low-income countries. Suggest *two* reasons why the government needs to use policy measures to improve the educational opportunities for girls. **(2 marks)**

FIGURE 7.23 Comparing enrolment ratios in different countries



Source: Graph copied directly from The World Bank, SDG Atlas, 2018, see <http://datatopics.worldbank.org/sdgatlas/SDG-04-quality-education.html>.

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7.5 Actions taken through the United Nations to promote development, reduce poverty and improve the wellbeing of people in low-income countries

KEY CONCEPTS

- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

Since 1945, there has been significant *international collaboration* to promote development in poor countries through various institutions, especially the **United Nations (UN)** and its various agencies including the World Bank.

Indeed, the UN has as its aim:

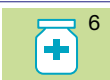
... to achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion.

Source: <http://www.un.org/en/sections/what-we-do/promote-sustainable-development>

7.5.1 The UN's Millennium Development Goals 2000–15

In September 2000, 189 countries agreed to *eight* key **Millennium Development Goals (MDGs)** proposed by the United Nations for achievement by the year 2015. In turn, these goals were then broken down into 21 targets that could be measured using 60 indicators of people's wellbeing and daily existence. These eight basic goals (and how they are measured) are summarised in table 7.6.

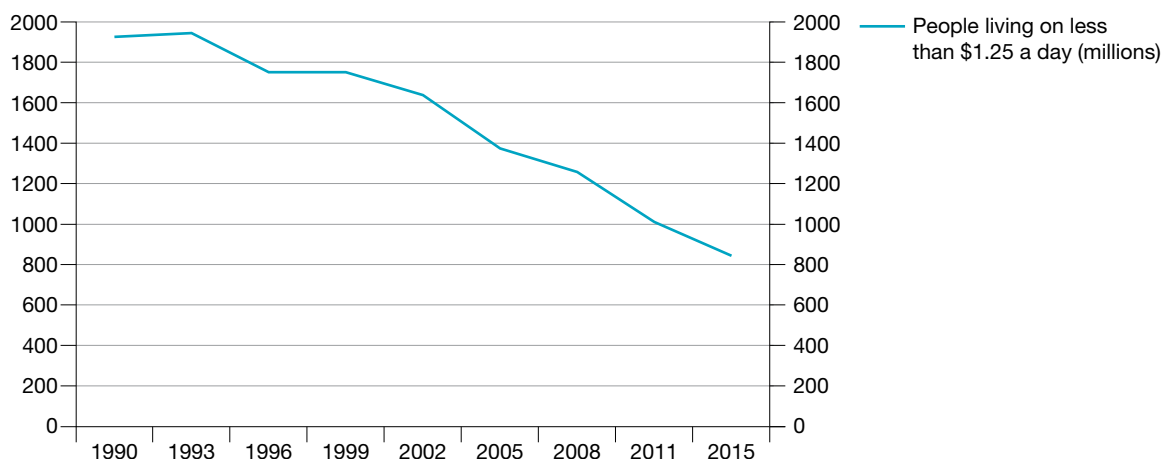
TABLE 7.6 Summary of the UN's Millennium Development goals, 2000–15

<i>The Millennium Development Goals (MDGs) are a set of global development objectives to be achieved by 2015 that were unanimously adopted at the United Nations Millennium Summit in September 2000. They represent an unprecedented global unifying force for reducing poverty and improving human development. Progress towards the goals is measured against a number of targets, shown here, which were developed during and after the Summit.</i>		
	End Poverty and Hunger	• Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day. • Achieve full and productive employment and decent work for all, including women and young people. • Halve, between 1990 and 2015, the proportion of people who suffer from hunger.
	Universal Education	• Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.
	Gender Equality	• Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015.
	Child Health	• Reduce by two thirds, between 1990 and 2015, the under-five mortality rate.
	Maternal Health	• Reduce by three quarters the maternal mortality ratio. • Achieve universal access to reproductive health.
	Combat HIV/AIDS	• Have halted by 2015 and begun to reverse the spread of HIV/AIDS. • Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it. • Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.
	Environmental Sustainability	• Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. • Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss. • Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation. • By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.
	Global Partnership	• Targets cover: trading and financial systems, the special development needs of disadvantaged states, debt sustainability, affordable access to essential drugs and access to information and communications technologies.

Source: Table copied from 'Budget — Australia's International Development Assistance Program, 2011–12', Statement by Kevin Rudd, Minister for Foreign Affairs (10 May 2011), p. viii.

In 2015–16, a UN report was prepared covering the achievements of this 15-year plan. It showed significant progress in achieving many of the Millennium Development Goals, especially the halving of world poverty by around 1 billion people (as shown by the graph in figure 7.24), improving educational access and completion rates, reducing the incidence of HIV-AIDS and lowering child mortality rates to below 10 million per year.

FIGURE 7.24 The key achievements associated with the United Nation's Millennium Development Goals (MDGs), 2000–15



What were the achievements of the UN's millennium development goals 2000 to 2015?

MDG 1: Globally, the number of people living in extreme poverty (on less than \$1.25 per day) has declined by more than half, falling from 1.9 billion in 1990 to 836 million in 2015. The target of halving the proportion of people suffering from hunger was almost reached.

The dramatic reduction in global poverty numbers (millions of people living on incomes less than \$1.25 per day)

MDG 2: The primary school net enrolment rate in the developing regions reached an estimated 91 per cent in 2015, up from 83 per cent in 2000. This was impressive but fell short of the target of universal primary education.

MDG 3: A majority of regions have reached gender parity in primary education.

MDG 4: The under-five mortality rate declined by more than half between 1990 and 2015, dropping from 90 to 43 deaths per 1000 live births. This was still short of the targeted reduction of two-thirds.

MDG 5: Since 1990 the maternal mortality ratio has been cut nearly in half, still short of the two-thirds targeted reduction.

MDG 6: New HIV infections fell by about 40 per cent between 2000 and 2013, from an estimated 3.5 million cases to 2.1 million. The target of halting the disease by 2015 and beginning to reverse its spread has not been met.

MDG 7: Between 1990 and 2015, the proportion of the global population using an improved drinking water source increased from 76 per cent to 91 per cent, surpassing the MDG target, which was met in 2010. Yet an estimated 663 million people worldwide still use unimproved drinking water sources.

MDG 8: Mobile-cellular and internet penetration rates have grown strongly, but the digital divide between the rich and the poor is also increasing. Internet penetration grew from just over 6 per cent of the world's population in 2000 to 43 per cent in 2015, and the number of mobile-cellular subscriptions increased almost tenfold during this period. However, an estimated 450 million people in rural areas still live out of reach of a mobile signal, and just over one-third of the population in developing countries uses the internet compared to 82 per cent in developed countries.

Source: Graph copied directly from UN development Program, Eradicate extreme poverty and hunger, see https://www.undp.org/content/undp/en/home/sdgoverview/mdg_goals/mdg1. Summary table derived from UN, Millennium Development Goals Report 2015, www.un.org/millenniumgoals.

7.5.2 The UN's Sustainable Development Goals, 2015–30

After helping to achieve significant progress in reducing global poverty and promoting other aspects of development in low-income countries through its eight Millennium Development Goals (MDGs), the UN continued its work by announcing its **Sustainable Development Goals (SDGs)** for the next phase, 2015 to 2030. It was claimed that, ‘World leaders have an unprecedented opportunity this year to shift the world onto a path of inclusive, sustainable and resilient development’ (Helen Clark, UNDP Administrator).

FIGURE 7.25 The United Nation's 17 Sustainable Development Goals (SDGs), 2015–30



Source: Graphics copied from the United Nations Development Program, see <http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>.

7.5 ACTIVITIES

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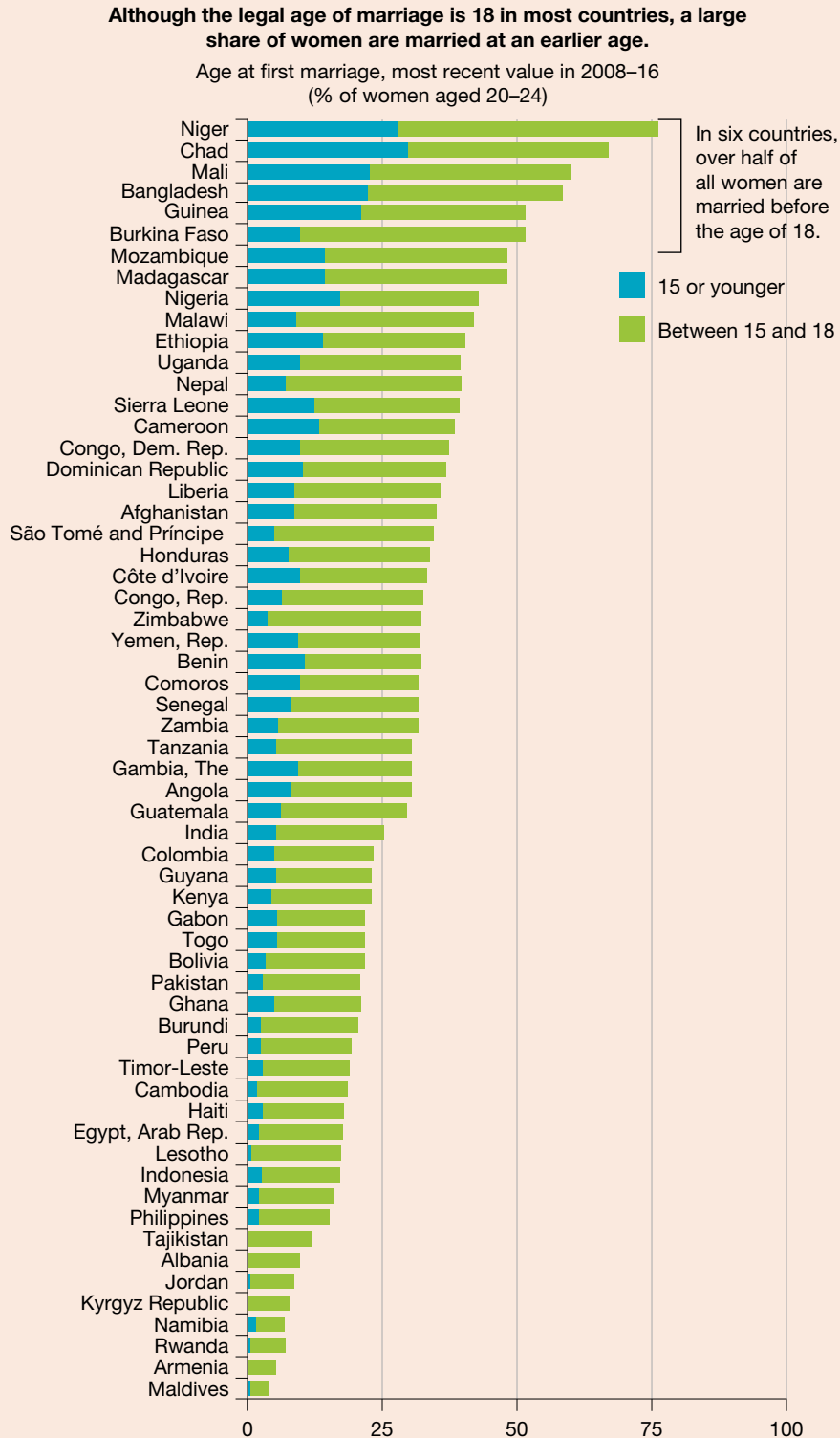
Check your understanding

1. What role has the United Nations played in promoting development in low-income countries?
2. Have the UN's efforts been successful?

Applied economic exercises

1. (a) Select, research using the internet and outline *three* of the eight Millennium Development Goals (MDGs) that you feel were well achieved during the period 2000–15. **(3 marks)**
 (b) Select and outline *three* of the UN's seventeen Sustainable Development Goals (2015–30) that you feel are most important for promoting development in poor countries. Justify your selection. **(2 marks)**
2. One of the UN's SDGs is *gender equality*. Examine figure 7.26 before answering the questions that follow.
 (a) Explain how the promotion of gender equality and the protection of women might help to promote development in poor countries. **(2 marks)**
 (b) Looking at the graph and quoting approximate figures, in which *two* countries is the percentage highest of women married at age 15 or younger and at age 15–18? **(2 marks)**
 (c) Giving reasons, explain the likely impacts of early marriage on each of the following:
 i. a country's growth rate in population **(2 marks)**
 ii. improvements in a country's development. **(2 marks)**

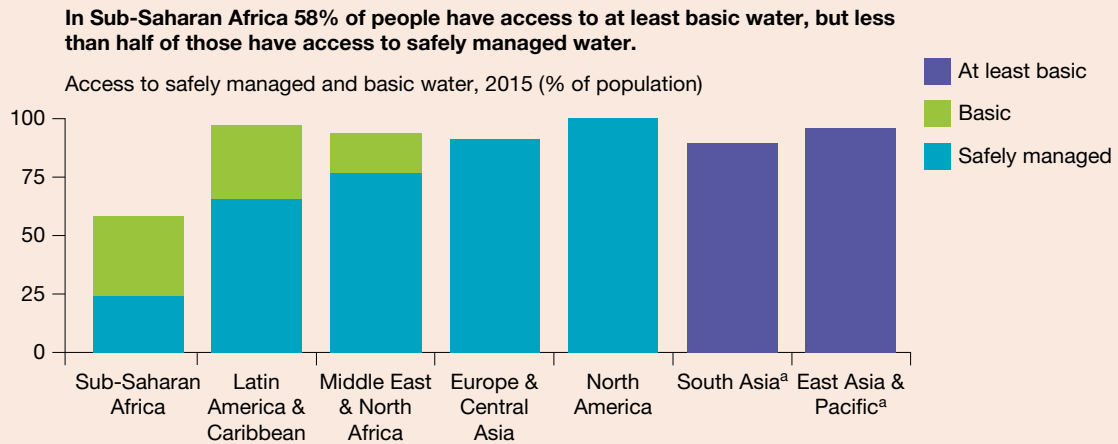
FIGURE 7.26 The age of women when they first marry in selected low-income countries



Source: Graph copied directly from the World Bank, SDG Atlas 2018, see <http://datatopics.worldbank.org/sdgatlas/SDG-05-gender-equality.html>.

3. One of the UN's SDGs is for *access to clean water and sanitation*. Examine figure 7.27 before answering the questions that follow.

FIGURE 7.27 Access to safely managed water and sanitation in various regions



a. Too few countries have data on safely managed water to calculate the regional aggregate for South Asia and East Asia & Pacific

Source: Graph copied directly from the World Bank, SDG Atlas 2018, see <http://datatopics.worldbank.org/sdgatlas/SDG-06-clean-water-and-sanitation.html>

- (a) Looking at the graph and quoting statistics, which region has the *lowest* access to safely managed water? **(2 marks)**
- (b) Giving reasons, explain how limited access to safe water and sanitation would be likely to affect development and wellbeing. **(2 marks)**

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7.6 Actions by high-income nations to promote development, reduce poverty and improve the wellbeing of those in low-income countries

KEY CONCEPTS

- the different perspectives held by stakeholders regarding the selected global economic issue/s, such as the role of consumers, businesses, governments and other relevant stakeholders
- the effects associated with any action taken by relevant stakeholders to address the global economic issue/s.

There are significant actions that can be taken by those living in high-income nations to promote *development* in poor countries and improve their daily lives (see figure 7.28). What we do as individuals, and how we live our lives and use resources, can impact greatly on others who are often less fortunate.

FIGURE 7.28 Actions that high-income countries can take to accelerate development in low-income countries



7.6.1 Stemming climate change and resource depletion

Climate change and resource depletion are issues that adversely affect development in poor countries.

The problem of climate change for developing nations

Increases in greenhouse gas emissions, global warming, rising sea levels, severe weather events and national disasters including droughts, floods and storms, are slowing the pace of development, especially in poor countries:

- Climate change leads to the destruction of communities and causes migration pressures.
- Climate change causes significant destruction of infrastructure, the loss of crops and businesses, reducing productive capacity, incomes and wellbeing.
- Climate change causes an increase in deaths (estimated by the World Health Organisation to add an additional 250 000 deaths per year between 2030 and 2050) due to more extreme heat, malnutrition, malaria and other diseases that are often associated with reduced access to clean drinking water.

So what implications are there here for the developed world including Australia? Of course, we also feel the costs of climate change including the increased incidence of severe weather events.

However, the difference is that high-income countries are mostly responsible for climate change. In per capita terms, Australia leaves a larger *carbon footprint* averaging over 27 tonnes per person from our greenhouse gas emissions. Using this measure places us ahead of Canada and the US in second and third place as the worst environmental citizens.



Government action to slow climate change

Our governments need to take decisive action to reduce the effects of climate change that we have created.

- One action by the Australian government was the introduction and use of a *carbon tax* between 2012 and 2014. By increasing the costs to \$23 per tonne of carbon emissions for the dirtiest 500 companies, it made the adoption of cleaner technologies cheaper and more profitable, thereby cutting pollution. This scheme was subsequently replaced with a policy called *Direct Action*. This set up an *Emissions Reduction Fund* (ERF) where companies compete for government funding to reduce their pollution using a *reverse auction scheme* where the money was given to firms that could demonstrate the greatest reduction in emissions for the lowest cost. This policy supposedly reduced our emissions by 193 million tonnes over the period 2014–18. In 2019 a slightly altered version of the policy was announced by adding an extra \$2 billion of taxpayer money for what is now called the *Climate Solutions Fund* (CSF), which operates in a similar way to the ERF. Future governments may well consider other policy options.
- Another action taken by many governments (including Australia's) was our signing of the 2015 *Paris Agreement on Climate Change*. In this agreement, individual countries sought to reduce CO₂ emissions by varying percentages. Our government agreed to a reduction of 26–28 per cent on 2005 levels by 2030, a target that seems increasingly challenging to achieve based on current trends. By contrast, Canada approved a 30 per cent reduction, while the European Union agreed to a 34 per cent cut. China's forecast is for a rise of 139 per cent, but one needs to remember that their per capita emissions of just 5.5 tonnes are relatively low by international standards.



The problem of resource depletion for poor countries

Developed countries unsustainably devour more than their fair share of global resources. This limits the ability of people in low-income countries to compete for scarce resources (especially food and energy), simply because they lack the income to pay the necessary high prices. There is also ample evidence that consumption of goods, services and resources in affluent countries is wasteful and much of it unnecessary. It adds little if anything to our underlying happiness yet some of those same resources, if used by a developing nation, would generate far greater satisfaction and general wellbeing.

Government action to slow extravagant consumption and the waste of resources

There has been some government policy action in countries, including Australia, designed to reduce the harmful effects of wasteful consumption and resource depletion. For instance:

- Waste recycling through local councils is now common practice in households. This slows the demand for some non-renewable plastics, metals and wood resources.
- Bans have been placed on single-use plastic bags in some retail outlets, states and countries.
- There are heavy fuel excise taxes in place that make petrol and diesel dearer, thereby limiting its use and causing consumer demand to contract.

7.6.2 Lifting levels of humanitarian immigration

Population pressures in many poor countries slow development. While their governments are usually taking a range of actions to reduce rates of population growth, richer nations like Australia can play a part too, particularly in the face of us having worsened climate change that has displaced some populations in low-income countries. For instance:

- Australia's 2019–20 immigration intake target is set at around 160 000 people.
- Part of this general target is our annual humanitarian and refugee intake of about 19 000. This possibility is generally offered to people who are currently offshore and who need protection, or who have no real alternative for settlement.

7.6.3 Reducing levels of trade protectionism and providing preferential treatment for imports from low-income nations

Poor countries generally have small domestic markets due to low incomes and purchasing power. For them, growing the size of export markets can provide the incentive needed for business expansion that can create jobs and higher incomes. However, many high-income nations block imports from these countries to protect their own domestic businesses.

One action that can help to overcome this is for developed nations to provide greater preferential treatment for goods that are imported from low-income developing nations.

7.6.4 Increasing official government foreign development aid — a hand up, not a hand out

Most agree that foreign aid can often play a vital role in accelerating development in low-income countries. **Foreign aid** represents the transfer of funds and other types of assistance by governments and private individuals from high-income to lower-income countries. If used properly, international aid can be an important way of helping poor countries to improve their living standards. Most importantly, this assistance can help to break the vicious cycle of poverty, raise per capita incomes and improve the quality of daily life. Often it does this by raising the funds available for investment in social and economic infrastructure, lifting efficiency and accelerating productive capacity.

The three main forms of foreign aid

There are *three* main types of foreign aid — loans, grants and technical assistance. These are summarised below.

1. Loans

Loans are of three kinds — *hard loans* or credit offered at the normal market rate of interest; *soft loans* offered at a special discounted interest rate; and *tied loans*, where special conditions are imposed such as requiring that the money be used to purchase exports from the donor country. Of these, soft loans are probably the most beneficial for the recipient country. Official loans are also made by governments in donor countries like Australia. However, much is directed through multilateral institutions including the World Bank and the International Monetary Fund. Often the World Bank and IMF require that governments in countries receiving loans make certain changes such as:

- deregulating markets
- strengthening efficiency
- becoming more accountable in financial administration
- ensuring that much of the money loaned is directed into social and economic infrastructure
- programs that meet the UN's Sustainable Development Goals designed to improve the daily lives of ordinary people.

2. Grants

Grants are straight-out donations of cash that do not need to be repaid. When used wisely, this is perhaps the best type of help that high-income countries can offer. Normally, grants are allocated by private international aid agencies (e.g. World Vision), or given by individual governments in donor countries. Often this type of aid is critical to provide immediate help after disasters such as famines, floods, earthquakes, wars or tsunamis.

3. Technical and other assistance

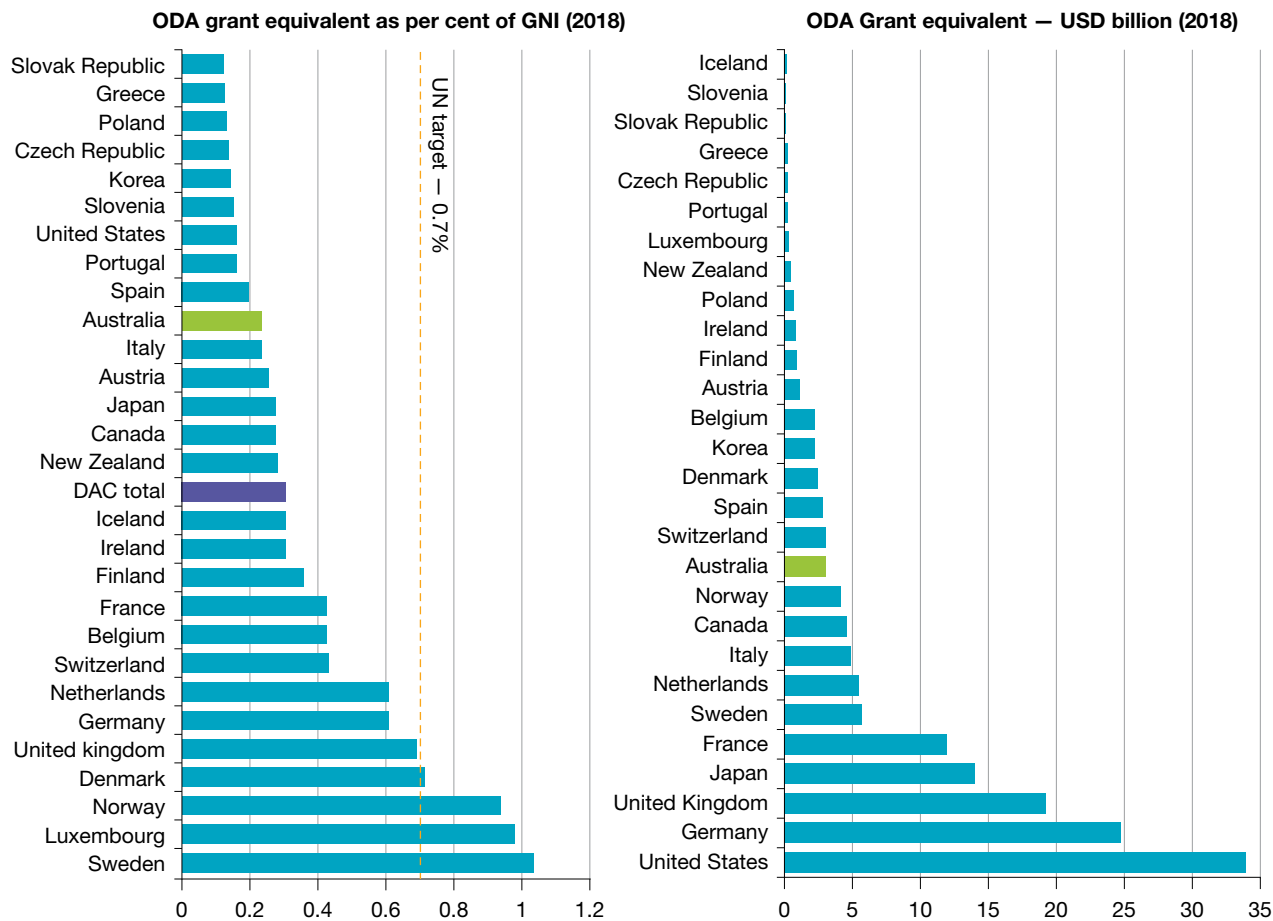
Technical and other assistance involves the donor country or a United Nations agency providing scientific, economic, educational, technical, industrial or agricultural personnel. These people advise on matters relating to economic development. On occasions, military-related assistance is given by individual donor countries.

Figure 7.29 shows some of the higher-income countries that provide government or official development aid (abbreviated ODA), the main recipients of this assistance, and how the aid was used by low-income countries. Note that the amount given in graph 1 is expressed as a percentage of each country's gross domestic income (GDI). This gives a better idea as to a country's generosity relative to the size of its economy. Note the following information from this figure:

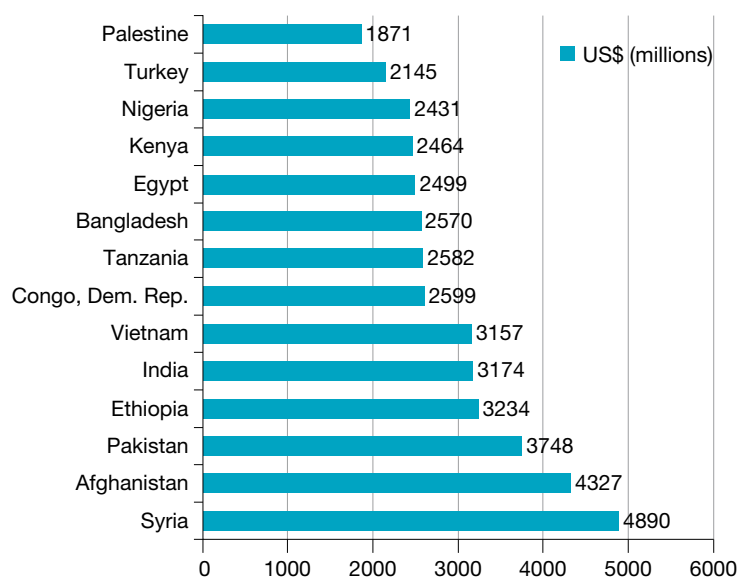
- Graph 1: Most donor nations including Australia — but with the exception of Sweden, Luxembourg, Norway, Denmark and the UK — still fail to meet the 1970 UN agreed target of donating just 0.7 per cent of GDP towards ODA. Australia's contribution is just 0.23 per cent of GNI while the USA's sits at only 0.17 per cent.
- Graph 2: This looks at some of the main recipients of official or government foreign aid. While generally the level of overseas development aid reflects the neediness of the recipient country, sometimes other considerations appear to have an impact such as strategic considerations and international political considerations.
- Graph 3: This shows how the official development aid was used by low-income countries. Notice the importance of education and other social infrastructure like health, along with economic infrastructure including transport and communications. Here the funds are being used to help support the UN's development goals.

FIGURE 7.29 Donors and recipients of official development aid (ODA)

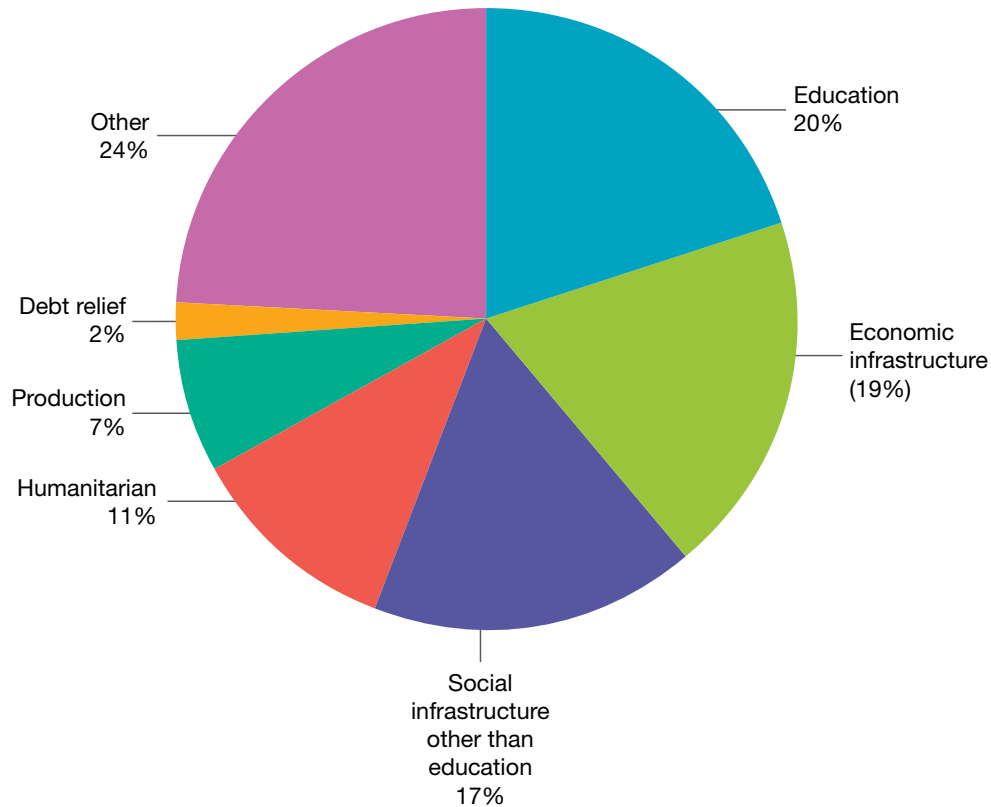
Graph 1 — Who are the main donor countries, what percentage of their GNI do they give in ODA and how much is this in US\$?



Graph 2 — The largest recipients of official development aid (US\$ millions)



Graph 3 — How official development aid was used in lower-income countries (percentage of total aid)



Source: Graph 1 was copied from the OECD, <http://www2.compareyourcountry.org/oda?cr=20001&cr1=oe&lg=en&page=0>; graph 2 uses data derived from Wikipedia, the free encyclopaedia, see https://en.wikipedia.org/wiki/List_of_countries_by_Official_Development_Assistance_received; graph 3 data derived from OECD, World Book, DAC aid at a glance, https://public.tableau.com/views/AidAtAGlance/DACmembers?:embed=y&display_count=no&:showVizHome=no#1.

However, while ODA can be useful, it has its critics. Some commentators feel it can lead to a dependence mentality by recipients, leading to reduced accountability. In addition, there is the potential for corruption when funds are channelled by government authorities into the wrong hands in exchange for favours, so that those in greatest need gain less benefit.

Australia's overseas development aid (ODA)

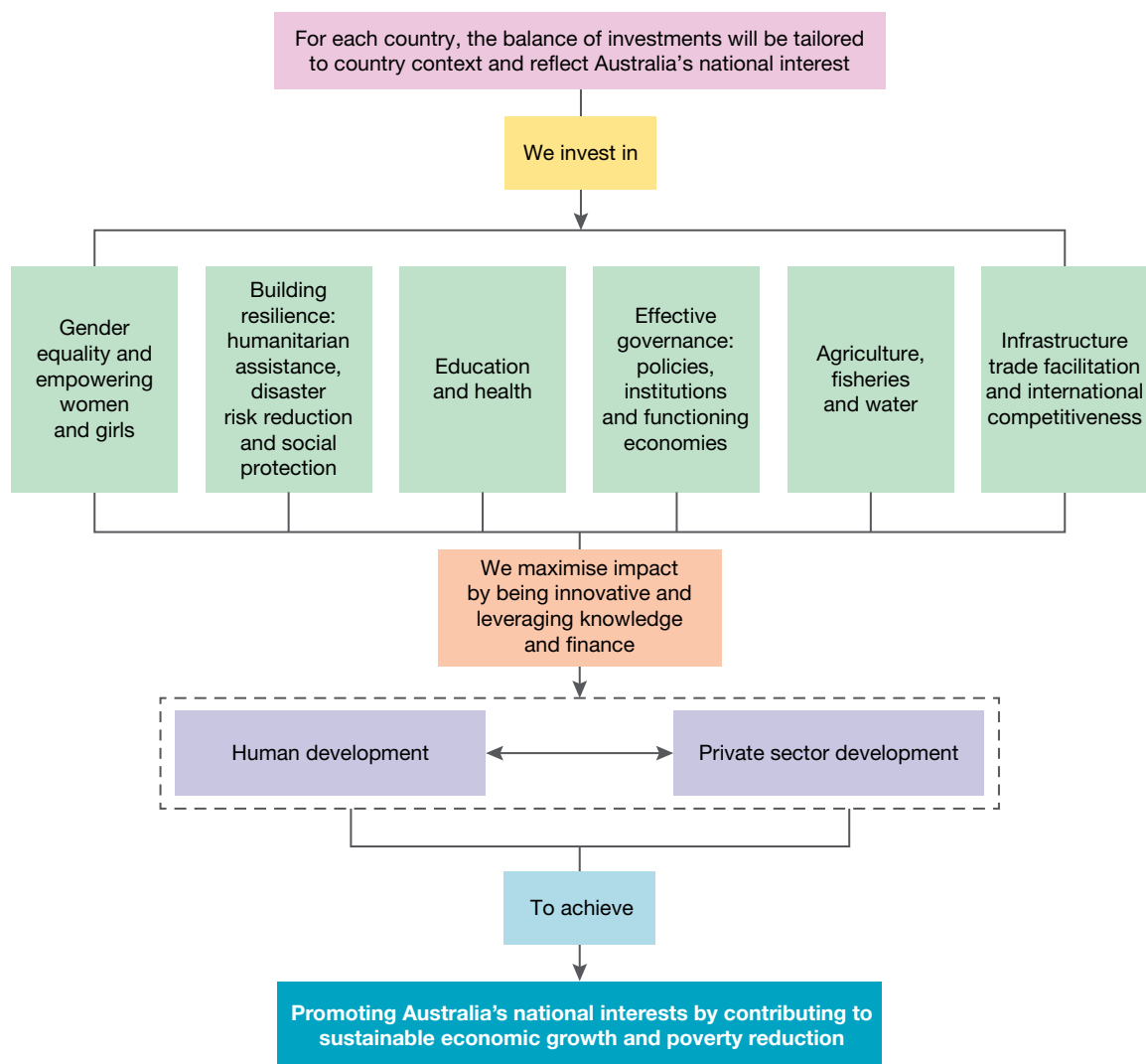
In her statement about Australia's ODA program, the then minister for Foreign Affairs and Trade, Julie Bishop, said that:

Australian aid supports the objectives of the *Government's Foreign Policy White Paper* ... Focused on the Indo-Pacific, our assistance serves our national interests by contributing to sustainable economic development and poverty reduction. We support better state capability to improve governance and promote private sector-led growth and gender equality. We assist countries to guard against the spread of infectious diseases, to build resilience to natural disasters and to fight threats such as extremism. Our development assistance increases the influence that Australia brings to bear on pressing regional and global problems, including support to the international rules-based order.

Hon Julie Bishop MP, quoted in the DFAT, Australian aid budget summary, 2018–19, p. v.

These objectives are illustrated in figure 7.30.

FIGURE 7.30 The aims and priorities of Australia's ODA programs



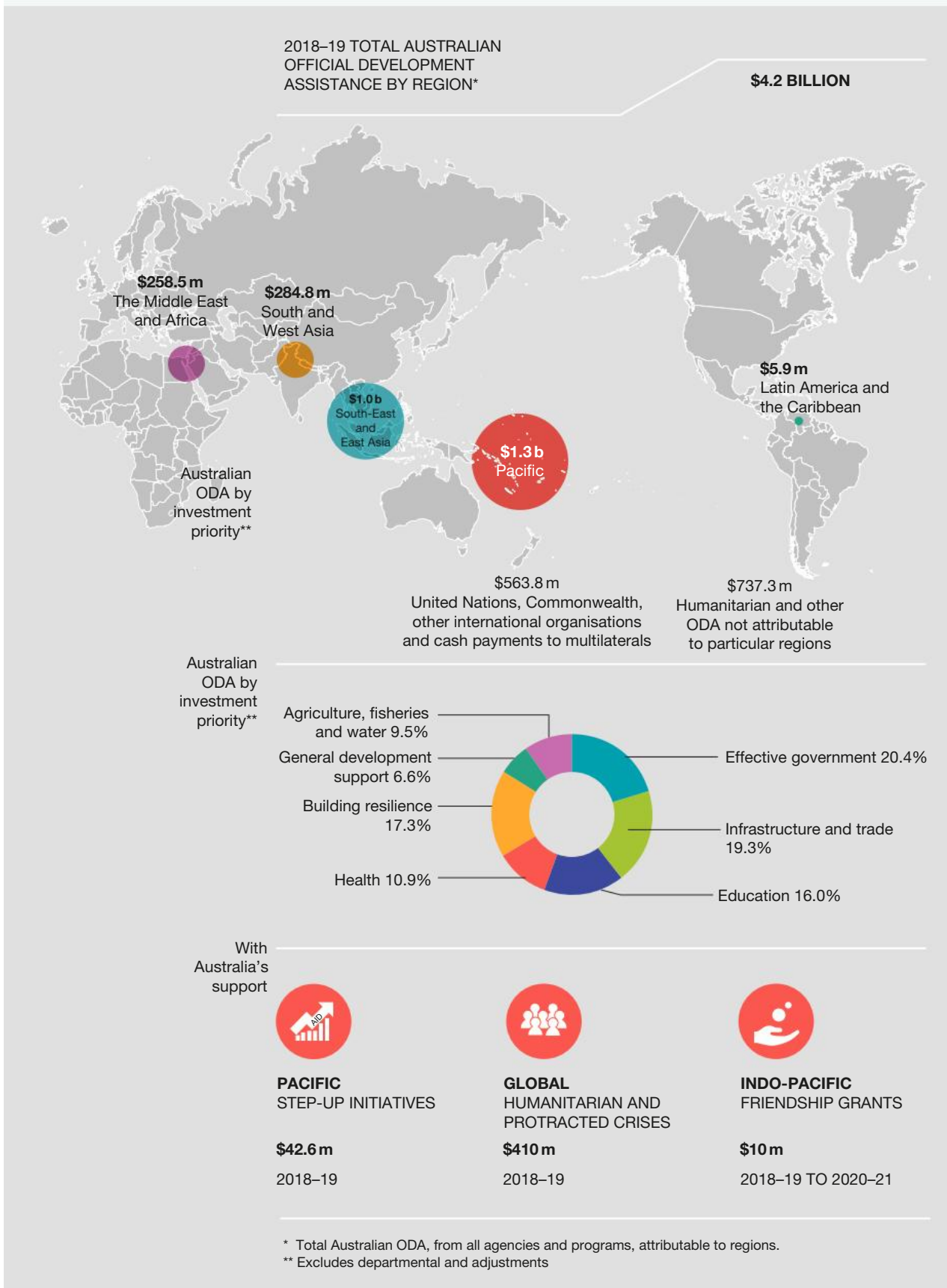
Source: Image copied directly from the DFAT, *Australian aid budget summary, 2018–19*, page vi, see <https://dfat.gov.au/about-us/corporate/portfolio-budget-statements/Documents/2018-19-australian-aid-budget-summary.pdf>.

Australia's ODA has generally increased in dollar terms, even though we rank only twentieth globally as a donor nation in terms of the percentage of GNI. More specifically, during 2018–19, the Australian government provided \$4.2 billion (less than 0.3 per cent of GDP) in official development assistance to various countries, especially those in our region like Papua New Guinea and Indonesia. This is shown in figure 7.31. In addition, the breakdown of our priority areas is presented. The main areas include projects in:

- education
- health
- infrastructure
- agriculture
- building resilience
- effective governance.

These days, Australia's ODA typically is generally directed towards projects that should help to promote the UN's Sustainable Development Goals (2015–30) and, in so doing, improve the general wellbeing of people living in low-income countries.

FIGURE 7.31 The destination and composition of Australia's official development assistance



Source: Image copied directly from the DFAT, *Australian aid budget summary, 2018–19*, p. 6, see <https://dfat.gov.au/about-us/corporate/portfolio-budget-statements/Documents/2018-19-australian-aid-budget-summary.pdf>.

 **Weblinks** United Nations video gallery
Endless famine — Ethiopia

7.6 ACTIVITIES

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Check your understanding

1. What types of assistance is provided by high-income countries to low-income countries?
2. What is official development aid (ODA) and from which countries does it come?
3. Which countries receive most ODA and for what purposes is it used? Suggest likely reasons for this.

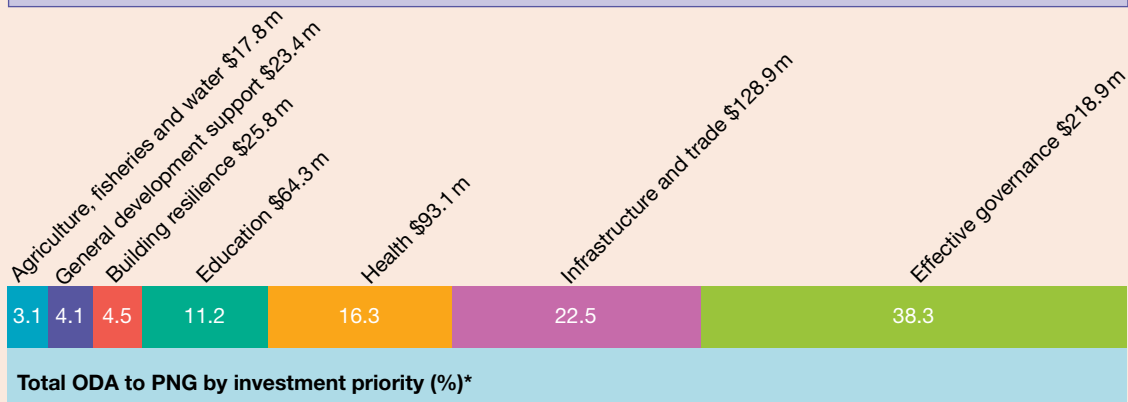
Applied economic exercises

1. (a) What are the main types of foreign aid and what are its main aims? **(3 marks)**
(b) Which type of aid is probably most beneficial to a low-income country? Explain. **(2 marks)**
(c) 'Australia is not as generous as the US when it comes to foreign aid.' Discuss this opinion using statistical evidence drawn from your text and elsewhere. **(4 marks)**
2. Papua New Guinea is the major recipient of Australia's ODA. Examine figure 7.32 before answering the questions that follow.

FIGURE 7.32 Case study of Australia's ODA to Papua New Guinea (PNG), 2018–19

Papua New Guinea

2018–19	
Program	Budget estimate \$m
Country	519.5
Regional	21.4
Global	11.5
Other government departments	19.8
Total ODA to PNG	572.2



* Difference in values due to rounding and/or percentages below 2 per cent are not labelled.

Australia has a strong and enduring partnership with PNG, our nearest neighbour. Close cooperation on economic, security, and development matters, as well as a broad range of people-to-people links highlight the depth and breadth of our relationship.

FIGURE 7.32 (continued)

Despite a decade of robust economic growth from the mid-2000s, growth in PNG has slowed due to lower commodity prices and budget deficits. Growth is projected to remain moderate over the short-to-medium term. More than 40 per cent of the population remain poor and face hardship, 80 to 85 per cent of Papua New Guineans live in traditional rural communities. The development challenges for children and youth in PNG are stark. An estimated 40 per cent of children are stunted, one in five children are not enrolled in school and nearly half the population is under 20 years of age.

PNG is our largest development partner. Our support responds to PNG's many challenges, including fiscal and infrastructure constraints, poor human development indicators, and weak capacity to deliver services.

Source: Image copied directly from the DFAT, *Australian aid budget summary, 2018–19*, p. 16, see <https://dfat.gov.au/about-us/corporate/portfolio-budget-statements/Documents/2018-19-australian-aid-budget-summary.pdf>.

- (a) What is the value of Australia's ODA to PNG in 2018–19? (1 mark)
- (b) Quoting data, which are the three top areas of investment priority for PNG? (3 mark)
- (c) Explain why you think these priority areas have been selected for investment. (3 mark)

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7.7 Review

7.7.1 Summary

Defining economic development and the role of development economics

- *Development* is today defined as a multidimensional process involving economic, social, political and institutional changes that are needed to improve the daily material and non-material wellbeing of all people in a society.
- Once, *economic development* was seen narrowly as the same thing as economic growth. In other words, it was thought that growing the level of national production or GDP was all that was needed to make people better off. However, from the 1970s, economic development was seen more broadly as the economic, social, political and institutional changes needed in low-income countries, to improve material aspects (increased per capita levels of income and consumption) and non-material aspects (e.g. increased literacy, life expectancy, health) affecting the quality of daily life all people.

Measurement of development

- Economic development is a tricky thing to measure, especially using a composite or single measure.
- Several *measures* are commonly used:
 - *Average GNI* or *GDP per capita* represents the total annual value of goods and services produced by a nation divided by the population size. This single measure suffers from many weaknesses including unrecorded subsistence production, unevenness in the distribution of goods, services and incomes, the failure to take account of negative externalities or costs, and the failure to take account of the quality of people's daily lives.

- *The Human Development Index (HDI)* is a composite measure. It is based on both an economic indicator (i.e. GNI per capita, with the figure adjusted or standardised to remove variations in the actual purchasing power of money in different countries — called purchasing power parity or PPP expressed in US\$), along with some social indicators (e.g. life expectancy at birth, expected years of schooling, and mean years of schooling to assess access to knowledge).

The challenges and causes of poverty, low incomes and other problems in developing countries

- Many theories have been used to try to explain the causes of poverty, low incomes and lack of economic development. Despite great differences that exist between countries, low-income countries commonly face the following obstacles:
 - limited productive capacity or PPF due to a low efficiency or volume of resources
 - low levels of national savings and investment cause the vicious cycle of poverty
 - low levels of access to education and poor retention rates at higher levels of education, especially among females.
 - rapid population growth creating pressure on farming land, infrastructure and government finances, and adding to high labour force unemployment rates
 - lack of democracy and freedom, contributing to poor government, incompetence and corruption and institutional failure
 - limited exports and foreign trade, due partly to the trade protection policies used by many rich nations, along with high levels of foreign debt or interest repayments. . This also means there is less incentive for local businesses to expand, create jobs, grow incomes and accelerate development.
 - great inequality in the distribution of income and wealth. This contributes to poverty, lack of opportunity and the inability of the governments to provide basic infrastructure needed for development and improvements in general wellbeing.
 - historical problems. Some low-income countries were former colonies and exploited for their resources by European powers. Even after independence, the growth of multinationals has sometimes led to exploitation.

Some government policy solutions to promote development and improve living standards in low-income countries

- There is no single solution that will reduce poverty and lift living standards in low-income countries. All countries also face slightly different problems.
- Promoting *development* requires combined actions at several levels including:
 - governments in low-income countries
 - international organisations like the UN
 - governments and people in high-income countries.
- Actions taken by *governments in low-income nations*: One focus is to try to grow the country's productive capacity or PPF by perhaps 5–7 per cent a year, and at a faster rate than population. Growing capacity might involve the following policy measures:
 - strategies to lift private and government investment levels, thereby breaking the vicious cycle of poverty
 - better provision of basic social and economic infrastructure to improve people's living standards and encourage business expansion
 - keeping debt levels and the burden of interest repayments to sustainable levels
 - reforming government, including the promotion of democracy and free speech, to make government more accountable and transparent — essential for reducing corruption
 - trying to persuade rich countries to move towards free trade and the removal of tariff protection so that low-income countries can grow their export incomes and pay for imports
 - reducing inequality in the distribution of income and wealth so that the rich help to provide government revenue to better fund social and economic infrastructure
 - reducing population pressures through better welfare for the aged, healthcare to lower infant mortality, family planning and education.

- Actions taken by *international agencies* including the UN: The United Nations has helped to focus efforts to reduce poverty and improve living standards in low-income countries:
 - *The UN's Millennium Development Goals and projects (2000–2015)*. The UN has measured progress over the 15 years in achieving eight key Millennium Development Goals (including halving poverty, universal education, gender equality, reduced infant mortality, reduced HIV-AIDS, environmental sustainability). Progress has been measured by around 60 separate indicators.
 - *The UN's Sustainable Development Goals (2015–30)*. The UN and its members have now agreed to pursue 17 sustainable development goals for the period 2015–30.
- Actions taken by *developed countries*: There are several actions that have been taken by developed countries including Australia. For instance,
 - action to help *reduce climate change* (e.g. signing the Paris Agreement on Climate Change, the carbon tax (2012–14), Direct Action, recycling waste, using taxes to reduce the depletion of some non-renewable resources and to discourage the consumption of some environmentally damaging products
 - maintaining quite high levels of *immigration* (including humanitarian immigration) to help improve the opportunities for some
 - providing *preferential treatment for exports* from some low-income countries to enter Australia, tariff free, along with the signing of free trade agreements to expand trade with some low income countries
 - providing *official development aid* (ODA) is used to lift investment in key projects and sectors. This has been critical to accelerating development especially in our region:
 - *foreign aid* refers to financial help (i.e. hard and soft loans, and gifts) and other assistance, usually given by richer countries to poorer countries
 - aid can be official (government) or non-official (private). Often aid is often used for projects that help to pursue the UN's Millennium Development Goals.
- Australia contributes over \$4 billion annually in government or official development assistance, or less than 0.3 per cent of our GDP. This aid goes to countries (especially in the Asia–Pacific area) including Papua New Guinea and Indonesia.

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7.7.2 Key terms

Bilateral free trade agreements (FTAs) are negotiated between two or more countries and involve the removal of industry protection such as tariffs.

Democracy involves free speech and exists where a government is elected by the people. It is the opposite of a dictatorship.

Development is today defined as a multidimensional process involving economic, social, political and institutional changes that are needed to improve the daily material and non-material wellbeing of all people in a society. This differs from the traditional definition that was simply focused on lifting the rate of economic and income growth in per capita terms.

Foreign aid represents the transfer of funds and other types of assistance by governments and private individuals from high-income to lower-income countries. It can be in the form of loans, grants and other technical assistance.

Foreign debt exists when a country has external liabilities from money borrowed overseas. The credit can be used to finance development projects, but often it is misused for other purposes. The downside of debt is the repayment of interest.

Free trade is the opposite government policy to protection. It exists when there are no tariffs, subsidies, quotas or other restrictions on the movement of goods, services and capital between countries.

Grants are straight-out donations of cash that do not need to be repaid. When used wisely, this is perhaps the best type of help that high-income countries can offer. Normally grants are allocated by private international aid agencies (e.g. World Vision), or given by individual governments in donor countries.

High-income nations are those where average incomes are currently defined as being at least \$33 a day or \$12 056 per person a year.

Human Development Index (HDI) is an indicator (based on a scale from the lowest score of 0 to the highest score of 1) that reflects both economic and social conditions in a country. It is not just based on income per head (adjusted to international dollars or PPP), but also reflects life expectancy (calculated at birth) and education levels (based on expected years of schooling, and mean years of schooling to assess access to knowledge).

Import quotas represent quantity limits imposed by the government on the importation of particular types of goods (such as cars, cheese and textiles) and services from abroad.

Infrastructure provides the services (like roads, railways, water, power and ports) used by producers of goods and services and the general community. It facilitates production and grows a nation's productive capacity.

The **International Monetary Fund (IMF)** is a global organisation that keeps an eye on the world's financial system to help stabilise international exchange rates, promote economic development, provide technical assistance and act as a lender of last resort to governments.

Loans are of three kinds of *loans* — *hard loans* or credit offered at the normal market rate of interest; *soft loans* offered at a special discounted interest rate; and *tied loans* which have special conditions imposed such as requiring that the money be used to purchase exports from the donor country.

Low-income countries are currently defined as those where most people live on a mere \$2.72 or less per day (i.e. an average of \$993 per person a year or less). Life is a real struggle, severe poverty is common place and living standards are low.

Millennium Development Goals (MDGs) were the eight targets for development in low-income countries that were set by the United Nations for the period 2000 to 2015. Among the eight goals was the halving of world poverty, improving access to education, and reductions in child mortality rates.

Overpopulated countries are those where there are too many people for the quantity of resources available.

The **poverty cycle** is common in low-income countries. 'Low income' means there are poor savings levels, inadequate investment to grow the economy's capacity, low efficiency and hence low incomes.

Protectionist policies seek to restrict imports and advantage local producers, and involve the use of tariffs, subsidies and import quotas.

Subsidies are government cash payments made to local producers to make them more competitive by covering some of their production costs.

Sustainable Development Goals (SDGs) for the global community were set up by the United Nations to cover the period 2015–30. These included 17 targets including the complete eradication of poverty, zero hunger, access to clean water and sanitation, and action on climate change, gender equality, good health, reduced inequality, affordable clean energy, and peace and justice.

Tariffs are an indirect tax added onto the price of selected imports to increase the price of imports relative to the locally made good.

Technical and other assistance involves the donor country or a United Nations agency providing scientific, economic, educational, technical, industrial or agricultural personnel to advise on matters relating to economic development.

Underemployment exists when those working are not employed to their capacity and could work more hours and produce more output per hour.

United Nations (UN) is an international agency used to help solve 'problems of an economic, social, cultural, or humanitarian character and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion.' It has been responsible for helping to drive development in low-income nations through setting up and pursuing its eight Millennium Development Goals (MDGs) and, more recently, its seventeen Sustainable Development Goals (SDGs).

Worker efficiency is calculated as GDP or output per hour worked.

The **World Bank** is an international financial institution set up to provide technical and financial help in the form of financial loans and grants to member nations. The money may be used for numerous purposes, such as to build schools to improve literacy, roads and bridges to develop transport, and water, gas and electricity infrastructure to assist growth in national production (GDP) and improve living standards.

The **World Trade Organization (WTO)** is an international organisation that is committed to free trade and the orderly conduct of international transactions between countries.



Digital document Key terms glossary (doc-31570)
Crossword (doc-31580)
Wordsearch (doc-32658)
Match-up definitions (doc-32663)

7.7 Review questions

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7.7 Exercise 1: Multiple choice questions

- Which of the following measures *best* indicates the level of material living standards in a country?
 - GDP
 - GDP per capita
 - GDP per capita adjusted for purchasing power parity (PPP)
 - Total national income
- Nowadays, in a low-income country, the term *development* is best defined as the process of:
 - raising the total value of goods and services.
 - economic, social, political and institutional change needed in low-income countries to improve the material and non-material aspects affecting the quality of daily life for all people.
 - increasing incomes and the annual consumption of goods and services.
 - growing the economy.
- All of the following would tend to cause a nation's *productive capacity* to grow *except*:
 - discovery of new mineral deposits.
 - increased household consumption spending and reduced rates of national savings and investment.
 - use of genetically modified crops in agriculture.
 - government provision of improved infrastructure, including water and power supply.
- The concept of *labour efficiency* or productivity is *best* defined as:
 - the level of production or GDP per year.
 - the rate of economic growth between one year and the next.
 - the value of GDP divided by the total number of hours worked.
 - the value of GDP divided by the size of the population.
- Agricultural *productivity* in low-income countries is usually very weak due to:
 - the lack of access to technology and fertiliser, and the use of traditional methods of production.
 - overcrowding, the diminished size of farms and the shift onto less fertile agricultural soils.
 - widespread underemployment of labour.
 - all of the above.
- Most low-income countries are characterised by:
 - the vicious cycle of poverty.
 - the lack of savings and proper financial and other institutions.
 - high interest rates, low investment and the absence of widespread business expansion.
 - all of the above.

7. Regarding economic growth and development in a low-income country, which of the following is *incorrect*?
 - A. Economic development concerns improvements in general living standards and the quality of daily life.
 - B. Economic development is only concerned with rises in material living standards.
 - C. Economic development may be helped by economic growth if output rises faster than the total population.
 - D. Economic development often used to be seen as the same as economic growth, but it is preferable to use a broader measure that considers not only economic aspects but also social, political and institutional considerations affecting daily lives of the general population.
8. Which of the following would be *least* likely to accelerate economic development in a low-income country?
 - A. Allowing free speech and democracy
 - B. Using foreign borrowing to finance consumption and military spending
 - C. Increased spending on lifting literacy and education standards
 - D. Measures to improve health (including sanitation, vaccination programs and water supply), reduce infant mortality rates, and improve welfare benefits for the aged
9. Most low-income countries have large trade and income deficits. Which of the following generally offers the *weakest* explanation of this problem?
 - A. Often rich countries in Europe, Japan and the United States protect their farmers and firms, thus limiting export volumes from low-income countries, and restricting the size of markets and business expansion.
 - B. Widespread subsistence farming in many of these countries reduces export volumes.
 - C. There are usually heavy interest repayments by low-income countries on their large foreign debts.
 - D. Imports of defence equipment by dictatorships are the only reason for the trade and income deficit.
10. Which statement about *foreign debt* in low-income countries is *incorrect*?
 - A. All foreign debt is bad and slows economic development through income repayment abroad to rich nations.
 - B. Debt that is used for social and economic infrastructure can help to improve the quality of daily life of ordinary people, partly by growing the nation's productive capacity.
 - C. For some countries, the value of the foreign debt is equal to more than 100 per cent of the value of GDP.
 - D. All of the above.
11. Rapid population growth is often a serious problem in low-income countries because:
 - A. overpopulation puts pressure on the nation's limited natural resources, depresses rural productivity and worsens environmental damage.
 - B. it causes many problems associated with accelerated rates of urban growth.
 - C. it diminishes the quality of social and economic infrastructure and worsens the government's financial problems.
 - D. all of the above.
12. Increasing *investment* levels is vital for development. Which statement about the role of investment in low-income countries is *incorrect*?
 - A. High levels of investment grow labour productivity and per capita incomes.
 - B. High levels of investment in social infrastructure improve the daily wellbeing of people, and grow productivity and per capita incomes.
 - C. High levels of investment in the long term will cause even higher unemployment by replacing labour with physical capital, equipment and machines.
 - D. High levels of investment help to break the vicious cycle of poverty and low income.

13. Concerning the role of the United Nations and its Millennium Development Goals (MDGs, 2000–15) and Sustainable Development Goals (SDGs, 2015–30), which statement is *least* correct?
 - A. The maternal mortality rate was almost halved during 2000–15.
 - B. Ending hunger and poverty are key objectives in the SDGs, 2015–30.
 - C. The environment and climate change are important issues in the SDGs, 2015–30.
 - D. Unfortunately, the MDG of halving poverty by 2015 was not achieved nor was there much progress in improving access to education.
14. International and Australian overseas development aid or assistance is mostly used to promote development in line with the United Nation's Sustainable Development Goals. Which statement about international aid is *false*?
 - A. Australia donates a higher percentage of its GDP in foreign aid than does the US or Japan.
 - B. Hard loans to low-income countries are those where the receiving country is given a favourable, discounted or lower interest rate than that normally prevailing in the market.
 - C. Debt repayments by low-income countries mean that governments often reduce outlays on education and health.
 - D. The achievement of the UN's Millennium Development Goals involved improving a broad range of aspects affecting the quality of daily life for people living in low-income countries by 2015, indicated by around 60 statistical measures.

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-  **Digital documents** Multiple choice answer grid (doc-31559)
Multiple choice answers (doc-31565)

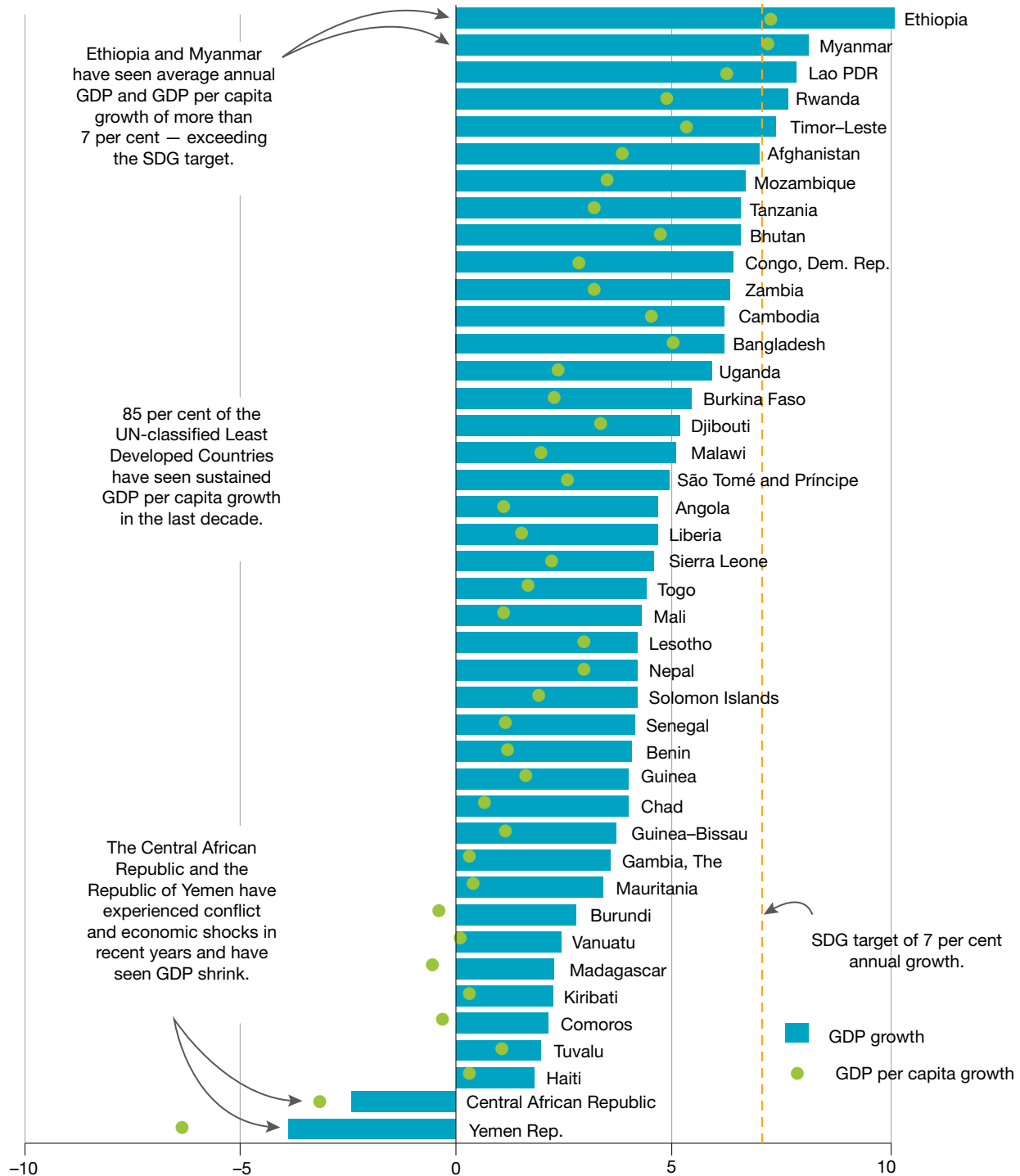
7.7 Exercise 2: Extended response questions

1. Many developing countries have experienced rapid rates of growth in GDP and GNI over the years, but despite this, there has been very limited progress in terms of development and improved wellbeing for many people. Examine figure 7.33 before answering the questions that follow.
 - a. Quoting data from the graph, which two of these least developed countries had the fastest rates of growth in GDP and which two had the slowest rates of growth?
 - b. Normally, one would think that having fast annual rates of growth in GDP would lead to development and improved wellbeing. Suggest reasons why this has not been the case in many countries. In other words, other than having rapid rates of economic growth, what other factors need to be considered for optimal rates of *development*?
2. The HDI is commonly used to compare levels of development and wellbeing existing in countries. Examine table 7.7 and then answer the questions that following.
 - a. Quoting data from this table, analyse the following relationships:
 - i. Could the level of GNI be used as a predictor of a nations HDI score or rank? Why?
 - ii. Is there a relationship between GNI and life expectancy? Give a possible reason for your answer.
 - iii. Does the mean number of years of schooling seem to affect the level of GNI? Give a possible reason for your answer.
 - b. If you were developing your own measure of development and wellbeing based on our modern definition:
 - i. What three indicators (other than GNI per capita and those other measures used in the HDI) might you want to include?
 - ii. For each of the three indicators you suggested, justify their inclusion as indicators of development.

FIGURE 7.33 Annual growth rates in least developed countries against the UN's SDG of 7 per cent

Many Least Developed Countries have seen economic growth in the last decade, but few have achieved the SDG target of 7 per cent a year.

Average annual GDP and GDP per capita growth, 2007–16 (%)



Source: Graph copied directly from the World Bank. SDG Atlas 2018, see <http://datatopics.worldbank.org/sdгатlas/SDG-08-decent-work-and-economic-growth.html>

TABLE 7.7 Ten countries with the highest and ten countries with the lowest Human Development Index (HDI) scores

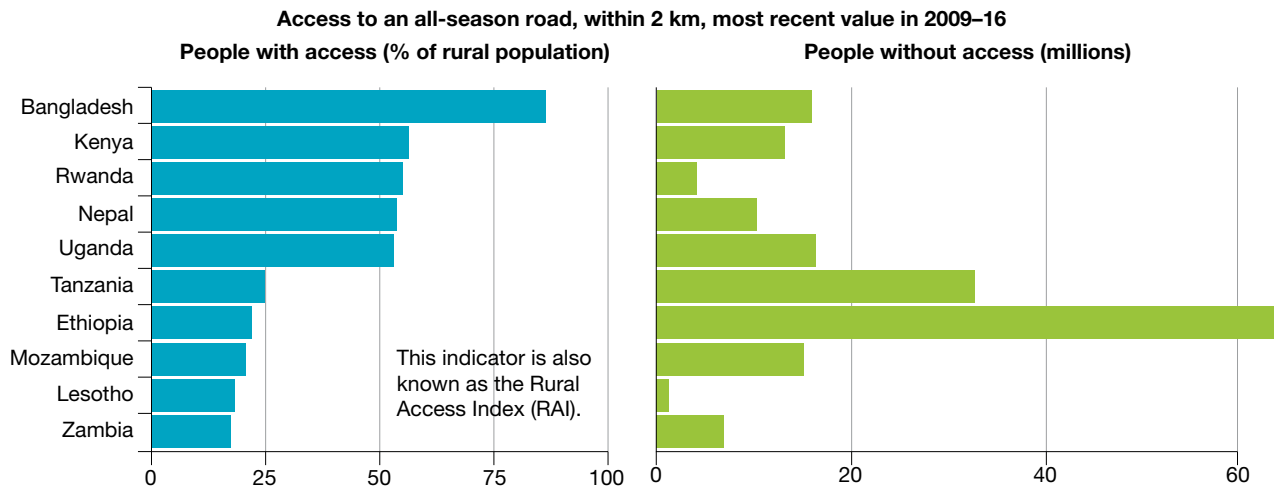
Rank	Country	Human Development Index (HDI) (value)	Life expectancy at birth (years) SDG 3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	Gross national income (GNI) per capita (PPP \$) SDG 8.5
1	Norway	0.953	82.3	17.9	12.6	68 012
2	Switzerland	0.944	83.5	16.2	13.4	57 625
3	Australia	0.939	83.1	22.9	12.9	43 560
4	Ireland	0.938	81.6	19.6	12.5	53 754
5	Germany	0.936	81.2	17.0	14.1	46 136
6	Iceland	0.935	82.9	19.3	12.4	45 810
7	Hong Kong, China (SAR)	0.933	84.1	16.3	12.0	58 420
8	Sweden	0.933	82.6	17.6	12.4	47 766
9	Singapore	0.932	83.2	16.2	11.5	82 503
10	Netherlands	0.931	82.0	18.0	12.2	47 900
Rank	Country	Human Development Index (HDI) (value)	Life expectancy at birth (years) SDG 3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	Gross national income (GNI) per capita (PPP \$) SDG 8.5
189	Niger	0.354	60.4	5.4	2.0	906
188	Central African Republic	0.367	52.9	7.2	4.3	663
187	South Sudan	0.388	57.3	4.9	4.8	963
186	Chad	0.404	53.2	8	2.3	1750
185	Burundi	0.417	57.9	11.7	3.0	702
184	Sierra Leone	0.419	52.2	9.8	3.5	1240
183	Burkina Faso	0.423	60.8	8.5	1.5	1650
182	Mali	0.427	58.5	7.7	2.3	1953
181	Liberia	0.435	63	10	4.7	667
180	Mozambique	0.437	58.9	9.7	3.5	1093

Source: United Nations Development Program, Human Development Reports, 2018 statistical update, selected parts of the table were copied directly from <http://hdr.undp.org/en/2018-update>

3. Access to good infrastructure not only helps business but also accelerates development and improves the wellbeing of the general population. Examine figure 7.34 before answering the questions that follow.

FIGURE 7.34 Percentage of people who have good access to all-weather roads in selected less developed countries

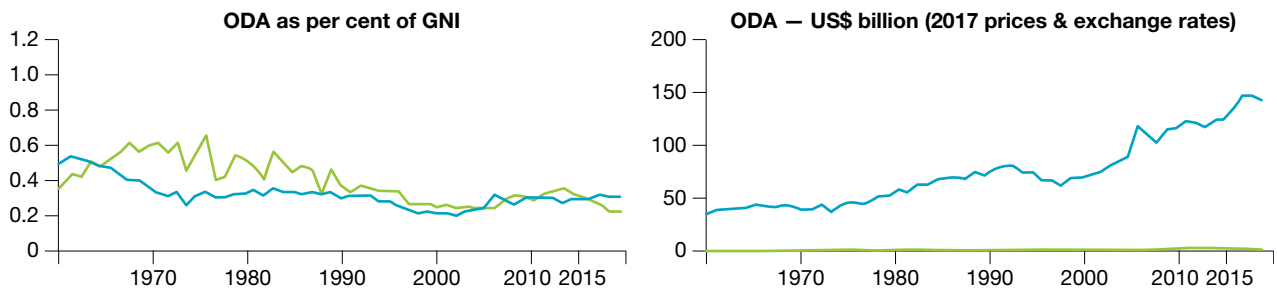
Infrastructure supports communities. Without access to an all-season road, people are cut off from crucial services and markets.



Source: Graph copied directly from The World Bank, SDG Atlas 2018, see <http://datatopics.worldbank.org/sdgateas/SDG-09-industry-innovation-and-infrastructure.html>.

- Quoting examples, what do these two graphs tell us about people's access to all-weather roads in these less developed nations?
 - Identify and outline the main ways whereby poor access to all-weather roads would impact on business and the general wellbeing of people in less developed nations.
4. Examine figure 7.35 showing changes in donations of ODA by Australia (the green lines) and all other nations combined (the blue lines) over almost sixty years.

FIGURE 7.35 Changes in ODA given by Australia and all nations measured as a percentage of GNI and in dollar terms (US\$ billions)



Source: OECD, Official Development Assistance, 'Compare your country', see <http://www2.compareyourcountry.org/oda?cr=20001&cr1=oced&lg=en&page=1>.

- Describe the various types of ODA that nations might provide to developing nations.
- For developed nations including Australia, what is the UN target for ODA as a ratio of GDP?
- Quoting data from this figure, *critically evaluate* Australia's commitment to ODA and supporting development in low-income nations

Fully worked solutions and sample responses are available in your digital formats.

Test maker

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Access the assignments section in learnON to begin creating and assigning assessments to students.

7.7 Practice school-assessed tasks

AN ESSAY

Write a 500–600 word essay on the following topic:

Identify and explain what you feel are the *four* most important causes of *poverty* and *low living standards* in many low-income nations. For each problem, explain *two* key government policy changes that are needed to help overcome these obstacles to economic development. Where possible, illustrate your answer by reference to particular countries.

A CLASS DEBATE

After dividing into two teams (one for the affirmative and one for the negative), work with others to prepare a debate about *one* of the following topics:

- A. 'It is immoral that the richest 20 per cent of the world's population consumes 80 per cent of the world's resources.'
- B. 'The best way to improve living standards in low-income countries is to provide free contraceptives and enforce a policy involving a one-child family, as used in China until recently.'
- C. 'A colonial past has caused many poor countries to be even poorer.'
- D. 'Economic development should seek to promote industrialisation.'
- E. 'The main thing for economic development is to maximise the country's rate of growth in GDP.'
- F. 'Western nations need to spread democracy as a solution to poverty in low-income nations.'
- G. 'The actions of rich countries, especially in Europe, keep low-income countries poor.'
- H. 'Rich nations need to show leadership and morality by quadrupling the percentage of their GDP provided in foreign aid or assistance.'
- I. 'International aid creates more problems than it solves for low-income countries.'
- J. 'Debt cancellation by rich nations helps low-income countries to accelerate economic development.'

A REPORT ON AN INVESTIGATION OR INQUIRY

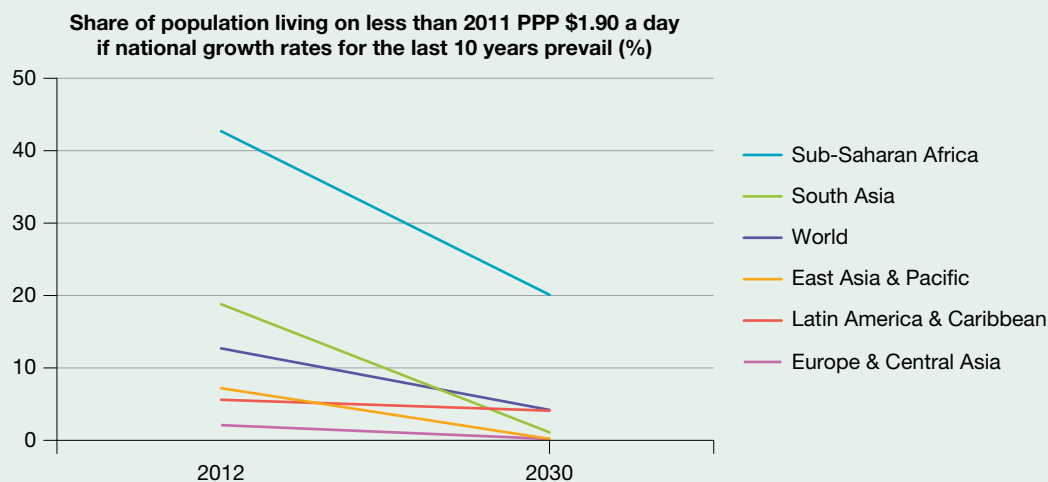
Saving our planet, lifting people out of poverty, advancing economic growth ... these are one and the same Fight. We must connect the dots between climate change, water scarcity, energy shortages, global health, food security and women's empowerment. Solutions to one problem must be solutions for all.

Source: Ban Ki-moon, Secretary of the United Nations, 2007.

Examine figure 7.36, which shows the targeted reduction in severe poverty (less than \$1.90 per day in PPP) by the United Nations for 2012–30.



FIGURE 7.36 Targeted reduction in severe poverty by the UN for 2012–30



Source: Graph copied from World Bank Development Indicators 2016, p. 2, <https://openknowledge.worldbank.org/bitstream/handle/10986/23969/9781464806834.pdf>.

The task

The task for this investigation is to select a particular low-income developing nation, perhaps in Sub-Saharan Africa (e.g. Ethiopia or Chad), and report on the types of challenges faced in the following areas:

- the rate of GDP growth
- population pressures and issues including unemployment and underemployment
- education — literacy levels, school attendance and opportunity, and gender equality
- health — infant mortality, access to clean drinking water, medical attention, avoidance of preventable diseases, the problem of HIV-AIDS
- trends in food production and agriculture
- political corruption and incompetence
- environmental problems
- trade problems.

In addition, your report should summarise the actions taken by the government, and/or a branch of the UN or World Bank, to reduce poverty and raise living standards. You can use the weblinks in the Resources tab to help you.

Presentation

Your research and investigation could be presented as:

- a class presentation using PowerPoint slides containing photos, graphs and tables
- a wall poster
- a written report.

Try to incorporate graphs, tables, diagrams and photos into your presentation.

on Resources



Weblinks

World Bank Development Indicators for 2016
 OECD
 OECD, African Economic Outlook
 OECD, African statistics
 United Nations, Human Development Report
 United Nations, International Human Development Indicators
 United Nations, Human Development Statistical tables

A BLOG OF MEDIA COMMENTARIES

Select a couple of articles from the media about *poverty* or other problems experienced by low-income developing economies as an economic issue. Set up a blog and initiate discussion about these commentaries. For instance, these media commentaries may report:

- economic conditions and developments in low-income nations
- government policies that have affected economic development in a low-income country
- issues related to international aid programs (government and private sources) and disaster relief efforts to help low-income countries
- international discussions by the WTO and other organisations related to reducing agricultural tariffs and farm subsidies by high-income countries in Europe, as well as in Japan and the US
- the effect of global economic conditions on low-income countries
- poverty reduction policies in low-income countries
- developments in the pursuit of the UN's Millennium Development Goals (2000–15) or its more recent Sustainable Development Goals (2015–30).

ANALYSIS OF VISUAL EVIDENCE

A cartoon about developing countries

There are many cartoons that could be used to extend your understanding of economics and the process of *development in low-income countries*. Use the internet to select a relevant cartoon about one of the areas we have studied (e.g. economic development, the free market and the price system, demand and supply). Answer the following questions to help you analyse the cartoon selected.

- What is the main economic concept being presented in the cartoon?
- What is the main message of the cartoon?
- What is your reaction to the cartoon? Do you agree with what it is saying?
- Is the message of the cartoon politically or economically biased or distorted in some way? Explain your answer.

MULTIPLE CHOICE ANSWERS

TOPIC 1

THINKING LIKE AN ECONOMIST

Question	Answer
1	C
2	B
3	D
4	C
5	D
6	D
7	C
8	C
9	D
10	D
11	D
12	D
13	B
14	D
15	D
16	A
17	C
18	D
19	C
20	C
21	D

TOPIC 2

DECISION MAKING IN MARKETS

Question	Answer
1	B
2	A
3	D
4	C
5	C
6	D
7	A
8	B
9	D
10	A
11	A
12	B
13	B
14	C
15	D
16	D
17	D
18	C
19	A
20	D
21	B
22	D
23	B
24	D
25	B

TOPIC 3

ECONOMIC GROWTH, LONG-TERM ECONOMIC PROSPERITY AND ENVIRONMENTAL SUSTAINABILITY

Question	Answer
1	B
2	D
3	C
4	C
5	B
6	C
7	C
8	D
9	C
10	A
11	D
12	D
13	A
14	B
15	B
16	B
17	D
18	D
19	A
20	B
21	B
22	B
23	C
24	D
25	C
26	C
27	D
28	D
29	B
30	D
31	B
32	D
33	A
34	A
35	B

TOPIC 4

ECONOMIC EFFICIENCY AND EQUITY AS CONTEMPORARY ECONOMIC ISSUES

Question	Answer
1	B
2	A
3	B
4	C
5	A
6	D
7	A
8	C
9	B
10	B
11	D
12	A
13	C
14	A
15	B
16	D
17	B
18	D
19	A
20	A
21	C
22	B
23	D
24	D
25	D
26	A
27	D
28	A
29	D
30	D

TOPIC 5

FREE TRADE VERSUS PROTECTIONISM

Question	Answer
1	D
2	C
3	D
4	A
5	D
6	D
7	D
8	C
9	B
10	D
11	D
12	B
13	C
14	B
15	A

TOPIC 6

GLOBALISATION

Question	Answer
1	D
2	A
3	A
4	C
5	A
6	C
7	A
8	C
9	B
10	D
11	D
12	B
13	B
14	A
15	B

TOPIC 7

THE CHALLENGES FACED BY DEVELOPING NATIONS IN REDUCING POVERTY

Question	Answer
1	C
2	B
3	B
4	C
5	D
6	D
7	B
8	B
9	D
10	A
11	D
12	C
13	D
14	C

ECONOMICS DICTIONARY

Absolute cost advantage occurs in international trade when one country can produce a product more cheaply and efficiently than all other nations.

Age–sex distribution of the population is the way the nation's total population is spread among different age and gender groups; for example, 0–4 years, 45–49 years and so on.

Aged pension is a cash welfare payment or transfer to aged individuals who meet the assets and means tests. Until recently, this could be accessed by those eligible over 64 years of age. A few years ago, it was announced that the pension age would be slowly increased to 67 years by July 2023. The proposal to increase this to age 70 has not yet been formally adopted. *See* welfare benefits.

Ageing population occurs when the median age of a country's population is rising and there is a larger proportion in older age groups. This problem has implications for Australia's rate of economic growth and government budget outcomes.

Aggregate demand (AD) is the sum or total value of all spending or demand on final (finished) goods and services produced by a nation and measured over a period of time. It represents the total value of effective demand composed of private consumption spending (C), plus private investment spending (I), plus government consumption or current spending (G_1), plus government investment or capital spending (G_2), plus spending on exports of goods and services (X) minus spending on imports of goods and services (M); that is:

$$\text{Aggregate demand} = C + I + G_1 + G_2 + X - M.$$

The growth in these components of AD is affected by changes in aggregate demand conditions/factors. Here we think of factors like consumer confidence, business confidence, overseas economic activity, disposable income and interest rates. *See* aggregate demand management policies; budgetary policy;

countercyclical budgetary policies; Keynes, John Maynard; monetary policy.

Aggregate demand factors or conditions are the key macroeconomic influences on the total level of spending in an economy. They affect the level of AD and its components, $C + I + G + X - M$. Here we think of influences such as changes in consumer confidence, business confidence, tax rates, disposable income, the exchange rate for the Australian dollar, the terms of trade, the stance of government budgetary and monetary policies (interest rates), the rate of growth in population and the level of overseas economic activity (in China or the US, for example). Generally stronger aggregate demand conditions cause spending and economic activity to rise, while generally weaker conditions cause spending and economic activity to slow. *See* aggregate demand management policies; boom; countercyclical budgetary policies; recession.

Aggregate demand management policies include a mixture of macroeconomic budgetary policies and monetary policies designed to regulate or influence the overall level of spending on domestically-made goods and services, or AD ($C + I + G + X - M$). Their aim is to reduce the short-term or cyclical changes in the level of economic activity through applying policies in a countercyclical way. Hence these policies need to be expansionary during slowdowns to lift AD and contractionary in booms to slow AD to sustainable levels.

Aggregate demand–supply diagram is a diagram showing that the equilibrium level of economic activity is dictated by the levels of both aggregate demand and aggregate supply. Equilibrium occurs at the level where the two lines intersect, producing a certain level of national output, employment and prices.

Aggregate supply (AS) is the total physical supply of goods and services from all sectors produced at different price levels over a period of time in the economy. In a general sense, aggregate supply (AS) is influenced by the willingness or ability of producers and firms to supply goods

and services. In turn, this responds to a number of factors. For example:

- the availability of resources (new discoveries, drought) influences productive capacity and AS
- the efficiency with which resources are used influences productive capacity and AS
- the level of production costs (wages, interest rates, taxes, government charges, raw materials), and their impact on business profitability, affects productive capacity and AS. *See* supply-side economic theory.

Aggregate supply budgetary policy measures seek to use changes in budget receipts and/or outlays to help allocate more resources into key areas, correct market failure, promote greater efficiency, reduce production costs and build the economy's long-term productive capacity. Examples include government investment in infrastructure, the abolition or reduction of tax rates on companies and individuals, outlays on education, training and R&D, along with welfare, childcare and tax measures that increase the participation rate in the labour force.

Aggregate supply factors are the macroeconomic influences on an economy's productive capacity or potential level of GDP. They include changes in the quantity and quality of natural resources (such as water, climate and mineral deposits), capital equipment (e.g. machines and technology) and labour resources (mental talents and physical power), general business costs (such as RULCs, interest rates, local and imported materials and equipment, oil prices) and profitability levels, climatic conditions including drought, productivity levels, labour force growth and participation rates, the ageing population, access to adequate infrastructure, and government aggregate supply policies (e.g. microeconomic reforms, aspects of budgetary policy like tax rates and infrastructure spending, immigration policy and environmental policies). *See* aggregate supply policies.

Aggregate supply policies are cost-cutting, efficiency-promoting, incentive creating government measures that aim to make the conditions for firms and individuals producing or supplying goods and services more favourable in the long term, so economic activity will flourish

and expand the economy's productive capacity and hence, the potential rate of economic growth. These measures include aggregate supply aspects of budgetary policy (e.g. outlays on subsidies, education and training, R&D grants, targeted subsidies and government investment spending on national infrastructure projects), trade liberalisation, tax and welfare reforms, and immigration policy (setting targets for the inflow of migrants, especially those with skills). *See* aggregate supply factors.

Allocation of resources is how a nation will use its scarce factors of production, including land and natural resources, labour and entrepreneurial skills, and capital goods and technology. For example, will resources be used to produce cotton or wool, cars or public transport, education or hospitals? *See* efficient allocation of resources.

Allocative efficiency is a desirable situation where resources are used for producing the particular types of goods and services that best satisfy society's needs and wants. Producing the 'right' goods and services means that, generally, consumers get what they most want. Many economists argue that this is more likely to occur in highly competitive markets using the price system. *See* efficiency.

Appreciation of the exchange rate involves an increase in the rate at which foreign currencies are exchanged, swapped or converted into Australian dollars; for example, before an appreciation of the exchange rate, A\$100 = US\$100; after an appreciation of Australia's exchange rate, A\$100 = US\$120.

Asia-Pacific Economic Cooperation (APEC) is a regional forum aimed at promoting freer trade among 21 member countries.

Assets are items of value owned by a person, bank or company. In the case of bank assets, assets include bank buildings, loans and advances and liquid reserves.

Assets test is used to help decide who is eligible for an aged pension and some other types of government welfare benefits. The family home is excluded from this test, but other assets exceeding a given value are not. *See* means test.

Asymmetric information occurs when one group has more knowledge of the market than others. For markets to allocate resources efficiently,

buyers and sellers need to have complete and reliable knowledge of all the relevant information affecting their decisions. Unfortunately, this sometimes does not happen. Often, for example, sellers have more information than buyers in a transaction, so rational choices and efficient decisions about resource allocation cannot be made. Here, the market fails to work well and it is one instance of market failure. There are many instances of this type of market failure; for example, insider trading in the share market; the sale of properties where the current homeowner knows more about the property than the prospective tenant/buyer; the sale of secondhand cars where the seller knows more about the vehicle quality than prospective buyers; and online dating sites where one individual knows more than the other. *See* market failure.

Australian Competition and Consumer Act (2010) is legislation that makes price and other forms of collusion and price fixing by firms illegal.

Australian Competition and Consumer Commission (ACCC) is a government institution created in 1995 to help promote competition and increase productivity. It enforces the provisions of the *Australian Competition and Consumer Act* of 2010. This law outlaws strategies that limit price competition by sellers, including price fixing, price collusion, market zoning, collusive tendering and price gouging. The ACCC may also approve takeovers and mergers if these are in the public interest, and is involved with surveillance of prices in industries where competition between private and/or public firms is weak.

Australian Trade Commission (Austrade) is a government statutory authority designed to promote Australian exports abroad.

Automatic stabilisers (also called cyclical stabilisers) are components of the budget (tax receipts and welfare outlays) that automatically help iron out cyclical booms and recessions in a countercyclical way. They work by changing the level of aggregate demand and economic activity in the desired direction without the need to resort to discretionary policy changes. For example, during a slowdown, revenues from excise, personal and company tax automatically start to drop because of falling sales, incomes and profits; simultaneously, welfare outlays (especially spending on unemployment benefits)

rise because more people qualify due to lower incomes. This makes the budget more expansionary on AD and economic activity. In reverse, during rising economic activity, tax revenues gradually rise and welfare outlays fall automatically, making the budget less expansionary and eventually more contractionary.

Average weekly earnings (AWE) represent the gross weekly earnings before tax and other deductions per worker. The ABS derives these figures by dividing gross earnings by estimates of employment using a sample survey technique.

Award wage is the legal minimum wage that can be paid by an employer. It is set by the Fair Work Commission and acts as a safety net for low-paid workers. In 2019–20, this is set at \$740.80 for a fulltime adult employee (up 3 per cent on the level in 2018–19).

Baby boomers refers to the larger than average group of people born in the 10–15 years or so following the end of World War II in 1945. There was a boom in the birth rate at this time following disruptions associated with war. Currently, this group is at, or nearing, retirement age and this is likely to slow government tax revenue in the budget and increase health and welfare outlays.

Balance of (merchandise) trade represents the difference between the total value of exported merchandise (goods) and the total value of imported merchandise. It is normally measured ‘free on board’ (FOB): it excludes freight and insurance, which are included under ‘net services’. *See* net goods.

Balance of payments account is an annual financial summary of transactions between Australia and the rest of the world. The overall balance of payments is broken into *two* main sub-accounts:

1. *The balance on current account.* This represents the difference between the total value of credits minus debits for merchandise (goods), services, primary incomes and secondary incomes over a given period of time.
2. *The balance on capital and financial accounts.* The balance on *capital* account represents the difference between total credits minus debits for capital transfers and the acquisition of non-produced, non-financial assets. The balance on *financial* account is the difference between total credits minus debits for direct,

portfolio and other capital along with reserve assets. In addition, any errors and omissions are factored into the final result.

Balanced budget occurs when the total value of government outlays equals the total value of government receipts in a given year's budget. Some claim this may have a neutral impact on the level of economic activity. *See* fiscal balance.

Bank overdraft is where the bank agrees with a client to allow an account to be overdrawn in return for the payment of interest. This provides a client with credit.

Barriers to entry occur when monopolies and oligopolies try to suppress competition by would-be rivals in an industry. These barriers may include the conduct of a price or advertising war, or collusion with existing firms to exclude newcomers.

Base year is a concept used in the construction of statistical indices (such as CPI, TWI) where a particular year is designated as the period or standard against which others are compared. Usually the base year is given a value of 100 index points.

Better off overall test is used to assess whether an enterprise agreement is acceptable according to the Fair Work Commission. The enterprise agreement entered into must show that employees are better off overall than under the relevant modern award that incorporates the ten national employment standards.

Bilateral trade agreements are trading arrangements between two nations designed to foster the exchange of goods and services (e.g. Australia's Closer Economic Relations Trade Agreement (CER) with New Zealand) along with free trade agreements with the US, Singapore, Thailand, China, ASEAN, Korea, Japan, China, Malaysia and Chile. Negotiations are also under way with India and the European Union.

Black market is the illegal sale of goods and services. This sector's production is not included in calculations of the value of GDP.

Boom is a period of economic instability where the economy experiences overfull employment and inflation caused by an excessively rapid expansion of aggregate demand. This undesirable situation cannot be sustained and may lead to uncertainty, reduced purchasing power of incomes, the redistribution of income creating

greater inequality, and deterioration in a nation's trading position. Typically, governments adopt more contractionary aggregate demand policies in booms (e.g. higher interest rates) to help slow spending and inflation.

Bottlenecks to production are limiting factors that restrict the increase in the national supply of goods and services (GDP). There are many potential aggregate supply-side bottlenecks that stop or slow down the growth in a country's production possibility frontier or that limit the size of the AS line. These factors included the lack of public infrastructure in areas like power, water, transport and communications, a shortage of skilled labour, the drought, an ageing population and areas of inadequate natural resources. These slow the sustainable rate of economic growth. Aggregate supply policies are needed to correct these bottlenecks. *See* aggregate supply policies; immigration policy.

Bounded rationalism challenges the traditional belief that consumers always make rational economic decisions where they conduct careful research, order priorities, and weigh up the pros and cons. Instead, this theory suggests that consumers take short cuts in making economic decisions by following the status quo or adopting herd behaviour; for example, because they lack the time, did not always have access to the necessary knowledge or have the intellectual capacity to accurately weigh up the evidence.

Bracket creep (also called 'fiscal drag') occurs when recipients of rising income gradually move into higher income tax brackets, which raises their tax burden. From time to time, this will be offset by changes to marginal tax rates and tax thresholds.

Budget is a document that sets out the government's planned receipts and outlays for the next financial year, based on certain assumptions. Receipts predominantly come from PAYG and company tax, while outlays are directed into welfare, education, defence and health. The budget can be used as an aggregate demand policy to regulate the level of spending, but it can also be used as an aggregate supply policy designed to grow a nation's productive capacity.

Budget deficit represents a situation where the total value of government outlays exceeds the total value of its receipts for a period of time, which

happened between 2008–09 and 2018–19. Larger deficits, financed by overseas borrowing, may have an expansionary effect on aggregate demand and hence economic activity. *See* aggregate demand management policies; automatic stabilisers; discretionary stabilisers; expansionary budget.

Budget expenses or outlays in the budget are expenses involving, for example, the provision of goods and services for the community like health, education and welfare.

Budget outcome refers to the overall type of budget as determined by whether it is a deficit (where receipts are less than outlays) or surplus (where receipts are greater than outlays).

Budget repair levy was introduced in the 2014 budget and represents a rise in the top marginal tax rate, from 45 to 47 per cent, for high income earners with taxable incomes in excess of \$180 000 (not including the 2 per cent Medicare levy). It was intended as a temporary measure to help return the budget to surplus. This levy was abolished from July 2017, causing the top marginal income tax rate to return to 45 per cent (before the 2.0 per cent Medicare levy).

Budget revenues or receipts are the federal government's incoming receipts of money that pay for budget outlays. Taxation, for example, is a major source of revenue for the government.

Budget stance refers to whether the budget is neutral, expansionary or contractionary in its impact on the level of AD and economic activity. For example, a reduction in the size of the budget deficit between one year and the next, expressed as a ratio of GDP, would generally be seen as a relatively contractionary stance that would tend to slow AD and economic activity. However, a rise in the size of the budget deficit between one year and the next, expressed as a ratio of GDP, would usually be seen as a relatively expansionary stance that would tend to boost AD and economic activity.

Budget surplus represents a situation where the total value of government outlays is less than the total value of its receipts for a period of time. Budget surpluses occurred between 2006–07 and 2007–08. Larger surpluses may have a more contractionary effect on aggregate demand and hence on economic activity, and are suitable for

slowing inflationary booms. *See* aggregate demand management policies; automatic stabilisers; contractionary budget; discretionary stabilisers.

Budgetary policy (also called fiscal policy) is a macroeconomic or aggregate demand management strategy involving government's estimates of the expected value of its receipts (such as from personal income tax, company tax, customs duties, sales tax, capital gains and excise duties) and the expected value of its outlays (e.g. on social security and welfare, defence, health, education, housing, payments to the states, general public services and economic services), usually based on a one-year period. As an aggregate demand policy, budgetary policy is applied countercyclically to promote economic stability. During an inflationary boom, the budget outcome switches to a more contractionary surplus by the operation of automatic and discretionary rises in receipts and reductions in outlays. This slows aggregate demand, economic activity and inflation. However, during downswings or recessions, the budget switches to a more expansionary stance. Typically there is a budget deficit as a result of automatic and discretionary reductions in receipts and rises in outlays. This tends to lift aggregate demand and economic activity. The medium-term goal of recent budgetary policy is for a return to surplus in the next few years. *See* automatic stabilisers; discretionary stabilisers.

Building Australia Fund (BAF) is a special savings fund set up by the Australian government a few years ago using part of its budget surpluses as seed capital. It is designed to cover financial shortfalls in capital spending on nation building projects like national transport and broadband infrastructure.

Built-in stabilisers *See* automatic stabilisers.

Business and skilled migration programs have been an important part of the federal government's immigration policy for some years. These programs try to attract skilled migrants (including business people) to Australia to help cover the skills shortages and grow our productive capacity. This group now makes up around 65 to 70 per cent of all migrants.

Business behaviour looks at the factors influencing how firms make decisions about the production and sale of particular goods and services.

Business concentration or market power occurs when businesses have used takeovers, mergers, integration and other devices to create monopolies and oligopolies, and where there is a high degree of economic power in the hands of a few (e.g. petrol, banking and water). High levels of business concentration can lead to inflation, exploitation and resource misallocation. *See* concentration of industry and ownership.

Business confidence is an aggregate demand-side factor and involves predictions made by business about the future trends in output and profits. If there is optimism and expectations are of rising sales and falling stocks of goods, business may well decide to expand output and investment, leading to increased AD and economic activity. In reverse, pessimism slows AD and economic activity.

Business cycle is the wave-like or cyclical pattern created by the various phases the level of domestic economic activity (measured by GDP) passes through over a period of time. Typically the phases include a period of expansion, peak (perhaps an inflationary boom), contraction and trough (perhaps a recession). The ideal level is to achieve domestic economic stability. As a result of variations in the level of activity, unemployment, inflation and even the CAD will change. *See* boom; economic activity; recession.

Business sector comprises different types of firms and enterprises producing goods and services.

Cap and trade scheme involves a 'cap' that represents the maximum annual emissions target. 'Trade' refers to the pollution permits that will need to be traded at prices to allow this cap to be achieved.

Capital deepening is a situation where the ratio of the stock of capital to population or the labour force is rising. Capital equipment available to each user is improving in quantity and quality, thus accelerating the growth of productivity and material living standards (in the long run).

Capital equipment is made up of plant and machinery to help producers make other goods and services. This is an important determinant of a nation's productive capacity. *See* capital

expenditure; capital, investment goods; capital resources.

Capital expenditure is spending on plant and equipment designed to satisfy a nation's future needs and wants. In Australia this is undertaken by both private individuals and companies, and by governments:

$$\text{Total capital expenditure} = \text{Private investment (I)} \\ + \text{Government investment (G}_2\text{)}.$$

See capital, investment goods; capital equipment.

Capital gains tax is a direct tax levied on the gains or profits made from the sale of a capital asset, such as land or shares.

Capital inflow is the movement of money capital into a country from overseas sources in the form of non-official private inflow (direct or portfolio investment) or official government borrowing from abroad.

Capital-intensive method of production is a method of production which relies heavily on the substitution of machinery for labour in the production of goods and services.

Capital, investment goods is an input or resource used to assist labour that includes machinery, plant and equipment such as factories, dams, railways, hospital buildings, computers used in industry, roads, tractors and smelters for ores. These may be provided by either the private sector (I) or the government sector (G₂), and involve producer or investment goods help that satisfy future needs and wants by expanding a nation's productive capacity — that is, goods used to help produce other goods and services. *See* capital inflow.

Capital market is an institution where buyers (borrowers) and sellers (lenders) of money capital negotiate the price of capital, which is called the 'interest rate'. Institutions comprising this market in Australia include banks and non-bank financial institutions (NBFIs) such as building societies.

Capital resources (i.e. physical capital) are producer or investment goods (e.g. plant and equipment) that help lift productive capacity and make other labour and natural resources more productive or efficient. *See* capital, investment goods.

Capital widening is a situation where the ratio of capital to population or labour is falling. Capital equipment is spread out more thinly among its users, causing productivity and material living standards to rise less rapidly. *See* capital deepening.

Capitalism is private ownership of land, capital and the means of production (such as farms, mines, banks, factories and shops) where profits tend to dictate decisions made by owners of resources. This is dominant in countries such as Australia, the United States, Britain and Japan.

Capitalist economy *See* capitalism; market capitalist economy.

Carbon emissions permits *See* carbon emissions trading scheme.

Carbon emissions trading scheme puts a price on carbon emissions by allowing this to be decided by demand and supply for pollution permits in the carbon market.

Carbon leakage refers to the relocation of firms and industries from a country that has an emissions trading scheme or carbon tax to one where there are low or no restrictions on emissions.

Carbon tax was used in Australia between July 2012 and July 2014. It was an environmental policy that involved putting an indirect and regressive tax on large firms emitting carbon. By making emissions more expensive, it sought to change the behaviour of both producers and consumers who were encouraged to switch to cleaner and cheaper alternatives or substitutes like wind, solar, hydro and nuclear power on which there would be no carbon tax. *See* Direct Action climate change policy; emissions trading scheme (ETS).

Cash economy are the goods and services (e.g. performed by some tradespeople) that are produced and sold for cash, often outside official business records, to help minimise the payment of tax. The value of these items is usually not declared or included in official estimates of GDP.

Cash rate target is the RBA's announced level of interest rates set for the short-term money market. A change in the level of the cash rate target is taken as an indicator of a change in the stance for monetary policy. Official interest rates below about 2.0 per cent (which occurred between 2012–19) are typically seen as relatively expansionary, while rates above about 3 per cent

(e.g. 2005–08) are seen as relatively contractionary on the levels of AD and economic activity.

Cash welfare assistance is given by the government to the neediest individuals to allow them to purchase basic goods and services.

Centralised wage system is a method of fixing minimum wages and conditions by a government authority, the Fair Work Commission. This wage system has declined in popularity over the past 15–20 years, and nowadays covers only around 15 per cent of the labour force. Other employees are usually covered by decentralised enterprise agreements. *See* Fair Work Commission.

Chain price indexes measure the change in the prices of different types of goods and services (e.g. prices of household consumer items, private investment or capital goods, items of government expenditure, and items exported and imported) making up expenditure on GDP. These inflation indexes use a moving reference or base year as the basis of comparing prices and this base advances by one year, every year. Hence, the base year is the year immediately before the current year, and this is given a value equal to 100 index points. For example, the base year for 2018–19 chain price indexes is 2017–18. Chain price indexes are used to remove, statistically, the effects of price variations on the value of GDP so that it can be determined whether there has been a rise or fall in the actual volume of goods and services produced between one year and the next (called chain volume GDP).

Chain volume GDP *See* gross domestic product — the chain volume approach to measurement.

Checklist approach to inflation targeting by the RBA is the approach used by the RBA when it reviews its monetary policy stance or setting. This checklist may include the CPI and underlying measures of inflation, indicators of spending and retail sales, indicators of overseas economic activity, indicators of consumer and business confidence, trends in the Australian dollar and consideration of the stance of budgetary policy.

Circular flow model of an economy illustrates how the Australian economy works and how its different parts are interrelated. Additionally, it identifies some of the macroeconomic variables affecting our country's economic conditions.

Clean Energy Act (commenced in 2011 and abolished in 2014) was the cornerstone of the

federal Labor government's environmental policy and led to the implementation of a carbon tax between 2012 and 2014. The *original* Act involved taking a two-step approach towards the pricing of carbon emissions so that both the production and consumption of goods and services involving high emissions were discouraged. These two steps consisted of:

1. the introduction of a carbon tax from July 2012
2. the proposed transfer from a carbon tax to an emissions trading scheme from July 2015.

After its win, the Liberal Coalition abolished the carbon tax. *See* emissions trading scheme (ETS).

Clean floating (or free floating) **exchange rate** is where the exchange rate is determined at equilibrium by market forces of supply and demand for the Australian dollar in the absence of RBA interference in the foreign exchange market.

Climate change refers to unusual variations in average global temperatures and the distribution of rainfall. Most research suggests that global warming is connected with rising levels of economic activity and associated increases in CO₂ emissions due to the burning of fossil fuels.

Collective bargaining occurs when wages are negotiated directly between employees and employers without government interference. *See* decentralised wage fixing.

Collective goods and services or wants are outputs generally made available to the community by the government. Examples include roads, parks, schools and health, which are generally financed out of government revenue. *See* infrastructure.

Collusion occurs when companies get together to set prices and establish selling arrangements in a non-competitive way. A common aim of such action is to help companies sell at a higher price than would otherwise occur, thus raising profits. This is one type of illegal restrictive trade practice. *See* restrictive trade practices.

Commodity markets are institutions that involve the buying and selling of raw materials (such as minerals, wool, wheat, iron ore and oil) for use by businesses.

Commodity prices are the prices received according to demand and supply on world markets for goods such as grains, gold, beef, oil and natural gas.

Common access resources or goods are those things we all share and depend on like air, rivers

and oceans. Without government intervention, they tend to be overused and abused, since they are rivalrous and non-excludable.

Company tax is a flat or proportional tax levied directly on company profits (49% in 1987–88, 39% in 1988, 33% in 1993 and 36% in 1995). Between July 2000 and 2002, tax reform cut the rate from 36 to 30 per cent. More recently in July 2015, there was a reduction in the rate for small business (turnover less than \$2 million) to 28.5 per cent. Further reductions were announced in the 2016–17 and subsequent budgets, with the rate for small to medium-sized companies falling to 27.5 per cent in 2017, and then stepping down to 25 per cent by 2021–22. Even so, these rates are above the 24 per cent OECD average for similar sized economies.

Comparative cost advantage is the principle that a nation should specialise in those select areas of production in which it has the greatest cost advantage or least cost disadvantage. In so doing, opportunity costs should be minimised, efficiency in resource allocation enhanced and the gains in international trade maximised.

Compatible government goals are goals that enhance the achievement of another goal; for example, pursuing low inflation can enhance another goal, such as external stability. Such goals are regarded as consistent or compatible. The Australian government's goals include full employment, stable prices, external stability, rapid growth and an equitable distribution of personal incomes. For contrast, *see* conflicting government goals.

Compatible policies are policies that reinforce or help other policies in their pursuit of a particular government economic objective. For instance, a contractionary monetary stance with higher cash rates aimed at slowing demand inflation combines well with microeconomic efficiency reforms designed to cut cost inflation to help achieve the goal of low inflation.

Compatible relationships between policies occur when one policy is complementary or supports another policy to help achieve a particular government goal.

Competition occurs when one seller bids against another to keep prices down and quality up in an effort to attract customers.

Competition and Consumer Act See *Australian Competition and Consumer Act* (2010).

Competitive advantage occurs when a firm, industry or economy has a lower cost price structure than its rivals. In this situation, goods and services can be sold more cheaply, undercutting competitors, and expanding domestic and foreign sales. The concept can also be extended to product quality range and flexibility in adapting to new trends in the market.

Competitive markets are based on strong competition between buyers and sellers of goods and services. In such markets, competition keeps prices down. See *market capitalist economy*.

Complementary goods and services or products are those goods and services for which demands are linked in a positive way. For instance, a rise in the demand for tea may tend to cause a rise in the demands for milk, sugar and tea sets.

Composition of trade deals with the type of goods and services exported and imported. Australia's trade is composed of goods such as minerals and primary products.

Concentration of industry and ownership relates to the proportion of an industry's output controlled by a given number of firms. In the case of monopolies and oligopolies, the concentration is said to be high, whereas in purely market economies the concentration of industry should be low. See *business concentration*.

Conditions of demand at the microeconomic level are the non-price factors that affect the quantity of a good or service that buyers are prepared to purchase or demand at a given price. Conditions affecting demand include changes in tastes, fashions, the seasons, disposable income level, and the price and availability of substitute products. Changes in such factors would shift the position of the whole demand line and create a new demand line on a demand–supply diagram for a given product.

Conditions of supply at the microeconomic level are the non-price factors that affect the quantity of a good or service that producers are willing to make available at a given price. Conditions affecting supply include severe weather conditions (floods, drought, cyclones) for crops and other products, the availability of new technology for producers and changes in production costs like wages. Changes in such

factors would shift the position of the whole supply line and create a new supply line on a demand–supply diagram for a given product.

Conflicting government goals occur when implementing one economic goal reduces the chance of achieving another goal. For example, the pursuit of equitable income distribution may reduce the chance of achieving another goal, such as strong and sustainable economic growth (due to a possible trade-off with efficiency).

Conflicting policies undermine each other in the pursuit of a particular economic objective. For instance, in a recession, large budget deficits financed by local borrowing may put upward pressure on domestic interest rates and undermine efforts by the RBA to cut rates. In so doing, government spending is 'crowding out' private consumption and investment spending that is financed by the borrowing of credit. Another example is that large budget deficits financed by overseas borrowing tend to undermine policies designed to reduce the CAD.

Conflicting relationships between policies occur when the pursuit of one goal or policy undermines or contradicts the achievement of another policy in pursuing a particular government goal.

Constant prices are used to give a more accurate and useful impression of real changes in a variable after removing the exaggerations caused by the effects of inflation. Many indicators (such as GDP, national income and government expenditures) are expressed in terms of constant prices. Generally, using constant prices involves the recalculation of figures in terms of those applying in some representative base year.

Constraints on policy action are factors that restrict or reduce the effectiveness of a government economic measure. They include political, social, institutional, overseas and economic constraints.

Consumer is an individual, organisation or group that gains satisfaction from buying goods and services.

Consumer behaviour looks at why, how, where and when consumers choose to purchase or not purchase a good or service. Traditionally, it was thought that consumers behave rationally and make informed economic decisions that

maximise their pleasure and minimise pain. However, more recent research by behavioural economists has shown that this is not always the case. Some suggest that ‘bounded rationalism’ is a more appropriate description, where consumers lack time and access to knowledge to make every decision in a rational way. Instead, they sometimes take short cuts by following the mob (herd behaviour) or sticking to the status quo.

Consumer confidence refers to the psychological state or attitude of private individuals or householders about their future income, employment and unemployment prospects, and expectations about trends in prices. This is an aggregate demand-side factor in the economy. Whether people are generally feeling optimistic or pessimistic in the short to medium term affects private consumption spending (C) involving major purchases (such as the purchase of a new house, car or TV) in the coming period of time.

Consumer goods and services are production that satisfies our immediate needs (such as food, shelter and clothing) and wants (e.g. luxuries). These goods may be single-use, such as food, or of a durable or lasting type, such as a car.

Consumer price index (CPI) is an indicator of average changes in retail prices for those 80 000 goods and services that represent a high proportion of the expenditure for typical Australian metropolitan households. Included in the regimen or basket of goods and services surveyed by the ABS are food, clothing, household equipment and operation, housing, transport, tobacco and alcohol, health and personal care, and recreation and education. Each item is ‘weighted’ to reflect its relative importance. Since the measure is expressed as an index, the average cost of this weighted basket is measured in terms of prices in a base year, such as 2011–12, which is made equal to 100 points.

Consumer sovereignty is the ability of the consumer in a competitive market economy to direct or allocate resources. Producers must simply respond to the ‘dollar votes’ cast by consumers or go bankrupt. The opposite approach is to have government sovereignty.

Consumption spending is expenditure designed to satisfy immediate needs and wants. It consists of private household consumption (C) and

government consumption (G_1) spending on goods and services.

Contemporary market capitalist economy is a modern-day market economy where decisions essentially made by market forces or the price mechanism are modified by government guidance, unions, advertising and business. In such an economy (e.g. Australia, the United Kingdom, the United States, Japan, Canada, New Zealand and Germany) the conditions required for pure competition are, hence, not entirely met.

Contraction is a downturn phase of the business cycle associated with rising unemployment, slowing output levels, often lower inflation, and a stronger current account and exchange rate (as occurred in 2008–09, with slower economic activity recorded generally through 2012–19). A contraction may lead to a recession or depression if it is sufficiently severe. It is usually caused by a drop in aggregate demand. In response, governments often use more expansionary aggregate demand policies to help lift AD and reduce the severity of the slowdown.

Contractionary budget is a budget where the government deliberately slows aggregate demand by a fall in the value of its proposed outlays relative to its receipts. Typically, a rise in the size of a budget surplus is seen as contractionary (e.g. 2006–08), but a reduction in the size of the budget deficit as seen between 2016–17 and 2018–19 might also be seen as mildly contractionary (or less expansionary). *See* budget surplus; contractionary monetary policy stance.

Contractionary monetary policy stance is used to slow or reduce aggregate demand, economic activity and the volume of money. The Reserve Bank may attempt this through, for example, higher interest rates (which occurred in 2009–11) brought about by increased net sales of government securities and pushing up the exchange rate. Such a policy may be appropriate for dealing with booms and rapid demand inflation.

Corporatisation occurs when government business enterprises (GBEs) are expected to be run along the lines of private companies — to be fully accountable for expenditures, to pay tax, to seek profit maximisation and to raise efficiency.

This has been a feature of recent microeconomic reforms in the public sector.

Cost–benefit analysis is performed by adding up all the anticipated direct and indirect costs of a particular decision (e.g. resource and monetary costs, time, opportunity costs) in both the short and long terms, and comparing these against the total value of the anticipated benefits. The aim is to ensure that the benefits of a decision will outweigh the costs (including the benefits forgone or opportunity costs of other decisions or uses of resources).

Cost inflation occurs when rising costs of production (such as wages, salaries, profits, rents, interest rates, the cost of imported inputs, and government charges and taxes) cause prices to be increased so that firms can protect their profits. Unlike demand inflation, this may occur even under conditions of quite high unemployment. Cost inflation is sometimes termed ‘cost-push’ inflation.

Costs of production are the costs involved in producing goods and services, such as wages for labour, interest paid on borrowed capital, imported materials and equipment, and rent paid on property. The final price at which a good or service sells will partly reflect how much it costs to produce. Rising production costs can cause the aggregate supply line to shift inwards if such rises erode the profit margins of firms. This causes the economy to reach equilibrium at a higher level of prices and a lower level of output. *See* aggregate supply policies; microeconomic reforms.

Council of Australian Governments (COAG) is a meeting between the federal and state governments held annually to discuss matters of finance and common policy including measures to promote greater competition and efficiency. It is attended by the prime minister and state premiers. *See* national competition policy (NCP).

Countercyclical budgetary policies are those government aggregate demand budgetary and monetary policies designed to help iron out or reduce the severity of inflationary booms and recessions; that is, they are used to make the business cycle less severe. Keynesian economic theory suggested that during slowdowns or recessions, expansionary budget deficits (e.g. tax cuts and rises in outlays) typically should be used to boost aggregate demand. However, during

inflationary booms, aggregate demand should be slowed using contractionary budgetary measures (e.g. higher taxes and lower outlays leading to bigger budget surpluses). *See* aggregate demand management policies; automatic stabilisers; budgetary policy.

Countercyclical monetary policy means that the RBA uses interest rates to stabilise AD and economic activity. Hence, during a slowdown, the RBA will cut interest rates to increase AD and lift economic activity, but raise interest rates during an inflationary upturn or boom to slow AD and control inflation.

CPI *See* consumer price index.

Credits are money received from overseas for exports of goods and services, primary incomes, secondary incomes and capital inflow. Credits are regarded as a positive item or receipt on Australia’s balance of payments account.

Crowding-in theory is when the federal government runs large contractionary budget surpluses that increase the level of public sector savings. This tends to put downward pressure on domestic interest rates at a time when the RBA may want to push up the cash rate target. If this occurs, the two policies tend to be contradictory in their impact on the levels of AD and economic activity.

Crowding out suggests that there may be a clash during a recession or slowdown between large, expansionary budget deficits financed locally to increase aggregate demand, and an expansionary monetary policy designed to bring down interest rates to raise aggregate demand. When the government borrows locally, the demand for and price of credit tends to rise (higher interest rates), depriving the private sector of access to funds to finance consumption and investment. This upward pressure on interest rates caused by the budget tends to make the RBA’s efforts to lower interest rates less effective. Stabilisation policy thus becomes less effective.

Current account *See* balance of payments account.

Current account deficit (CAD) is where the total value of current payments (debits) for goods, services, primary incomes and secondary incomes exceeds the total value of equivalent receipts (credits). This is typically the situation for Australia.

Current expenditure *See* consumer goods and services; consumption spending.

Current spending *See* consumer goods and services; consumption spending.

Current transactions involve credits and debits for merchandise, services, primary incomes and secondary incomes involved in international transactions. *See* balance of payments account.

Cyclical budget deficit occurs when there is a slowdown in the level of economic activity which causes budget receipts to automatically rise and outlays to fall. *See* automatic stabilisers.

Cyclical cause of changes in economic growth refers to how the rate of economic growth rises and falls cyclically with the level of spending or AD, in response to changes in aggregate demand conditions that affect total spending. This causes booms and recessions. *See* boom; business cycle; recession

Cyclical cause of inflation refers to how, during an upswing in the business cycle, there is often a cyclical increase in the inflation rate caused by the pressure of rising spending and widespread shortages of goods and services because there is no (or limited) unused capacity available to permit an increase in production. This represents demand inflation. *See* boom; demand inflation.

Cyclical causes of inequity in income distribution refers to how both unemployment and inflation can lead to reduced equity or access to basic goods and services for some individuals. Unemployment lowers incomes and purchasing power, and causes wealth to be run down. Inflation makes basic goods and services less affordable for those whose incomes rise more slowly than inflation.

Cyclical current account deficit (CAD) refers to how, when there is a rise in the CAD:GDP ratio (perhaps an increase from 3 to 6 per cent) resulting from a periodic rise in the level of economic activity, the cause is a cyclical rise in spending on imports and a reduction in the level of our exportable surplus.

Cyclical unemployment is unemployment caused when there is not enough aggregate demand (due to weakened demand-side conditions), as occurs during and following slowdowns or recessions (e.g. 2012–19) and depressions (1929–33). In recent times, cyclical unemployment typically exists when the overall unemployment rate is

above perhaps 4–5 per cent. Governments try to minimise this type of unemployment in their quest to achieve the goal of full employment. They do this using expansionary macroeconomic budgetary and monetary policies to accelerate or lift the level of aggregate demand. This causes firms to grow their output and employ more staff, lowering cyclical unemployment.

Debits (or payments to foreigners) on Australia's balance of payments account are imports of merchandise and services, primary incomes, secondary incomes and capital outflow. *See* balance of payments account.

Debt repayment is a burden and involves not only paying regular interest, but also returning the original amount of money or principal borrowed.

Decentralised wage fixing is a system where wages and working conditions applicable to employees are decided by negotiations on a firm-by-firm basis (enterprise level), as opposed to being set uniformly by some central government institution, such as the Fair Work Commission. Decentralisation in wage fixing has been extended since 1991, when enterprise bargaining was officially sanctioned. By early 2018, various enterprise agreements covered around 85 per cent of all employees. *See* *Work Choices Act*; *Forward with Fairness Policy*; *Fair Work Act*; *Fair Work Amendment Act*.

Decision makers are the institutions that make decisions about the economic questions involving resource allocation, production methods and income distribution. Each country has a unique combination of institutions for making decisions. In Australia, important decision makers include the consumer operating in the marketplace, governments, unions, business monopolies and oligopolies, advertising, pressure groups and traditions. However, the relative importance of each varies from country to country and from time to time.

Deficit budget *See* budget deficit; expansionary budget; government borrowing.

Deficit on the balance of payments *See* balance of payments account.

Deficit on the balance of payments current account is when the value of total debits exceeds the value of total credits for goods, services, primary incomes and secondary incomes in

international transactions. *See* balance of payments account.

Deflation is a term describing generally falling prices over a period of time. It can happen in recessions.

Deflationary or contractionary budget is a budget that generally increases total government receipts relative to total outlays to reduce the level of aggregate demand, economic activity and demand inflation. Such a budget may be appropriate during booms and periods of demand inflation.

Demand is a need or want of consumers expressed by the spending of income. More specifically, demand is the quantity of a particular good or service that is purchased at a given price. Demand for a particular commodity decreases as the price increases (an inverse relationship). *See* law of demand.

Demand curve or line shows that the demand for a product varies inversely with price. It illustrates the law of demand. For instance, a rise in price causes the quantity demanded to contract, while a fall in price causes it to expand. This gives the line a negative slope down and to the right. Movements 'along' the demand line are caused by changes in price. *See* demand.

Demand inflation occurs when general prices rise because spending or aggregate demand runs ahead of production or aggregate supply in an economy with full employment or little unused productive capacity available in the economy. There are widespread shortages of goods and services. Rising prices act as a safety valve to ration out scarce goods and services among competing buyers. Demand inflation mainly occurs when aggregate demand expands quickly under conditions where resources are already fully employed or utilised.

Demand management policies *See* aggregate demand management policies; budgetary policy; countercyclical budgetary policies; macroeconomic policy; monetary policy.

Demand-side factors or conditions at the macroeconomic level are the influences on the total level of expenditure or aggregate demand (the things that affect the level of AD, consisting of C, I, G and net X). Examples of demand-side factors include consumer confidence, business confidence, interest rates, the budget outcome, the Australian dollar, terms of trade and overseas

economic conditions. By changing the growth of AD, the levels of sales, stocks and production alter accordingly. *See* aggregate demand factors or conditions.

Demand-side theory was developed by economist, John Maynard Keynes. It attributes changes in a nation's economic activity, production, employment and prices to changes in the level of aggregate demand or total spending. Here spending on locally made goods and services ($C + I + G + X - M$) responds to changes in aggregate demand-side factors such as changes in disposable income, savings ratios, interest rates, the terms of trade, the exchange rate, consumer confidence, business confidence, government policy and overseas economic activity.

Demand–supply diagram are used in the study of microeconomics and illustrate the behaviour of buyers and sellers of a particular good or service in a market and how prices are determined.

Demerit goods are those where their production and/or consumption result in negative externalities that lower the general wellbeing of society (e.g. pollution caused by the production and consumption of brown coal generated electricity).

Democracy is a transparent political system that allows ordinary people to have a free choice, every few years, of who represents them in parliament.

Demographic change involves trends in a nation's population size and aspects of its distribution measured over a period of time.

Demography is the study of population. It might include looking at Australia's population distribution, the birth and death rates, and the immigration and emigration rates.

Depreciation of the exchange rate occurs when the currency of a country may be exchanged for less of another currency than previously. It is caused by a decrease in the demand for the currency relative to its supply in the foreign exchange market. For example, exchange rate before depreciation: A\$100 = US\$100; exchange rate after depreciation: A\$100 = US\$80. This causes a nation's exports to become relatively cheaper overseas, while imports become more expensive.

Depression is a large economic downturn, such as those that occurred in 1889–93 and 1929–33, caused by a significant fall in the level of

aggregate demand. This results in large cutbacks in production, in turn resulting in high levels of unemployment and on occasions falling prices.

Deregulation is the reduction of unnecessary, direct government controls, restrictions and supervision in various areas of the economy. In Australia between the 1980s and 2010s, there were moves to deregulate aspects of the economy such as the capital markets; along with other markets for labour, telecommunications, airlines, ports and shipping, water, power, primary produce and retail. This is regarded as part of microeconomic policy.

Deregulation of the financial system involves removing unnecessary government restrictions and other impediments to efficiency by creating a more competitive financial system. Since the 2008–09 global financial crisis (GFC), there has been some re-regulation to make the system more robust in the face of external shocks.

Deregulation of the labour market is when the government reduces its controls over wage levels and working conditions. In particular, rather than having direct and nationally uniform, government regulation of wages and working conditions, there is increased reliance on firm by firm, enterprise bargaining. Here changes in wages and conditions more closely reflect changes in worker productivity and the value of work as determined by a firm's particular demand and supply conditions.

Derived demand is when a resource is only wanted when another good or service is purchased that uses that resource as an input for its production.

Development is nowadays seen as the economic, social, political and institutional changes needed in low-income countries to improve material and non-material elements affecting the quality of daily life.

Development economics uses economic theory to come up with practical strategies and policies designed to increase development and improve the overall living standards of people in low-income nations.

Direct Action climate change policy is the Coalition government's carbon pollution reduction measure used since 2014 and designed to help alleviate climate change. It involves two main parts:

1. There will be *financial incentives* for firms to reduce their emissions. This is centred on a \$2.5 billion emissions reduction fund (ERF). In 2019, an additional \$2 billion was added to the fund and the name re-badged. It is now called the Climate Solutions Fund or CSF. It seeks to encourage firms to bid for money under a reverse auction process in which the lowest cost applications for maximum emissions reductions will win grants — from projects for increasing energy efficiency in manufacturing and buildings, to planting trees.
2. Businesses are required to have *emissions below a current set baseline* from 2016.

Direct benefits include the income supplements or cash transfers paid by governments to the neediest individuals through social welfare (e.g. the dole, payments to the unemployed, sick, aged and families). These are usually means or assets tested to target the neediest in the community and to reduce the cost to taxpayers. They reduce the income gap between high- and low-paid individuals. They also increase the disposable income of recipients so they can better afford to purchase basic goods and services.

Direct investment is foreign capital inflow used to establish or expand business operations. For example, Alcoa Australia relied on investment funds from the United States to expand its plant and equipment. Australian residents and companies may also undertake direct investment overseas. Foreign investment is initially recorded on the financial account of the balance of payments, but income payments abroad are recorded on the balance of payments current account.

Direct taxes are revenue measures levied directly on income recipients as a proportion of their income; for example, personal income tax (PAYG), capital gains tax and company tax.

Direction of international transactions refers to the countries with whom Australia exchanges goods, services and money capital.

Dirty floating exchange rate occurs in the foreign exchange market when the RBA becomes a net buyer or net seller of the Australian dollar with the intention of lifting or depressing the exchange rate.

Discretionary stabilisers (also called structural stabilisers) are aspects of tax and outlays in the budget that are *deliberately* changed through a decision announced by the treasurer. Sometimes they are used to help iron out fluctuations in aggregate demand and economic activity. These can reinforce the operation of automatic stabilisers. For instance, in a prolonged and severe downturn or recession, the treasurer may decide to reduce marginal tax rates and/or increase particular government outlays (such as increased spending on infrastructure projects and special one-off payments to households) to help boost AD and economic activity. Unlike automatic stabilisers (that operate quickly on AD without significant time lags), discretionary stabilisers need to be deliberately altered and announced, often making the implementation and impact time lags quite long, especially in the case of national infrastructure projects. For contrast, *see* automatic stabilisers.

Disguised unemployment *See* underemployment.

Disposable income is income available for spending after the receipt of welfare benefits and deduction of personal taxes. This is a major determinant of the level of private consumption spending (C) and imports (M) and hence is a demand-side factor.

Distribution of income *See* income distribution.

Distribution of the population refers to the way our people are spread between different age groups, genders, ethnic backgrounds, states and regions.

Dole is the unemployment benefit paid by the government. *See* welfare benefits.

Domestic economic stability is an ideal internal situation for an economy where there is the simultaneous achievement of three government economic goals, namely:

1. strong and sustainable economic growth (GDP growing by an average of around 3 per cent a year)
2. low inflation (average inflation of between 2–3 per cent a year over time)
3. full employment (an unemployment rate currently around 4.5–5.0 per cent of the labour force).

While one of these three preconditions was fairly well met between 2012–19 (low inflation), the

problem was weak economic growth and rising or high unemployment.

Domestic macroeconomic goals relate to the achievement of Australia's three main internal objectives- strong and sustainable economic growth (perhaps with GDP growing by an average of around 3 per cent a year), low inflation (where general consumer prices are rising by around 2–3 per cent on average per year) and full employment (where the unemployment rate is low, perhaps somewhere between 4.5–5.0 per cent of the labour force). The achievement of domestic economic stability, creates conditions optimal for improved material and non-material living standards.

Dumping refers to the actions of an overseas competitor who sells a good below its cost price, thus damaging local producers. This is regarded as unfair competition.

Duration of unemployment shows the average number of weeks spent by the unemployed before work is found.

Dynamic efficiency entails firms being adaptive and creative in response to changing economic circumstances. This may mean using the latest technology, upgrading employee skills and incentives to work more efficiently, undertaking market research and product development, and encouraging firms to be innovative in their products so that they better meet the changing tastes of consumers. *See* efficiency.

Earned income is a reward for labour's contribution towards production. Its most common form is wages.

Earnings generally include wages, salaries and special allowances paid to labour.

E-commerce market is where firms register on and use the internet to buy and sell goods and/or services.

Economic activity relates to the activities of individuals, firms and governments that involve the production of goods and services. Changes in the level of economic activity affect the rates of economic growth, unemployment, incomes and inflation. The level of economic activity relates to the state or pace at which the economy is operating; it may experience boom (which perhaps occurred in 2007–08), recession (e.g. in

1990–91 to 1991–92, almost in 2008–09, with a slowdown in 2013–19), depression (1929–33), internal stability (perhaps in 2002–03, 2005–06 and 2011–12) or stagflation (such as in 1982–83). For example, a very high level of economic activity is often indicated by overfull employment (unemployment less than the NAIRU of around 4.5–5.0 per cent), unsustainably fast economic growth in GDP (above, perhaps, 4 per cent), rapid inflation (above, perhaps, 3 per cent) and a large current account deficit. *See* boom; depression; Keynes, John Maynard; recession; stagflation.

Economic balance or stability is the ideal level of domestic economic activity — neither too strong, causing demand or cost inflation, nor too weak, leading to cyclical unemployment. In other words, simultaneously there is low inflation, strong economic growth and full employment (as perhaps during 2005–07 and 2011–12).

Economic choices involve decisions made by individuals, firms and/or governments about which needs and wants to satisfy, and what types of goods and services to produce and buy. Choices arise because of the economic problem of scarcity.

Economic efficiency means that resources are used to produce particular goods and services that maximise the general satisfaction of society's needs and wants, and wellbeing.

Economic globalisation *See* globalisation.

Economic goals of the Australian government are used as a means for improving general living standards. Currently the federal government has five main economic goals (although these may change in importance over time):

1. *Goal of low inflation* (also called price stability), where rapid inflation is avoided and kept within the annual average target of 2–3 per cent over time. These rates should normally help to ensure that other economic goals of government, such as price and external stability, equity in the distribution of income, long-term economic and employment growth, are not jeopardised or undermined.
2. *Goal of strong and sustainable economic growth*, where the annual volume of goods and services produced by the nation rises at a steady rate, perhaps averaging around 3 per cent over the economic cycle as indicated by the annual rise in real GDP. This target is set at

a *sustainable* level that should not jeopardise the achievement of other goals including low inflation and external stability. Rates above this target band are likely to worsen the CAD, unduly damage the natural environment and cause faster inflation, while lower rates may cause higher unemployment and reduced equity.

3. *Goal of full employment*, where cyclical unemployment associated with weak expenditure and recession is avoided, but where a fairly low level of natural unemployment is tolerated. The acceptable target unemployment rate is currently around 4.5–5.0 per cent of the labour force since at this level other goals (e.g. low inflation) are not undermined. Experience in 2007–08 showed that although unemployment rates lower than about 4.5–5.0 per cent (down to 3.9 per cent in February 2008) may be possible for a time, inflation soon starts to accelerate.
4. *Goal of external stability*, where Australia 'pays its way' in its international trade and financial dealings, and is internationally competitive. Specifically, achieving this goal may involve *three* things: first, an unsustainably large CAD:GDP ratio greater than perhaps the 3–4 per cent target range should be avoided; second, the dollar should retain its value or purchasing power, and erratic and uninformed swings (especially long-term depreciations) in the exchange rate should be avoided; and third, an unsustainably large and unproductive net foreign debt (NFD) and its associated heavy burden of debt servicing should be avoided.
5. *Goal of an equitable distribution of personal income*, where everyone has access to the basic goods and services needed to avoid poverty and maintain basic material living standards at a level deemed generally acceptable to society. It does not imply that there should be equality, but that there should be a *fair* final distribution of income.

See individual listings for each goal.

Economic growth occurs when a nation increases the volume (real value) of goods and services produced over a period of time. The most commonly used general measure of this is the annual rate of growth in real GDP, but this

measure has weaknesses. With this in mind, other indicators have been proposed. One of the government's economic goals in Australia is to promote a strong and sustainable (economically and environmentally) rate of growth in annual output averaging around a 3 per cent rise in GDP, because this helps to generate jobs, improves material welfare and eases social tensions. Nevertheless, it can also result in negative externalities such as pollution and reduced leisure. *See* goal of strong and sustainable economic growth.

Economic infrastructure involves the provision of capital equipment, such as roads, railways, telecommunications and water supply, often by governments, that is mainly used collectively by firms to produce other goods and services. Improved infrastructure is regarded as a favourable aggregate supply factor, but spending on infrastructure will also strengthen AD.

Economic instability is a term used to describe an unfavourable internal or external state of the economy when it experiences inflation, cyclical unemployment, or a weakening current account or exchange rate. This may include conditions such as an inflationary boom (which perhaps occurred in 2007–08), recession (which almost occurred in 2008–09), depression, and stagflation. *See* boom; depression; external stability; internal stability; recession; stagflation.

Economic management occurs when the government attempts to regulate or improve three key areas of the economy. This involves the government using aggregate demand and aggregate supply policies designed to help promote:

1. domestic economic stability (the simultaneous achievement of the goals of low inflation, strong and sustainable economic growth and full employment)
2. external stability
3. an equitable distribution of personal income. The ultimate aim of promoting these goals is to improve living standards for Australians.

Economic or market power is the capacity to influence the economic outcomes in decision making. When there are monopolies and oligopolies, high market concentration means that some firms are price makers. *See* business concentration; decision makers.

Economic policies are measures or strategies used by the government to pursue economic and other goals. These include two main categories:

1. aggregate demand management or macroeconomic budgetary policy and monetary policy
2. aggregate supply management policies including microeconomic reforms, aspects of budgetary policy, immigration policies and environmental policies.

Economic problem is the problem of relative scarcity that faces all nations where needs and wants are unlimited relative to scarce or limited resources. *See* scarcity.

Economic prosperity is taken to mean having high incomes per person and being able to consume or purchase more goods and services.

Economic stabilisation is the process of deliberately using selected government aggregate demand policies (budgetary and monetary policies), applied in a countercyclical way, to help iron out cyclical or short-term fluctuations in the level of economic activity. This means that these policies become more contractionary when AD and economic activity are too strong, and expansionary when they are too weak. *See* economic stability.

Economic stability is the avoidance of rapid inflation (booms) or high unemployment and falling production (recession or depression). *See* economic activity; economic balance or stability.

Economic system is a collection of institutions involved in directing and organising the production and distribution of goods, services and incomes in an economy. There are various ways of classifying economic systems. One is to identify four main types:

1. market capitalist economies
2. market socialist economies
3. planned capitalist economies
4. planned socialist economies.

More specifically, the economic system answers three important questions: (1) 'what and how much to produce', (2) 'how to produce', and (3) 'for whom to produce'.

Economic systems diagram illustrates the types of decision-making system and ownership system used by different countries.

Economic theory describes the beliefs and tentative predictions in explaining economic relationships

and conditions such as booms and recessions. There are the theories of economists such as J.M. Keynes, J.K. Galbraith, M. Friedman, A. Laffer and A. Smith. *See* Keynes, John Maynard.

Economic welfare or wellbeing involves the level of material wellbeing of individuals as related to the quantities of goods and services at their disposal. One commonly used although rather rough indicator of the average level of national economic welfare is:

$$\text{Average economic welfare (\$)} = \frac{\text{Real GDP (\$)}}{\text{Total population size}}$$

See standard of living.

Economics is a social science that studies how to use our limited resources in ways that help to make individuals and society better off materially, so that current and future living standards can be increased.

Economies of large-scale production occur when larger firms produce goods and services more cheaply than smaller ones. Economies of large scale are the reductions in average per-unit costs of production as a firm grows its annual production volumes. Here, costs, such as advertising, raw materials, management, product development and research, and some equipment can be spread more thinly over larger volumes.

Economists are practitioners of the study of economics, which involves identifying an issue or problem, collecting data or facts and observations, drawing out generalisations and theories, and making policy recommendations. *See* economic theory; Keynes, John Maynard.

Economy *See* economic system.

Education Investment Fund is a special fund set up by the federal government using part of the budget surplus to help finance capital spending for tertiary institutions.

EEC or EC *See* European Economic Community or European Union.

Efficiency can be equated with productivity of resources or the value of goods and services produced per year per unit of input or resources used. There are *four* main types of efficiency:

1. *allocative efficiency*, ensuring that resources are used for producing the type of output that best satisfies society's needs and wants
2. *productive (technical) efficiency*, using the lowest-cost method of production by

employing 'best practice' and minimising the resources used

3. *intertemporal efficiency*, where there is an optimum allocation of resources between their use for current consumption and future investment
4. *dynamic efficiency*, so that staff and firms become adaptive and innovative in production, and apply the best technology available.

Efficient allocation of resources occurs when productive inputs are used in a way that maximises the satisfaction of society's needs and wants. When resources are allocated efficiently, it is not possible to lift national output (GDP) further by changing the way resources are used. Allocating resources to areas of comparative cost advantage also helps to satisfy more wants by maximising efficiency and production and minimising opportunity costs.

Elastic describes the demand or supply of a product that is relatively responsive to changes in its price. *See* elasticity.

Elasticity is the measure of responsiveness of the supply of, or demand for, a product to price changes. *See* elastic.

Embargo is a ban on the trade of certain goods, services or movements of capital.

Emissions trading scheme (ETS) is designed to help reduce greenhouse gas emissions. Essentially, the cost of each tonne of carbon dioxide (or other gases) would be established in a carbon emissions market at equilibrium by the forces of demand (from buyers) and supply (from sellers). Those wanting to pollute would need to purchase a sufficient quantity of carbon emissions permits at the going market price (e.g. around \$12 for each one-tonne permit) from those whose low-polluting economic activities generated a surplus of permits. The aim of the scheme is to put a price or cost on carbon emissions, thereby converting a business externality into an internality where businesses and/or consumers of products must bear the cost. This then causes producers and consumers to change their behaviour to reduce emissions. Prior to the election in 2013 and the abolition of the carbon tax from July 2014, the initial intention was for Australia to switch from a carbon tax to an ETS in 2015. *See* carbon tax; Garnaut climate change review.

Employed persons are those aged over 15 who have jobs and work for money.

Employment involves those members of the labour force with paid jobs who work for more than one hour per week. The exception occurs in the case of family members working without pay in the family business for 15 or more hours per week (these people are also regarded as employed).

Enterprise bargaining is a system where wages and working conditions are negotiated between workers and the employer at each individual workplace. This system was introduced in the early 1990s as part of the deregulation of the labour market and is now widely used. It represents a government aggregate supply policy designed to help boost productive capacity and the potential rate of economic growth by increasing flexibility for businesses and workers to negotiate wages on a firm-by-firm basis that better reflects an employee's efficiency, value or worth.

Entrepreneur is a person who has business managerial skills — one who is prepared to take risks and organise production processes, such as Kerry Stokes, Janet Holmes à Court and Rupert Murdoch.

Environmental footprint is how human activity impacts on the natural environment; for example, CO₂ emissions, waste disposal, water and energy consumption, global warming and resource depletion.

Environmental policies are aggregate supply-side government measures designed to reduce environmental damage; for example, schemes to reduce and/or tax carbon emissions; solar cities project; renewable energy targets; Murray–Darling Basin Plan; Direct Action climate change policy.

Environmental resources include the gifts of nature like clean air, stable climatic conditions, unpolluted oceans (stocked with fish) and a healthy stratosphere. Environmental resources are communally used and belong to no particular nation. Since they are nobody's to own or sell, they are viewed as being free goods. Because of this, they often have no market price to act as a barometer of their relative scarcity. This makes them different from, say, scarce minerals, which can be readily sold and for which market prices rise to reflect their increasing scarcity.

Environmental sustainability means that increasing economic prosperity can be continued indefinitely into the future.

Equilibrium is a resting point where the forces of supply and demand are equally matched, and where the market is 'cleared' and agreement is reached between buyers and sellers of goods and services. The price at which this takes place is called the 'equilibrium price' and the volume involved is called the 'equilibrium quantity' (the quantity supplied exactly equals the quantity demanded so there is neither a glut nor shortage).

Equilibrium price *See* equilibrium.

Equilibrium quantity *See* equilibrium.

Equity in the distribution of income as a government goal is one of the federal government's goals. It is where everyone has access to the basic goods and services needed to avoid absolute poverty and to guarantee basic material living standards at a level deemed generally acceptable to society. It does not imply that there should be equality, but that there should be a *fair* final distribution of personal income. Government policies used to pursue this goal include progressive taxes, welfare benefits or income support, provision of affordable government services and maintaining the minimum wage.

Equivalence scales are used to make adjustments to the incomes of individuals to reflect differences in the personal circumstances of various types of income units; for example, a single person; a couple without children.

Equivalised disposable income is the level of income from private sources (such as wages) and welfare after payment of personal income tax and special adjustments to reflect family circumstances (e.g. family size and age). *See* disposable income.

Ethical issues are related to personal attitudes and values about what is seen as right or wrong, good or bad, desirable or undesirable.

European Economic Community (EEC) or European Union (EU) was established in 1957 and was designed to promote free trade (without tariffs) between member countries, which include Italy, the United Kingdom, Germany, France, Austria, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Malta, Finland, Greece, Hungary, Ireland, Latvia,

Lithuania, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden and Belgium. In more recent times, new countries have been invited to join. In 1999, a common currency unit called the euro was launched. This move simplified trade. In 2002 and 2009, membership of the group was expanded.

Exchange rate is the rate at which one nation's currency is exchanged or swapped for that of another. For example, in March 2014 and March 2019, the following exchange rates applied to the Australian dollar:

	March 2014	March 2019
A\$1 =	0.89 US dollars	US\$0.69
A\$1 =	0.53 Pounds sterling	£0.54
A\$1 =	90.39 Yen	78.02¥
A\$1 =	0.65 Euro	0.63€

The exchange rate affects the relative attractiveness of foreign transactions recorded on the balance of payments account. Prior to 12 December 1983, Australia's exchange rate was 'fixed' or set by the Reserve Bank and was seldom changed. Since then, Australia has had a floating or flexible exchange rate. Under this system, the forces of supply relative to demand for a nation's currency in the market for foreign exchange have primarily decided the exchange rate.

Excise tax is an indirect tax levied on selected goods such as alcohol, tobacco and petrol. Increasing this lifts the price of excised goods, and alters resource allocation and government revenue.

Expansion is a period in which levels of national production and employment are rising (e.g. 2009–10 to 2011–12).

Expansionary budget is a budget where the government increases aggregate demand by a rise in the value of its outlays relative to its receipts (e.g. 2008–09, 2009–10 and 2013–14). A bigger budget deficit as a percentage of GDP (compared with the previous year) is usually seen as more expansionary, while a reduction in the deficit could be seen as less expansionary. *See* budget deficit; expansionary policy.

Expansionary monetary policy is when the Reserve Bank attempts to expand aggregate demand through cuts in official interest rates to low levels (e.g. 2012–19) or open market

operations involving the buying back of government securities, or moves to bring about a depreciation of the exchange rate. Such actions may be appropriate for dealing with severe recessions and unemployment. *See* monetary policy.

Expansionary policy is typically used during a slowdown or recession when the government deliberately attempts to accelerate the growth of aggregate demand to stimulate economic activity and reduce cyclical unemployment. Expansionary aggregate demand policies might include bigger budget deficits (such as occurred in 2008–10 and 2013–14), along with RBA cuts in official interest rates (a loose monetary policy stance as during 2016–19). *See* expansionary budget; expansionary monetary policy.

Expenditure is an alternative word for 'spending' or 'demand'. In the short term, this is a major determinant of the level of economic activity. Expenditure on $GDP = (C + I) + (G_1 + G_2) + (X - M)$. *See* aggregate demand.

Export price index is a measure of changes in the average prices received for important exports.

Export spending (X) represents expenditure by people overseas on Australian-made goods and services, which is designed to help satisfy their needs and wants (e.g. wool, minerals, travel).

Exports are goods and services sold to overseas countries. These are regarded as credit or receipts on the balance of payments current account.

External balance *See* external stability.

External stability is a government goal where Australia is internationally competitive and 'pays its way' in its international trade and financial dealings, without the onset of adverse developments. External stability or viability involves *avoiding* three things:

1. a large CAD:GDP ratio (perhaps above 3–4 per cent as a rough guide)
2. erratic and uninformed swings (especially long-term depreciations) in the exchange rate
3. an unsustainably large and unproductive net foreign debt (NFD) and its associated heavy burden of debt servicing (indicated by the ratio of debt servicing to exports).

Externalities are positive benefits or negative costs passed on to third parties not directly involved in

the production or consumption of particular types of goods or services. *See* negative externalities.

Factor income is a reward paid to factors of production for supplying resources to firms.

Factor markets are institutions where various resources or factors of production are bought and sold at a price that reflects their relative scarcity.

Factors of production *See* resources.

Fair or equitable distribution of income *See* assets test; equity in the distribution of income as a government goal; income distribution; means test; poverty; progressive taxes; social services or security.

Fair Work Act (2009) modified the more severe aspects of Work Choices by strengthening unfair dismissal provisions, protecting minimum working conditions through reapplying the better-off test and making new Australian workplace agreements (AWAs) illegal.

Fair Work Amendment Act (2012) sought to improve bargaining and workplace flexibility, and also renamed Fair Work Australia as the Fair Work Commission (FWC). *See* Fair Work Act; Fair Work Australia (FWA); Fair Work Commission (FWC).

Fair Work Australia (FWA) sets minimum wages and conditions for workers not on enterprise agreements. Between 2010–12, a ‘one stop shop’ was created for all industrial relations matters headed by a single workplace institution called Fair Work Australia (FWA). This combined the roles of several organisations including the Australian Fair Pay Commission (AFPC), Workplace Authority, Workplace Ombudsman and the Australian Industrial Relations Commission (AIRC). From January 2013, FWA was renamed the Fair Work Commission (FWC). In making its wage decisions, FWC takes into account:

- the promotion of the economic prosperity of the people of Australia
- the capacity for the unemployed and low paid to obtain and remain in employment
- employment and competitiveness across the economy
- providing a safety net for the low paid
- providing minimum wages for junior employees to whom training arrangements apply and employees with disabilities that

ensure those employees are competitive in the labour market.

See minimum wage.

Fair Work Commission (FWC) became the new name of Fair Work Australia (FWA) from January 2013. Its guidelines and functions are much the same as those of its predecessor.

Family allowances are cash or transfer payments from the government to needy families for certain dependent children.

Favourable aggregate supply factors are those that grow an economy’s productive capacity and potential GDP. They cause firms to become more willing and able to produce goods and services than previously, perhaps due to lower costs, higher profits and reduced closures.

Favourable balance of net goods occurs when the value of imports of goods is less than the value of export of goods on Australia’s balance of payments account.

Favourable terms of trade *See* terms of trade index.

Final distribution of income is how private or market income is shared between individuals after allowing for all government redistribution by means of welfare benefits, the provision of free or subsidised services, direct progressive taxes and indirect taxes. Final income determines the access of individuals to goods and services.

Final income refers to the level of market or private income after allowing for the effects of government income redistribution policies including welfare, free or subsidised public services, the payment of direct personal income tax and the payment of indirect taxes.

Final markets are the meeting place for buyers and sellers of particular final goods and services produced by a nation each year. Together, these market forces negotiate final prices for each type of good and service. These are distinct from resource and intermediate markets.

Financial constraints represent a situation where the lack of money or finance prevents a certain action or policy being implemented. In a slowdown, financial or budgetary constraints and fear of large budget deficits, for instance, can help to prevent governments from making excessive tax cuts and/or being over-generous with its spending.

Financial institutions are organisations, such as banks, building societies and insurance companies, that operate in the capital market as borrowers and lenders of money.

Financial market *See* capital market; financial institutions; financial sector.

Financial sector is that part of the economy concerned with the collection of savings and the relending of these to borrowers and investors. It comprises banks and non-bank financial institutions, such as building societies.

Financing the deficit budget *See* government borrowing.

Fiscal balance is a medium-term operating aim of budgetary policy to run an actual *fiscal balance* over the duration of the economic cycle. This means that budget surpluses during upswings should be more than adequate to finance budget deficits during downswings in economic activity, without the need for increased borrowing. *See* budget outcome.

Fiscal policy is another name for budgetary policy and involves changes to the value of government receipts and outlays. *See* aggregate demand management policies; budgetary policy; countercyclical budgetary policies

Five-sector circular flow model is a diagram representing the various relationships that exist between the five key parts or sectors making up an economy.

Fixed costs are those that change little when a business increases production levels (e.g. advertising, product design).

Fixed exchange rate is where the central bank maintains a given rate of exchange against other currencies. This was used by Australia until 12 December 1983. *See* floating exchange rate.

Fixed income earners are people whose incomes remain relatively fixed or lag behind rises in prices and inflation. Many retired people, for example, are on a fixed income.

Fixed incomes are incomes that remain relatively fixed or unchanged over time. Retirees, for example, are usually on fixed incomes as they may receive a pension that will change only if the government decides to increase the pension.

Floating exchange rate is where the price of one nation's currency against that of others is

established by the forces of supply and demand for the currency in the international market for foreign exchange. Australia has had a floating exchange rate since 12 December 1983. If it is a free-floating exchange rate, the Reserve Bank will usually not intervene to alter the exchange rate. *See* exchange rate; fixed exchange rate; foreign exchange market.

Floor price is a minimum price set by the government in a given market for goods or services that is usually above the free equilibrium price in an attempt to keep the price higher for sellers. A floor price for wool was used some years ago; another example is the minimum award wage.

Foreign aid represents the transfer of funds and other types of assistance by governments and private individuals from high-income to lower-income countries. It can be in the form of loans, grants and other technical assistance.

Foreign aid program involves providing financial and other assistance to low-income countries, and is designed to help reduce poverty, promote the UN's Sustainable Development Goals (2015–30) and achieve the Millennium Development Goals (2000–15).

Foreign exchange market is where buyers (D) and sellers (S) of foreign currencies negotiate the rate at which one nation's currency is swapped for another's. The price or exchange rate for each nation's currency is continually responding to market forces, reflecting the currency's relative scarcity.

Foreign exchange reserves are Reserve Bank holdings largely made up of important foreign currencies, such as US dollars, pounds sterling, Chinese renminbi and Japanese yen. Under a floating exchange rate, these reserves may be drawn on to permit a 'dirty' float where the Reserve Bank wishes to iron out a sudden and unwarranted drop in the exchange rate by buying Australian dollars in the foreign exchange market. *See* dirty floating exchange rate; floating exchange rate.

Foreign investment occurs when, for example, non-residents establish or expand the plant and equipment of a nation, thus adding to capital formation. This increases a country's foreign liabilities or debt. *See* capital inflow; direct investment; government borrowing.

Foreign or overseas debt indicates the borrowings from the rest of the world by our government and private residents. In Australia's case, it reflects the large savings–investment gap and our dependence on overseas savings. This is a major reason for Australia's large CAD.

Forward with Fairness Policy is a part of the federal Labor government's initial approach to industrial relations legislation in 2008. It was a reaction to what were seen as non-inclusive, extreme and hostile industrial policies (Work Choices, for example) of the previous Coalition government.

Free enterprise is an economic system based on the assumption that the needs and wants of individuals are best served when they are free to pursue their own self-interest in the absence of widespread government direction. Such a system depends on the forces of the market in decision making about resource allocation and income distribution. *See* market capitalist economy.

Free goods are things which have no direct price because, relatively, they are not scarce; for example, air. Often the government provides health and education free of direct charge to the community.

Free markets are those markets where the government allows prices to be fully set at equilibrium by the competitive forces of supply and demand. These are most common in market capitalist economies. *See* deregulation; floating exchange rate.

Free rider problem occurs when the free operation of the market fails (market failure) to allocate resources efficiently into socially desirable areas that benefit the community. This is because in instances like the provision of street lighting, minor public roads, law and order, lighthouses, and national parks and beaches, it is often very difficult for companies providing the service to make a profit by charging the users and excluding those who benefit from the service, but who do not pay. This is called the free rider problem. Clearly, without government intervention, many public services would be underproduced partly because their broader positive externalities are ignored.

Free trade theory states that international trade should be conducted without the use of government policies involving industry protection

(e.g. tariffs, subsidies and import quotas). As a consequence, resources are used most efficiently in areas of comparative cost advantage, thereby maximising output and material living standards. Writing in the early 1800s, influential English economist David Ricardo first explained the advantages of free trade. This notion was behind the Australian government's policy of trade liberalisation that included the general tariff cuts of 1972–2005, 2010 and 2015 for textiles, clothing and footwear. It is also the basis of free trade agreements (FTAs). *See* protection.

Free trade agreements (FTAs) are bilateral (or multilateral) trade agreements between two (or more) countries where tariffs, subsidies, import quotas and restrictions on the free flow of money capital are removed. By mid 2019, Australia had 11 FTAs: New Zealand (1983, also known as Closer Economic Relations), Singapore (2005), Thailand (2005), the United States (2005), Chile (2007), ASEAN–Australia–New Zealand (2009), Malaysia (2012), Korea (2014), Japan (2014), China (2015), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (30 December 2018), and Indonesia–Australia Comprehensive Economic Partnership Agreement (signed and operational in June 2019, but it still requires parliamentary approval). In addition, FTA negotiations are underway with India, the United Kingdom and the European Union.

Frictional unemployment refers to people temporarily unemployed between leaving one job and starting another. This commonly occurs among tradespeople.

Fringe benefits tax (FBT) is a tax on the value of company-provided benefits for employees in lieu of income; for example, cars, house loans, air tickets and entertainment.

Full employment refers to the federal government's economic goal where cyclical unemployment associated with weak expenditure and recession is avoided, but where a fairly low level of natural unemployment is tolerated. The acceptable target for the unemployment rate is currently around 4.5–5.0 per cent of the labour force, since at this level other goals (such as low inflation) are not seriously undermined. Rates below this normally lead to an acceleration of inflationary pressures, especially wage costs. However, some

economists believe that in the future a lower rate of perhaps 3–4 per cent may become possible if natural unemployment (NAIRU) can be wound back by the introduction of effective government aggregate supply policies.

Full-time workers (employment) are employees who work for 35 or more hours per week.

Future Fund was created in 2005 to help lift national savings, improve the government's long-term financial position and increase the government's ability to meet its unfunded public sector superannuation liabilities of around \$100 billion. It was started in 2005–06 using seed capital of around \$18 billion contributed by the government. This money has been used to create a giant investment portfolio that by early 2019, has grown to more than \$188 billion through the generation of income, topped up with extra money from further asset sales and future budget surpluses. *See* Building Australia Fund (BAF).

G20 is an international group formed in 1999, made up of the finance ministers from each of the top 20 trading economies, including Australia and the European Union. The group's aim is to deal with economic issues of common concern to members. In recent years, this has involved developing strategies to deal with the GFC, global financial instability and high levels of government debt in some countries.

Garnaut climate change review sought to review the issue of climate change from both an international and Australian perspective, then make recommendations for policy action by the Australian government. The final report was released in September 2008 and this information was used to prepare a white paper entitled 'Carbon pollution reduction scheme: Australia's low pollution future' (December 2008). Until September 2013, this was an important element in the former federal Labor government's environmental policy and was meant to apply from 2015 after the carbon tax was abolished. The centrepiece of this policy would have included the proposed introduction of a carbon emissions permit trading scheme. This would put a price on CO₂ and other greenhouse emissions as a way of meeting our obligations under the Kyoto agreement.

GDP *See* gross domestic product.

GDP at constant prices *See* gross domestic product at constant prices.

GDP per capita *See* gross domestic product at constant prices per capita.

General agreement on tariffs and trade (GATT) is an international agreement which, among other things, has attempted to foster trade and reduce the level of tariffs among members of the agreement.

General or overall living standards and general welfare reflect both economic living standards (perhaps indicated by annual GDP per head or real income or consumption per head) as well as non-economic living standards (perhaps affected by freedom, happiness, job satisfaction, the environment, crime, mobility). *See* economic welfare; measure of economic welfare (MEW); non-economic living standards.

Genuine Progress Indicator (GPI) is an alternative indicator of living standards or progress to using GDP and is seen by some as superior because it better measures economic welfare, along with non-economic welfare. It uses the same personal consumption data contributing to GDP, but then makes both negative and positive adjustments to values to reflect the good or bad effects on society's welfare of some different types of activity and spending. *Deductions* from the figures are made to reflect costs such as:

- environmental damage due to air, noise and water pollution and depletion of environmental resources
- the loss of wetlands, farmlands and forest
- road accidents
- reduced leisure time due to increased hours of work
- inequality in the distribution or sharing of income
- defensive expenditures (such as repairs and medical expenses following road accidents) needed to maintain lifestyles
- the cost of family breakdowns
- dependence on foreign debt.
- There are also *additions* to allow for:
- the ongoing services provided from consumer durable household items and from public infrastructure with relatively long lifespans
- contributions derived from performing housework, parenting, completing unpaid

community voluntary work and other socially productive uses of time.

Supporters of this measure argue that these adjustments make the statistics a far better indicator of the sustainable level of economic welfare or living standards than simply using GDP. *See* gross domestic product (GDP); Human Development Index (HDI); Measuring Australia's Progress (MAP).

Gini coefficient is a number between 0 and 1 that indicates the degree of inequality in the distribution of income or wealth. A coefficient of 0 is recorded if there is absolute equality in distribution, while a coefficient of 1 indicates there is absolute inequality in income or wealth distribution. It is calculated as the area on a Lorenz diagram between the diagonal line of total equality and the actual Lorenz curve for a country. The greater the deviation of the Lorenz curve from the diagonal, the higher the Gini coefficient.

Global financial crisis (GFC) occurred in 2008–09 when greed and unsound lending practices sparked a series of banking, financial and corporate collapses around the world, shattering consumer confidence and causing businesses to collapse. Typically, governments internationally initiated various rescue packages involving cutting interest rates, providing extra credit to prevent further financial and corporate collapses, cutting taxes and increasing budget outlays.

Globalisation is the spread of business and international trade across national borders as if there was only one large market.

Glut is a market situation of oversupply (surplus output) relative to demand. Under the operation of free market forces, this should force prices down to clear the market and restore equilibrium.

Goal of an equitable distribution of personal income is an Australian government goal where everyone should have access to basic goods and services, enjoy reasonable living standards at a level deemed generally acceptable to society, and avoid poverty.

Goal of external stability is a desirable economic situation where Australia is *living within its means* and *able to pay its way* in its international financial transactions without the burden of high

overseas payments causing severe problems that could reduce our living standards. It also means that Australian firms and the economy, is internationally competitive and able to sell goods and services at an attractive price here and overseas, against foreign competition.

Goal of full employment is the lowest rate of unemployment that will not cause inflation to accelerate (NAIRU). Here there will be no cyclical unemployment due to weak AD or recession. However, around 4.5–5 per cent of the labour force will be naturally unemployed due mostly to structural causes and other changes in supply-side conditions.

Goal of low inflation (also called price stability) is achieved when general prices for consumer goods and services are increasing fairly slowly, within the current target range of 2–3 per cent a year on average, over time.

Goal of strong and sustainable economic growth is the promotion of economically (and increasingly, environmentally) sustainable increases in the volume of goods and services produced by the nation measured over a period of time. The sustainable target for economic growth may currently be around 3 per cent a year average over the economic cycle. Higher rates of economic growth are not sustainable because they tend to significantly worsen inflation, weaken the current account, undermine the exchange rate and cause environmental damage including pollution and resource depletion. Conversely, lower rates jeopardise full employment and equity.

Goods are material or physical objects capable of partially satisfying our needs and wants. They may be of a lasting form (durables) or they may be single-use items.

Goods and services tax (GST) was introduced on 1 July 2000. It was considered essential to help reform the outdated wholesale sales tax (WST) system. Currently it involves a 10 per cent, broad-based GST, with few exemptions other than for basic food, residential rent, dwelling construction, community services, export production, education, and health and financial services. However, there were proposals during 2015 and 2017 to increase the rate of GST to 12.5 or 15 per cent, and/or widen the tax's base. One problem with the GST is that it is regarded as a

regressive tax, where the burden falls disproportionately on low-income earners.

Government bonds are paper IOUs for specified amounts. They are issued or sold by the government to local and overseas people lending money to federal, state (e.g. territory bonds) or local governments, or to semi-government agencies (such as Telstra bonds). In return, the government promises to pay lenders a specified rate of interest over the life of the bond. Bonds are often sold to help finance a budget deficit.

Government borrowing may be used to finance a budget deficit. The government may borrow from several sources:

1. Borrowing from the non-bank Australian public through the sale of government securities tends to leave the money supply unchanged.
2. Borrowing from the Reserve Bank is termed 'printing' money and this normally increases the money supply.
3. Borrowing from other Australian banks by selling them government securities initially has little effect on the money supply, but generally expands it once the government starts to spend the finance raised.
4. Borrowing from overseas through the sale of government bonds tends to increase our foreign debt and the CAD.

Government business enterprises (GBEs) are businesses run by the government in a way that is similar to private firms. They seek to run profitably by keeping costs down and selling their goods and services at an adequate price to cover their costs.

Government capital spending is public purchases of investment goods, including infrastructure, used to help produce other goods and services for collective use (such as new buildings, railway lines and power generators). It is abbreviated as G_2 .

Government consumption spending is public expenditure on the purchase of goods and services for immediate use, such as the purchase of stationery and other office supplies, and the wages of public servants. It is abbreviated as G_1 .

Government debt is money or credit owed by government.

Government deregulation refers to the removal of direct government controls, restrictions and supervision of various markets and other areas of the economy.

Government economic services spending or expenditure is government budget outlays on the provision of electricity, water, gas and employment schemes, etc.

Government failure is a situation where government intervention or regulation unintentionally results in reduced efficiency in resource allocation and a reduction in our economic wellbeing. Some possible examples of this in Australia include large subsidies for the coal industry that encourage demand and pollution, and accelerate climate change, the relative rise in the excise tax on premixed alcoholic drinks that tend to cause consumers to switch to stronger beverages, aspects of the minimum award wage that may contribute to unemployment, government monopolies in the provision of some services that limit competition and reduce efficiency, the use of tariff protection rather than free trade that redirects resources into areas of cost disadvantage, and the creation of welfare traps that can sometimes discourage financial independence and work.

Government goals See economic goals of the Australian government.

Government investment is government provision of plant and equipment designed to produce goods and services for the community (infrastructure including roads, railways, public buildings, ports, power grids and dams). This has an effect on both the levels of aggregate demand and on aggregate supply.

Government outlays are the expenses of the government or how the money raised from taxes is used to pay for welfare, education, defence and health. Being an injection in the economy, these add to AD.

Government receipts are government income from various sources such as taxes. Being a leakage in the economy, these slow AD.

Government sector is that part of the economy concerned with raising tax revenue and its spending or outlays.

Government securities are sold in Australia and overseas to raise finance for the budget, or in an

attempt to influence the volume of money. Investors are attracted by the government guarantee of security and by the interest rate offered. *See* government borrowing.

Government spending consists of *two* main types:

1. Government consumption or current spending (G_1) on, for example, the payment of public servant wages, defence equipment and day-to-day running costs of departments. The level of this spending is relatively inflexible.
2. Government investment or capital spending (G_2) on, for example, construction of buildings, roads and power generators.

Note that, by contrast, the budget also includes government outlays on transfer payments that do not actually represent government ‘spending’ in exchange for goods and services.

Government spending on training and education represents another outlay in the budget that can be used in the long term to cultivate the skills, productivity and creativity of Australia’s labour resources (grow our human capital). Such outlays help grow our productive capacity and increase aggregate supply. They involve both (1) current spending on materials and wages, outlays on fees and other support for families and students; and (2) capital or investment spending on buildings, equipment, facilities and infrastructure for pre-school, primary and secondary schools, VET training, universities, TAFE education and libraries.

Government subsidies are cash payments by the government designed to lower business costs and help producers compete by enabling them to sell their product at a lower price than would otherwise occur. These can be used to correct market failure.

Grants are part of foreign aid and represent straight-out donations of cash that do not need to be repaid.

Great Depression was a severe fall in economic activity experienced throughout the world between 1929 and 1933. In Australia, unemployment exceeded 29 per cent, real per capita incomes fell by about 27 per cent, and there was widespread poverty and suffering.

Green GDP is a measure of a nation’s economic growth adjusted downwards for the environmental impacts of producing goods and

services such as the depletion of resources, environmental degradation and loss of biodiversity.

Greenhouse gas emissions include methane, nitrous oxide, sulfur hexafluoride and hydrofluorocarbons released into the atmosphere as a result of economic activity and the burning of fossil fuels. Most people believe that these gases are also contributing to global warming, melting of the polar ice caps, rising sea levels and extreme weather events like droughts, fires, floods and storms. Many feel that unless a price is put on carbon emissions (or CO_2) by means of a tax, or determined in an emissions trading scheme, they will continue to rise. Emissions are an example of a negative externality.

Gross domestic product (GDP) is commonly taken as an indicator of the value of a nation’s output. It represents the total market value (unless expressed at ‘constant’ prices) of final goods and services produced by a country over a period of time (generally a year), minus the costs of inputs used up in production other than the cost of capital equipment. Traditionally, GDP has been calculated in several ways; for example:

1. The aggregate expenditure method = $(C + I) + (G_1 + G_2) + (X - M)$ (the sum of expenditure or demand on final output).
2. The aggregate incomes or cost method = wages, salaries, and supplements, plus gross operating surplus of enterprises, minus imputed bank charges, plus indirect taxes minus subsidies. Nowadays, the chain volume approach to measuring GDP is used.

See chain price indexes.

Gross domestic product at constant prices is the value of final output of a nation’s goods and services adjusted downwards for the effects of inflation by the use of, for example, the implicit price deflator index for production. After such adjustments, changes in real GDP (GDP at constant prices) reflect changes in the actual quantity of goods and services produced over a period of time. This makes it a much more useful and reliable measure of economic growth. Since 1998, this measure has been replaced with the chain volume estimate of GDP. *See* gross domestic product — the chain volume approach to measurement.

Gross domestic product at constant prices per capita is a measure commonly used as a rough indicator of the average level of material living standards or wellbeing of a nation's people. It is equal to the value of real GDP divided by the nation's population size. However, this is not a good measure of economic wellbeing for many reasons, including its failure to take account of the pattern of income distribution and the level of income inequality. In addition, it tells us nothing about non-material living standards.

Gross domestic product — the chain volume approach to measurement has been used since September 1998 by the ABS to measure GDP. This is a very complex and technical development in the estimation of Australia's volume of national production. It is designed to make Australia consistent with some of the world's leading statistical agencies. The main reason for this shift is that chain volume measures that are annually linked and reweighted provide more accurate indications of changes in real output and expenditures than the traditional constant price estimates of GDP.

Gross income represents the total of private or market income received before tax, along with income received from government welfare benefits.

Gross national expenditure (GNE) is the sum of expenditures on goods and services purchased for use within Australia. As such, it includes spending on imports but not spending on our exports of goods and services.

Gross National Happiness (GNH) is a broader composite index of living standards or wellbeing made up of several indicators such as GDP per head, social support, health and life expectancy, freedom to make life's choices, generosity and trust.

Growth rate is the increase in the quantity of real value of goods and services produced by a nation against the previous year, expressed as a percentage. *See* economic growth.

Hard-core unemployment is experienced by individuals who find it difficult to obtain or hold a job because of personal characteristics, such as disabilities, illness and poor attitude or work ethic. *See* unemployable persons.

Hard loans represent credit offered at the normal market rate of interest.

Headline balance refers to the difference between the total cash value of budget receipts minus the cash value of total outlays from all sources, without the removal of items that are affected by one-off events such as asset sales and debt repayments.

Headline budget position *See* budget outcome.

Headline inflation is measured by estimating the average annual change in retail prices across a regimen or basket which contains more than 100 000 individual goods and services made locally or overseas. Some of these items (such as fresh foods) are subject to volatile price changes caused by one-off events (e.g. weather conditions). For this reason, a more popular measure of fundamental inflationary pressures is the *underlying inflation rate* which is calculated by removing about 20 000 volatile items from the CPI regimen. The RBA's and government's goal of low inflation involves having average annual inflation within the 2–3 per cent target over time.

Health and Hospitals Fund is a special savings fund set up using part of the federal budget surplus in 2007–08 to help cover the renewal and refurbishment of hospitals and health facilities, as well as some medical research projects. Subsequently, it has been renamed, the Medical Research Future Fund with assets of over \$9.6 billion by March 2019.

Henderson report *See* poverty; poverty line.

Henry review of Australia's future tax system recommends changes to Australia's tax system, including cutting the rate of company tax to 25 per cent and introducing a resources super profits tax (RSPT) at a rate of 40 per cent on companies exploiting our non-renewable mineral resources.

Hidden unemployment includes those individuals who would like a job or longer hours of work (more work than they currently have). They are not recorded by the ABS in official statistics as unemployed because they are not actively seeking a job. However, they would look for work if they thought they had a reasonable chance of gaining employment. This leads to a serious underestimation of the actual unemployment rate in Australia.

High-income nations are defined by the UN as those where average incomes are over \$12 736 per person a year.

Hilmer report (1995) is an economic inquiry into aspects of the Australian economy that resulted in a long list of recommendations involving microeconomic reforms designed to improve levels of efficiency and competition. Its recommendations became the main basis of Australia's national competition policy (NCP). *See* national competition policy.

Homogeneous product is a product or service where there is no product differentiation, so the good or service supplied by one producer is identical to that type of good or service supplied by other producers. Homogenous products are assumed to exist in a purely competitive market, but this is not the case when brand names exist or other types of product differentiation occur.

Horizontal integration is when firms are joined together to become a bigger business in the same industry. This can increase economies of large-scale production.

Household sector is that part of the economy comprising all individual consumers. In a capitalist economy, these people are also the owners or suppliers of resources.

Human capital is a term that refers to the quality or skills of the labour force that affects its productivity.

Human Development Index (HDI) is another measure comparing the wellbeing of people in different countries. It takes into account both positive and negative indicators (e.g. the level of income per person per year adjusted to international dollars, life expectancy, level of education), and combines them into a single statistical index number between 0 and 1.

Hyperinflation is an extreme situation where prices rise very quickly.

Ideal labour market conditions exist when there is a balance between the demand for and supply of labour. Here, conditions should not be so strong that there are labour shortages leading to inflation, nor so weak that there is high unemployment.

Immigration is people entering a country as permanent residents.

Immigration policy is an aggregate supply policy that is now closely geared to help meet the needs of the labour market in our growing economy with an ageing population. It involves setting annual immigration targets (perhaps 160 000 per

year, as in 2019–20) to manage the overall number, composition, skills and age of migrant arrivals from overseas. It prioritises those who are more likely to make a valuable and ongoing economic contribution to the Australian economy.

Immigration target represents the desired level of immigration (with subcategories or streams including skilled, family and humanitarian).

Impact lag *See* time lag.

Imperfect competition is a condition in a market economy where competition between buyers or sellers is limited by the growth of monopolies and oligopolies, advertising, restrictions to entry in the market and a lack of knowledge of market conditions. This type of market failure is quite common in Australia and is seen by many as a source of higher prices, inefficiency and lack of competitiveness of industry. *See* cost inflation.

Implementation lag *See* time lag.

Implicit price deflator indices (IPDI) were prepared by the ABS and used to remove exaggerations in the national aggregates caused by the effects of inflation. Being based on a broader range of commodities and services, the IPDI for production is preferred to the CPI in adjusting, for example, the GDP to constant prices. More recently, chain price indexes have been used for this purpose.

Import quotas are quantitative government restrictions imposed to limit imports through the issue of licences to importers. For instance, over the years, foreign cars, electrical goods, textiles and footwear have been restricted by this means, despite the fact that quotas may lead to reduced competition, higher prices, inefficiency and a misallocation of resources in the Australian economy. Since 1992, these quotas have been progressively abolished (except for the quota on cheese, which was abolished in 2001).

Import spending (M) is expenditure by Australians on foreign-made goods and services, which is designed to help satisfy our needs and wants (e.g. oil, electronics, travel).

Import substitution occurs when local industries produce goods and services that could be imported. These displace imports.

Imports are goods and services produced overseas and brought into the country. Major imports are oil, machinery, consumer durables, travel abroad

and property income payable overseas. These are regarded as debits on the balance of payments current account.

Incentives are designed to change or modify the behaviour that would otherwise occur. They can be of four types:

- positive incentives or rewards (e.g. cash subsidies, a pay rise, a special award)
- negative incentives or punishment (e.g. a new tax)
- monetary incentives (e.g. involving money rewards or a special award)
- non-monetary incentives (e.g. points for speeding on the roads).

Incidence of tax refers to which groups of people bear the main tax burden.

Income is rewards to those supplying productive resources. In turn, income gives individuals command over the purchase of goods and services to satisfy needs and wants. Income may take various forms, including:

- wages and salaries paid to workers
- rent paid to landlords
- interest paid to owners of capital
- profits paid to risk takers
- transfer payments, income support or welfare from the government to the needy
- payment in kind (provision of goods and services in lieu of money).

Earned income (e.g. wages and salaries) is from working, while unearned income (such as interest and dividends) is from investments.

Income distribution is the pattern or way in which income is divided between individuals, groups or sectors within an economy. This pattern may be highly unequal (as occurs in some oil-producing countries, for example), moderately unequal (e.g. in Australia) or fairly even (such as in Scandinavian countries). In Australia, inequalities exist in wages and salaries, and especially in the ownership of wealth. Moreover, there are inequalities based on age, sex, education, geographic location, luck and inheritance. *See* equity in the distribution of income as a government goal; poverty.

Income redistribution is where the government seeks to alter the allocation of income that would otherwise occur in the economy. Generally, this has involved slightly reducing income inequalities at the ends of the economic ladder

using, for example, progressive taxes, direct means-tested welfare benefits and government spending on indirect benefits such as health. In this way the government pursues its goal of an equitable income distribution where everyone has access to basic goods and services at a level deemed generally acceptable to society.

Income support *See* aged pension; welfare benefits.

Income unit is a term used in measuring the number of Australians living in poverty. It refers to a group of people dependent upon a given source of income. *See* poverty.

Index numbers are used by statisticians to show changes in a variable over a period of time measured against some base year which is usually made equal to 100 index points. *See* constant prices.

Indexation is the adjustment of a variable (such as wages, social welfare benefits or taxes) to make allowances for the adverse effects produced by inflation.

Indirect benefits normally help the poor in an indirect way through governments providing low-cost or free access to certain basic goods or services, such as public housing, health and education. Most are regarded as merit goods that are socially beneficial.

Indirect taxes are levied on the buyers of goods and services at the point of sale, rather than directly on incomes. Tariffs, GST, the carbon tax, excise duties and sales taxes are examples.

Traditionally, such taxes have often been fairly regressive, thus tending to exaggerate income inequalities. However, if luxuries are taxed in this way (e.g. imported cigars, wines and spirits), the impact may be progressive because the incidence generally falls more on wealthy buyers.

Industrial conflict is the differences between workers (or their unions) and employers over such issues as wages, conditions and holidays. Industrial conflict may take many forms — strikes, bans, pickets, go-slows, absenteeism and boycotts.

Industry Commission (IC) was previously called the Industries Assistance Commission (IAC). This government commission was set up to hold inquiries and make recommendations on tariff and other assistance for Australian producers in a manner designed to improve efficiency in resource allocation and to facilitate desirable

structural changes in the economy. Its role has now been taken over by the Productivity Commission.

Industry protection *See* protection.

Inelastic demand occurs when the demand for a particular good or service changes *less than proportionally* to the change in price (e.g. a 10 per cent fall in price results in a 5 per cent rise in quantity demanded). In this instance, total revenue decreases following a fall in price.

Inelastic supply occurs when the quantity supplied changes by a *smaller proportion* than the change in price (e.g. a 10 per cent price rise produces only a 5 per cent rise in the quantity supplied).

Inequality in personal income is the wide gap between those Australians on high incomes and those on low incomes. Here, the income cake is divided unevenly and there are large differences in living standards.

Inequitable distribution of income refers to a situation where a nation's income cake is divided unfairly and where many people are unable to enjoy access to basic goods and services and reasonable living standards at a level deemed generally acceptable to the community.

Inferior goods are those that are replaced by better quality goods as disposable income rises (e.g. steak replaces basic sausages, or an air conditioner replaces a fan).

Infant industry argument is based on the fact that new industries that are just being established will have higher production costs than those that are well established. This justifies helping them to get started using some form of trade protection measures.

Inflation is a situation where average prices for goods and services are rising. In this situation, there may be a redistribution of income, an adverse external effect on overseas reserves and the exchange rate, unemployment and the erosion of business confidence. Generally, economists distinguish two main types of inflation — cost and demand. *See* cost inflation; demand inflation.

Inflation rate is the increase in average prices of a basket of consumer goods and services, expressed as a percentage rise on those in the previous year. The most common measure of the inflation rate is the consumer price index (CPI). Inflation reduces the purchasing power of incomes and makes most people worse off.

Inflation targeting (or 'fight inflation first') has been used by the RBA as the priority guiding changes in its monetary policy stance. These days, inflation targeting means achieving an underlying inflation rate averaging between 2–3 per cent a year over time. This is the medium-term aim of monetary policy. *See* checklist approach to inflation targeting by the RBA.

Inflationary expectations occur when the community comes to expect a continuation of rising prices, which causes people to press for higher wages, salaries, rents and interest to compensate them and to protect their real disposable incomes. Using monetary policy to control these expectations is vital for successful government stabilisation policy.

Infrastructure consists of two types: (1) economic infrastructure, (e.g. power, water, roads, ports, rail links and communications including the national broadband network), which is often used to assist industry; and (2) social infrastructure (such as schools, universities and hospitals). Overall, improved infrastructure is seen as a favourable aggregate supply factor because it helps to expand an economy's productive capacity and potential rate of GDP growth, and improves the community's living standards. It also encourages the growth of new industries. In recent years, there have been bottlenecks in economic and social infrastructure, and these have limited the growth in Australia's productive capacity, aggregate supply and the sustainable rate of economic growth. *See* collective goods and services or wants; Infrastructure Australia.

Infrastructure Australia (IA) is the institution through which the construction of nationally significant infrastructure projects is being made. Taking recommendations and acting in consultation with the federal and state governments, the IA allocates funds and commences projects.

Infrastructure investment can be regarded as an aspect of aggregate supply budgetary policy that involves federal government outlays on the capital resources (G_2) that are in turn used by suppliers to produce other goods and services. Infrastructure may be of two types: (1) social infrastructure, which especially involves the provision of capital goods to facilitate services

like education and health; and (2) economic infrastructure, which typically includes highways, railways, sea ports, airports, electricity capacity and delivery, gas, telecommunications including the broadband network, sewerage and water supply. Investment in better infrastructure helps lift efficiency and lower production costs, strengthening business profits and leading to the growth of productive capacity.

Initial distribution of income is the way private or market income (such as wages, rent, interest and profits) is divided among members of society before government redistribution measures are applied. The initial distribution of income is influenced by factors such as education, luck, inheritance, family attitudes, peer group pressures to succeed, unemployment, the participation rate, hours worked, gender, age and personal abilities. Governments alter the initial distribution of income. They redistribute incomes using progressive taxes, welfare and free services so that the final distribution of Australian income is more even than the initial income distribution.

Injections are additions to the flow of total spending made up of private investment (I), government (G) and export spending (X). These tend to raise economic activity.

Institutional constraints are the limits on policies and actions imposed by the economy's organisations such as markets, business firms, unions, pressure groups and various levels of government. Some institutions slow the pace of economic change.

Interest rate is the annual cost of borrowing credit or the annual return on invested savings. Rates are closely related to the nation's inflation rate and are largely determined at equilibrium in financial markets by the forces of supply (by savers) and demand for credit (by borrowers). Australia has higher interest rates than some countries because of the lack of national savings (a savings–investment gap). This puts us at a competitive or cost disadvantage. It also leads to a rise in the net foreign debt and current account deficit. *See* interest rate policy; monetary policy; rate of interest.

Interest rate policy is the deliberate attempts of the Reserve Bank of Australia (RBA) to bring about changes in the cost, availability and demand for credit. This policy involves the RBA conducting

operations in the short-term money market. Open market operations involve the RBA selling or buying back government securities to achieve its cash rate target. As part of countercyclical policy, the RBA normally raises interest rates during booms or periods of expansion (e.g. the seven rises in 2009–11) to slow AD and economic activity, and thus avoid adding to inflationary pressures. By contrast, it cuts interest rates when there is weak AD, slowing economic activity, recession and rising cyclical unemployment (such as the 16 cuts between late 2011 to late 2019). Changes in interest rates work to alter the level of AD and economic activity through the various transmission mechanisms. *See* transmission mechanism for monetary policy.

Intergenerational reports were published in 2002, 2007, 2010 and 2015. The reports were about the emerging financial crisis for the government and individuals caused by the ageing of Australia's population and the relative decline in the size of the cohort entering the labour force. With fewer taxpayers and the growing cost of aged care, health and pensions, the prediction is for the federal budget deficit to rise to more than \$80 billion per year within 30–40 years unless solutions are found; for example, increased immigration to grow the labour force, or encouragement of private superannuation.

Interlocking directorships occur when the director of one company is also on the board of another company in the same line of business. Such a person may be in a position to restrain competition between the two companies.

Internal balance *See* domestic economic stability; economic stability.

Internal stability (also called domestic economic stability) is a desirable or ideal economic situation pursued by the government involving the simultaneous achievement of full employment/production and low inflation (e.g. as occurred perhaps overall between 2005 and 2007, and maybe in 2011–12). *See* domestic economic stability.

International competitiveness involves local firms and producers being able to compete (in terms of low prices, and comparable quality and service) with rivals and competition from overseas, without government protection from imports or special financial assistance. International

competitiveness may be affected by variables like wage costs, productivity, costs of utilities, tax rates on companies, transport costs and government red tape. Local firms often need to cut their production costs, improve quality, widen their product range, and raise efficiency in production and marketing to be internationally competitive. *See* microeconomic reforms.

International Monetary Fund (IMF) is a global organisation that keeps an eye on the world's financial system. It was set up in 1944 to help stabilise international exchange rates, promote economic development, provide technical assistance and act as a lender of last resort to governments with financial troubles.

International trade and transactions is the exchange of goods, services, primary incomes, secondary incomes and money capital between nations as recorded on the balance of payments accounts. *See* balance of payments account.

International transactions involve the buying of imports of goods and services from overseas, and the selling of exports of goods and services abroad. Additionally, these transactions include the movement of finance or money capital between Australia and the rest of the world as nations undertake international investment.

Internationally competitive firms are those with goods and services (of a given quality) that can sell profitably at a lower price in both domestic and international markets without tariff protection or special government financial assistance.

Intertemporal efficiency means that there is a suitable balance between resources being allocated towards current consumption on the one hand and saving for financing future investment on the other. *See* efficiency.

Investment is capital equipment (plant and machinery) installed by enterprises to help make other goods and services and to raise productive capacity. *See* capital, investment goods; capital resources.

Investment spending is expenditure on the accumulation of capital or producer goods such as plant and equipment. It may be undertaken privately (I), or by the government (G_2). Private investment has traditionally been highly unstable and is greatly influenced by business expectations. *See* capital expenditure; capital, investment goods.

Job vacancies are unfilled offers of work made by employers. These rise in periods of high economic activity and fall in times of low activity.

Keynes, John Maynard was a famous British economist (1883–1946) who wrote *The General Theory of Employment, Interest and Money* (1936). The ideas contained in this macroeconomic theory revolutionised the attitude and approach by governments to economic instability (booms and depressions). Keynes believed that a market capitalist economy was inherently unstable because the level of aggregate demand (effective demand) was unstable. From time to time the economy may experience recessions and depressions caused by an insufficiency of spending, which he believed could be solved by taking measures to lift spending to the extent needed to generate full production and employment (e.g. by lowering taxes and increasing government spending). At other times, the economy may experience booms, which are caused by an excess of spending. The macroeconomic solution proposed was simply the reverse to that adopted in recessions. Thus, countercyclical policies could be used to help iron out serious economic fluctuations. Today, Keynesian economics still forms the cornerstone of government policy in most Western nations.

Kyoto agreement is an international agreement designed to try to limit greenhouse gas emissions. It commits Australia to limiting its greenhouse gas emissions for the period 2008–12 to a target of 108 per cent of the 1990 emissions level. The Australian government's updated target in 2014 was to cut emissions 5 per cent below the 2000 levels by 2020.

Labour costs include wages paid to staff involved in the production of goods and services.

Labour efficiency or productivity *See* productivity.

Labour force generally includes individuals who are aged over 15 years and who are:

1. employed for wages or gain, or
2. unemployed — that is, those without a job but who are willing and able to work.

Today, Australia's labour force consists of more than 10 million workers. *See* employment; participation rate; unemployment.

Labour force survey conducted by the ABS measures various aspects of the labour market

including employment, unemployment, participation and duration of unemployment.

Labour force underutilisation rate is the extent to which the labour force is not working to its capacity. It is calculated by adding the unemployment rate with the underemployment rate.

Labour market is the place, region or institution where buyers and sellers of labour negotiate wages. Even today, this market is not fully competitive because of intervention by governments, large unions and employers. However, there has been labour market deregulation and an extension of workplace agreements.

Labour market conditions refer to whether the demand for labour is relatively strong, steady or weak, relative to the supply of labour. Typically, strong labour market conditions appear when economic activity is rising and are indicated by low unemployment rates of around 4–5 per cent, many job vacancies, a declining duration of unemployment and increasing hours of work. By contrast, weak labour market conditions appear in recession and are reflected in high unemployment rates of say 6 per cent or more, few job vacancies, a rising duration of unemployment and decreasing hours of work.

Labour market deregulation or reform has involved the introduction of enterprise bargaining in the 1990s and 2000s, where wages are linked closely to increased efficiency rather than being set fairly uniformly by a central government authority.

Labour market reforms involve changing the way wages and working conditions are determined. They represent an aggregate supply policy and are primarily designed to improve the efficiency or productivity of Australia's labour resources and to help slow wage and on-costs. They often focus on promoting greater flexibility in employment, along with stronger competition and incentives for workers to lift productivity. The main measures have included a reduced emphasis on and importance of the centralised minimum wage system, and the encouragement of a decentralised wage system of enterprise or workplace agreements that emphasise improved productivity in exchange for pay rises. In addition, awards have been combined and simplified, union

amalgamation has been encouraged, unfair dismissal laws were relaxed (initially for firms with fewer than 100 staff, although in 2008 this protection for workers was partly reinstalled), closed shops have been made illegal, the role of unions has been reduced, and new legislation has been passed including the *Workplace Relations Act* (1996), *Workplace Relations Amendment (Work Choices) Act* (2005), *Workplace Relations Amendment (Transition to 'Forward with Fairness') Act* (2008), the *Fair Work Act* (2009) and the *Fair Work Amendment Act* (2012).

Labour productivity See efficiency; productivity.

Labour resources provide physical power and mental talents to the production process, generally in exchange for wages and salaries.

Lagging indicators show changes in economic activity sometime after the event has occurred because they take time to respond.

Lags See time lag.

Land includes arable land, urban land and mining leases, which are regarded as productive resources. Usually land is taken also to include naturally occurring resources such as minerals, forests, water and climate.

Law of demand states that the quantity of a good or service demanded varies inversely to price. For instance, as the price rises, demand contracts and as the price falls, demand expands. This involves a movement *along* the demand line.

Law of supply states that the quantity of a good or service supplied varies directly with price. For instance, as the price rises, supply expands and as the price falls, supply contracts. This involves a movement *along* the supply line.

Leading indicators are statistical measures that give policy makers advance warning of changes in economic activity; for example, consumer and business confidence, new building approvals and the composite leading indicator.

Leakages of spending represent a loss of expenditure, causing a drop in economic activity. They act as a brake to slow the economy and include savings (S), imports (M) and government taxes (T).

Level of economic activity refers to the pace or speed at which the economy is operating. It mainly relates to the level of national production indicated by GDP, but this is also reflected in the rates of inflation and unemployment. The level of

economic activity changes in a cyclical or wave-like manner. This is called the business cycle. Typically, the level of economic activity passes through four phases:

1. the *expansion* or *recovery* in GDP
2. the *peak in GDP*
3. the *contraction* or *slowdown* in GDP
4. the *trough*.

See boom; business cycle; contraction; depression; economic activity; expansion; recession.

Liquidity is the ability to convert assets into cash or purchasing power.

Living standards refers to how well-off a nation is overall. There are *two* components

1. *economic or material living standards* (relates to the *quantity* of goods and services consumed by each person each year)
2. *non-material living standards* (relates to the *quality* of daily life for individuals as affected by subjective elements including levels of happiness, job satisfaction, crime, environmental health, urban congestion, hours of work and leisure, family tensions and stress).

Clearly, average GDP per capita cannot adequately measure material and especially non-material living standards. These two elements of wellbeing also affect each other in compatible and conflicting ways. For instance, increased economic living standards may cause negative externalities associated with increased pollution, hours of work and stress. These undermine non-material living standards. Alternatively, efforts to reduce environmental damage (such as putting a price on carbon emissions through the carbon tax in 2012–14) may slow the growth of some industries and the economy, and undermine material living standards. See economic welfare or wellbeing; general or overall living standards and general welfare; non-economic living standards.

Localisation is the opposite of economic globalisation. Here, goods, services and investment are localised in a small region or area within a particular country's economy and are not interdependent with other areas, regions or countries.

Long term or long run is a period of time, possibly more than a couple of years in length. In the long

term all variables may be changed, whereas in the short term many variables are relatively fixed. Additionally, the underlying average trend of a graph or variable may only become apparent over many years.

Long-term economic prosperity means that all future generations are able to also enjoy high incomes and consumption levels.

Long-term trend is the general or average direction (upwards, downwards or horizontal) of a variable, usually established over a number of years (perhaps 10 or 20 years).

Long-term unemployment refers to members of the labour force who have been out of work for more than one year (i.e. unemployed for more than 52 weeks).

Lorenz curve is that part of the Lorenz diagram that depicts the degree of income or wealth equality or inequality. The greater the deviation of the income or wealth lines from the diagonal line of absolute equality, the greater the inequalities in income or wealth distribution in a country.

Lorenz diagram is a diagram designed to illustrate the degree of income or wealth inequality. See Lorenz curve.

Low-income countries are those where people subsist on a mere \$2.86 or less per day (around \$1045 per year per person), and where typically there is great physical deprivation, poverty, hunger, inequality, insecurity, poor health, illiteracy, persecution, and the absence of hope and opportunity.

Low inflation as a government economic goal (also called price stability) is currently taken to mean a slow annual rise in consumer prices of around 2–3 per cent per year on average over time, or perhaps at a rate less than that of our trading competitors. This is seen as consistent with achieving other important government goals like full employment, strong and sustainable economic growth, external stability and an equitable distribution of personal income. Ultimately, achieving this goal generally helps to improve our living standards.

Macroeconomic policy is associated with government budgetary policy and RBA monetary policy used to deliberately alter the level of aggregate demand in a countercyclical way. First proposed by economist John Maynard Keynes in 1936, these aggregate demand policies are

usually tightened to slow AD during an inflationary upswing (e.g. bigger surplus budgets and higher official interest rates) and loosened to stimulate AD during a recessionary downswing (e.g. smaller budget surpluses or bigger deficits and cuts in official interest rates). *See* aggregate demand management policies; budgetary policy; countercyclical budgetary policies; Keynes, John Maynard; monetary policy.

Macroeconomics is the branch of economics that emphasises the central role played by the level of expenditure or aggregate demand. Developed by economist John Maynard Keynes during the 1930s, macroeconomics also involves looking at the general influences on national spending, output, income, employment and overall material living standards. It emphasises the need for some degree of government regulation of AD and economic activity using aggregate demand management policies applied in a countercyclical manner. By contrast, microeconomics involves an analysis of how the various parts making up the total Australian economy (sectors including firms, industries and households) actually operate. Microeconomics thus studies the supply side of the economy. *See* aggregate demand; economic activity.

Mandated renewable energy target (RET) is a legislative attempt by the government to increase the level of renewable energy derived from wind, solar and other sources with low carbon emissions.

Market is an institution or organisation used to make economic decisions. Here, goods and services are bought and sold at prices which are negotiated between buyers and sellers, and set at equilibrium between demand and supply. Traditionally, markets were set up in the centre of towns or cities, and involved face-to-face contact between sellers and buyers of goods and services. Nowadays, this has been changed by the revolution in communications on national and international levels. *See* final markets.

Market capitalist economy is an economic system with private ownership of most means of production, and the price mechanism or market forces of supply and demand determining resource allocation, income distribution and ownership of the means of production. As an instrument for making decisions, market forces would:

1. set prices of resources and final products, thereby dictating which types of goods and services would be most profitable. These products would then be produced.
2. dictate the cheapest, most profitable and efficient methods used by private enterprise. The lowest cost combination of inputs of labour, natural resources and capital would be used.
3. operate to distribute incomes to those who had contributed to production. This economic contribution would be priced by the market, thereby creating income differences. In a pure market capitalist economy, certain preconditions would need to exist, including competition between many small independent buyers and sellers, lack of product differentiation, a desire to maximise profits and self-interest, a perfect knowledge of market conditions, lack of government interference, no unions or business monopolies, and freedom of entry into the market.

Market deregulation is a process to increase efficiency whereby the government reduces controls and restrictions that limit competition or the free operation of demand and supply in the determination of market prices.

Market economy is an economic system where most decisions about what and how much to produce, how to produce (production methods) and for whom to produce (how the income cake is divided) are made through the free operation of the price or market system. Here, changes in relative prices affect the relative profits of producing different products, causing resources to be reallocated to maximise profits.

Market failure occurs when the operation of the price system involving the forces of demand and supply fails to allocate resources efficiently to maximise the general satisfaction of society's needs and wants. Market failure can arise when:

1. competition between firms in markets is weak and there are monopolies and oligopolies
2. the market does not produce enough socially desirable public goods and services at a low and affordable price (so that everyone can access these)
3. those who do not directly pay for a service (such as street lighting or defence) cannot easily be excluded from gaining benefits (the

free rider problem). Here it is hard to make profits so there is underproduction.

4. there are both positive and negative externalities arising from the production and consumption of goods and services. Market failure may mean that the market overproduces socially undesirable goods and services that impose costs on others in society, because some individuals are ill-informed or immature in their judgements and profits are high
5. there is asymmetric information: one party to a transaction knows more than another, undermining effective and rational decision making.

See asymmetric information; free rider problem.

Market for foreign exchange *See* foreign exchange market.

Market forces are an instrument for making decisions involving the operation of demand and supply in a market to determine the equilibrium price. By affecting the level of relative prices, changes in conditions of demand and supply also affect relative profits, and hence create signals that help the profit-seeking owners of resources to make key economic decisions. Resources are directed into the areas where they are most wanted by consumers. *See* market capitalist economy; market mechanism.

Market glut or surplus occurs at a price that is too high and above the equilibrium price. Here, the quantity demanded is less than the quantity supplied.

Market income *See* private income.

Market mechanism is the system of decision making whereby the free forces of supply of and demand for particular goods and services operate to set relative prices at the point of market equilibrium. In turn, price changes upwards and downwards act as signals to tell or inform producers of changing consumer decisions about particular types of goods and services they want to see produced. When relative prices of different goods or services change, this affects relative profits and hence the allocation of resources between alternative uses. It is most prevalent in contemporary market economies like Australia where it operates to allocate perhaps over 80 per cent of all resources.

Market operations *See* open market operations.

Market power relates to the ability of a firm to control or influence prices and the output of an industry. *See* market structure or power; monopoly; oligopoly; perfect competition.

Market price is the price of goods or services established by the operation of the forces of supply and demand. *See* market capitalist economy; market mechanism.

Market shortage occurs at a price that is too low and below the equilibrium price. Here, the quantity demanded is greater than the quantity supplied.

Market socialism is an economic system where, despite the existence of widespread government direction and collective ownership, economic decisions about resource allocation and income distribution are strongly and increasingly influenced by the operation of the price mechanism, which sends out signals to owners of resources. China is an example of market socialism.

Market structure or power reflects the degree of competition that exists between manufacturers and sellers in an industry. This can vary from very strong (a purely competitive market) to very weak (a restricted or monopolistic market). Between these extremes, there is monopolistic competition and oligopoly.

Market zoning occurs when firms that usually compete with each other decide not to compete with each other over price in a particular area or zone.

Material living standards relate to the 'quantity' of goods and services individuals consume. It reflects our level of economic wellbeing influenced by the annual levels of per capita GDP, incomes and consumption of goods and services. To calculate average material living standards, GDP per head could be used. It is calculated as follows:

$$\text{Average GDP per head} \\ = \frac{\text{Real GDP (\$)}}{\text{Total population of nation}}$$

One important problem with this measure is that it assumes that the goods and services are distributed evenly across society and geographic regions. Another is that it fails to take account of

negative externalities that impact adversely on our wellbeing. *See* Genuine Progress Indicator (GPI); Human Development Index (HDI); living standards; Measuring Australia's Progress (MAP).

Maximum or ceiling price is a price in a market that is below the equilibrium. It is set by the government in an attempt to keep the price lower and make the item more affordable.

Means of production are factors that enable production to take place, including farms, mines, shops, banks and factories.

Means test is often applied to individuals to decide whether or not they are sufficiently needy or eligible to receive government social services. It is designed to exclude relatively higher income earners, with the main intention being to close the income gap between the relatively rich and the poor. Only those whose incomes fall below the cut-off or means test may receive the government transfer payment. *See* assets test.

Measure of economic welfare (MEW) more accurately reflects actual consumption rather than simple production of goods and services. Starting with GDP, adjustments are made to the figure for certain disamenities associated with production (costs such as pollution and traffic congestion), along with other factors such as an allowance for the amount of leisure time for workers.

Measuring Australia's Progress (MAP) is not a single or composite statistical indicator of welfare like GDP or GPI. Rather, it is a suite or collection of measures published periodically by the Australian Bureau of Statistics (such as the 2013 report, ABS 1370.0) and used to indicate whether life in Australia has improved and whether it can be sustained. Four main categories of measures are used, each with a range of indicators: individual indicators (such as personal health); the economy (e.g. per capita incomes, inflation); the environment (such as pollution levels); and living together (crime rates, for example). *See* Genuine Progress Indicator (GPI); gross domestic product (GDP); Human Development Index (HDI).

Medium-term operational goal of budgetary policy is to gradually return the budget to surplus in the next few years at a prudent rate, when economic circumstances permit this to occur.

Medium-term operational goal of the RBA is to keep annual average inflation at a low rate in the 2–3 per cent range. If inflation is not a threat, the RBA's monetary policy will then try to promote strong and sustainable economic growth and full employment.

Merger is the joining together of two or more companies to form one. Although this may restrict competition, it may also produce economies of large scale.

Merit goods are goods where the broader social benefit exceeds the private benefit of the consumer. These are often associated with positive externalities, whose full benefits have not been fully recognised or taken into account and, hence, are under-produced unless governments intervene in the market, perhaps using subsidies to encourage production and consumption. Here we might think of health and education.

MEW *See* measure of economic welfare.

Microeconomic reforms are another type of government aggregate supply-side policy that often focus on the smaller parts that make up the overall economy, such as a particular industry or a single market. These measures seek to promote greater efficiency often through strengthening competition, keeping production costs down, and by using various motivational incentives for suppliers of goods and services. These policies might include deregulation of the labour and other markets, welfare reform, tax reform and trade liberalisation. *See* aggregate supply policies.

Microeconomics studies the operation of the smaller fragments or units making up the whole economy, such as a particular firm, an industry or a specific market.

Millennium Development Goals were first outlined by the United Nations in 2000 and involve the setting of targets or milestones designed to improve living conditions in low-income countries. One of the key goals involved the halving of severe poverty by 2015.

Minerals resource rent tax (MRRT) commenced in 2012–13 and was abolished in 2014. It involved a nominal tax of 30 per cent on the value of iron ore and coal extracted by large mining companies in excess of \$75 million a year.

Mini-budget is a smaller budget that supplements the main budget, which comes out once a year.

A mini-budget may be required in response to unexpected changes in various indicators.

Minimum price *See* floor price.

Minimum wage is fixed by the Fair Work Commission, which has the capacity to fix (usually once a year) legal minimum award wages and conditions of work governing employment. This provides workers with the means to have a certain minimum living standard. For example, in 2009 there was no rise in the minimum wage but in July 2019 there was a rise to \$740.80 a week. However, with the introduction of decentralised enterprise bargaining, the importance of this centralised wage system has declined to cover only around 15 per cent of workers. *See* Fair Work Australia; Fair Work Commission.

Misallocation of resources occurs when resources are used inefficiently or for purposes that reduce our living standards or level of satisfaction of society's needs and wants. Market failure results in the misallocation of resources.

Modern awards is the name given to a new system of award wages introduced in 2010 as part of labour market reforms. It is designed to simplify and rationalise the old system where there was overlap between the state and Commonwealth wage systems.

Monetarism is an economic theory that emphasises the key role played by the volume of money in influencing output, employment and prices.

Monetary policy is a major category of government aggregate demand management or macroeconomic policy. It is implemented by the Reserve Bank and is designed to influence the cost, availability and demand for credit and money. In a deregulated financial system, monetary policy has mainly focused on influencing interest rates (perhaps through open market operations by the RBA). Monetary policy is applied in a countercyclical way to help regulate AD. It is tightened (i.e. higher cash interest rate target) in an inflationary upswing and loosened (i.e. lower cash interest rate) in a slowdown (e.g. 2016–19) or recession. Through the various transmission mechanisms, RBA changes in official interest rates work to affect the levels of AD and economic activity, and can thus help to simultaneously promote the goals of low inflation, strong and sustainable rates of economic growth and full employment. *See*

aggregate demand management policies; interest rate policy; open market operations; transmission mechanism for monetary policy.

Monetary policy checklist is used by the RBA to arrive at its decision about changing interest rates. The checklist of statistical indicators includes the following categories:

- *inflation rate* — quarterly changes in the headline CPI, underlying CPI, costs of materials used in manufacture and wages costs
- *spending* — trends in consumption and investment spending, AD, retail trade and housing, as well as changes in consumer and business confidence as leading indicators of private spending
- *labour market* — changes in labour market conditions including unemployment, employment growth, job vacancies and labour force participation rates
- *budgetary policy stance* — the type of budgetary policy outcome (such as surplus or deficit) and stance (e.g. expansionary or contractionary) being adopted by the treasurer
- *international situation* — overseas trends in inflation, economic activity and other events like the terms of trade, as well as changes in Australia's exchange rate and CAD.

After weighing up often conflicting evidence, the RBA then adopts a particular policy stance.

Monetary policy stance relates to whether the intention of the RBA is to slow AD and economic activity (a contractionary stance) or whether the aim is to boost AD and economic activity (an expansionary stance). *See* monetary policy; monetary policy checklist; neutral monetary policy stance.

Money is a commodity and includes coins and notes, as well as bank and other deposits in financial institutions held by the public. It fulfils various functions including a commonly regarded measure of value, store of value and standard of deferred payments.

Money capital is the finance needed to undertake business investment involving the purchase of physical capital; for example, plant and equipment.

Money incomes is the income received by people, which is measured in terms of the nominal number of dollars and cents rather than the actual quantity of goods and services that it can

purchase. Purchasing power is better indicated by real incomes that are measured by subtracting the inflation rate for a period from the rise in nominal income for that period.

Monopolistic competition is competition in the market between many buyers and sellers of goods and services that are close but not perfect substitutes because of the existence of brand names and other means of product differentiation.

Monopoly is where a market or industry is dominated by a single producer of goods or services for which there is no close substitute. Such a producer has the potential market power to fix output, prices and profits in a non-competitive way (e.g. power companies, some utilities, possibly BHP steel and CSR). Monopolies occur with both private and government-owned enterprises.

Movement along a demand line is shown on a demand–supply diagram as a move from one point on the demand line or curve to another point. It occurs when consumers of particular goods and services are prepared to buy less of a good or service as the price rises (a contraction in demand), and more as the price falls (an expansion in demand). It should *not* be confused with a shift in the location of the whole demand line caused by changes in the microeconomic non-price conditions of demand (changes in the quantity purchased at each given price level).

Movement along a supply line is shown on a demand–supply diagram as a move from one point on the supply line or curve to another point. It occurs when producers of particular goods and services are prepared to supply a larger quantity of a good or service as prices rise (an expansion in supply), and a smaller quantity as prices fall (a contraction in supply). It should *not* be confused with a move in the location of the whole supply line caused by changes in the microeconomic non-price conditions of supply (changes in the quantity produced at each given price level).

Multicultural society is one based on ethnic diversity.

Multifactor productivity represents a measure of the overall or combined efficiency of labour, capital and other resources.

Multilateral trade agreements are trading arrangements between three or more nations

designed to foster international trade; for example, GATT. *See* bilateral trade agreements.

Multinational companies, also called transnationals, are businesses that produce and distribute goods and services in a number of different countries around the world.

Multiple branding occurs when one company sells two or more similar or identical products (e.g. some washing detergents, toothpaste) under different brand names.

Murray–Darling Basin Plan is a government environmental policy to secure the long-term ecological health of the river system by increasing environmental water flows and reducing usage by using a water trading system designed to put a realistic market price on water that reflects its relative scarcity.

National accounts are annual statistical reports prepared by the ABS and designed to monitor changes in macroeconomic variables such as spending, production and incomes. These were first prepared in the 1945 budget and are useful for economic analysis and policy formulation.

National Competition Council (NCC) is a central organisation set up to provide advice, conduct research, make recommendations and evaluate state government microeconomic reforms aimed at promoting strong competition and improved efficiency.

National competition policy (NCP) is a broad collection of microeconomic reform measures, pursued collectively by federal and state governments or authorities, designed to strengthen competition in markets, even those traditionally dominated by government monopolies. Fostering competition is seen as an important means of improving efficiency in the use of resources and cutting costs. Greater efficiency and lower prices also strengthen the international competitiveness of local firms. Some of the main elements of the NCP include:

- extending the coverage of the *Competition and Consumer Act* of 2010 (formerly the *Trade Practices Act* of 1974) to embrace smaller unincorporated businesses, and federal, state and territory government businesses
- implementing the idea of *competitive neutrality* so that government businesses do not enjoy unfair tax, cost or other advantages

when competing against private businesses in markets

- *restructuring public sector monopoly-type businesses* so there is increased competition and, if need be, corporatising or privatising government businesses
- reviewing the merits or otherwise of various *state and federal laws* that restrict effective competition
- expanding the level of *prices surveillance* arrangements to include all government businesses
- allowing wider access or entry to the production of nationally significant infrastructure
- where relevant, government policies and legislation taking into account ecologically sustainable development, social welfare and equity, regional development, the interests of consumers generally, the competitiveness of Australian industry and the efficient allocation of resources.

See microeconomic reforms.

National debt is government and private loans still awaiting repayment.

National employment standards include legislated and non-negotiable minimum conditions for employment; for example, a 38-hour week, four weeks annual leave, 12 months parental leave, and public holidays and so on. These arrangements now apply to those on the minimum wage and enterprise agreements.

National income equals GDP minus indirect taxes less subsidies minus depreciation allowances minus net income payable overseas.

National savings is money that accumulates when households, firms and governments do not spend all their current income. The government, for example, can save by adopting a budget surplus rather than a budget deficit.

National wage case is considered each year by the Fair Work Commission when it considers the case for a rise in the minimum wage. Typically, there are wage submissions from the ACTU, the government and employers. This and other information is used to make a decision. In July 2019 there was a 3 per cent rise to \$740.80 per week for fulltime adult workers.

National water initiative (NWI) is an aggregate supply strategy that seeks to develop a national

approach to the allocation of water. It encourages water trading between states and improvements in water pricing in order to manage this scarce resource more effectively.

Nationalisation is government takeover of the control and ownership of firms and industries previously owned privately.

Natural monopoly is where there is only one firm in a market due to various circumstances such as the barriers to entry to competitors caused by the huge investment needed, practicalities, government restrictions in the past or some special cost advantage enjoyed. Natural monopolies are common in service delivery areas where competition is limited, such as water and power supply.

Natural resources See land.

Natural unemployment is made up of structural, frictional, seasonal and hard-core types of unemployment that exists to some extent, even in a healthy economy. It is caused by various changes in aggregate supply-side conditions such as the effect of new technology, industry restructuring, the mismatch of skills to fill the jobs on offer, business relocation, unemployment for those workers between jobs and those unemployed at the same time each year. For Australia, recent research suggests that currently, 4.5–5.0 per cent of the labour force is naturally unemployed. Attempts to reduce unemployment to a rate less than this, would only cause labour shortages and cost inflation. For Australia, the rate of natural unemployment has changed over the years. For instance, it was around 1–2 per cent in the 1950s, rose to 6.0–7.0 per cent in the 1970s and 80s and fell to 4.5–5.0 per cent by 2018–19.

Necessity is an essential good or service such as food, shelter and clothing needed for survival.

Negative environmental externalities represent the costs to the environment created by producers and consumers as a result of economic activity. They include pollution, resource depletion, destruction of natural beauty spots, urban congestion and crime that have simply been externalised or passed on to others and future generations.

Negative externalities are adverse consequences or costs imposed on a third party as a result of an individual or firm undertaking economic activities. These are an example of market failure. External costs might include pollution,

exhaustion of resources, smoking, urban problems, high-rise housing, stress, crime, traffic congestion, lack of open space, lack of personal identity, global warming and climate change. The pursuit of rapid economic growth here and overseas has been a major cause of negative externalities.

Net economic welfare (NEW) is a measure of welfare developed by American economist Paul Samuelson and designed to improve the usefulness of GDP in a similar way to the measure of economic welfare. *See* measure of economic welfare (MEW).

Net errors and omissions is an item that reflects the inaccuracies in the recording of international transactions. This item may be either positive or negative.

Net foreign debt (NFD) occurs when the value of borrowing abroad by Australian residents (government, public and private) exceeds the value of Australian assets abroad. A rising level of debt need not be a problem provided that the country has a growing capacity to service that debt by expanding its income from abroad (via increases in net exports and productive capacity, for example). This was not the case during the latter 1980s in Australia.

Net goods represent one category of international transactions recorded on the balance of payments current account. It represents the annual difference between credits for goods exported minus debits for goods imported.

Net investment is recorded on Australia's balance of payments account as a subsection of the capital and financial accounts. It represents the difference between direct and portfolio investment coming into Australia from overseas, and direct and portfolio investment by Australian residents overseas during a period of time.

Net migration is the rate of immigration minus the rate of emigration.

Net overseas spending is the value of spending on exports of goods and services minus the value of spending on imports of goods and services.

Net primary incomes represent one category of international transactions recorded on the balance of payments current account. It involves the payment of primary incomes by Australia overseas and the receipt of primary incomes from overseas in the form of wages, profits, interest,

dividends and royalties. Net primary incomes is equal to the value of primary income credits (receipts of incomes from overseas) minus the value of primary income debits (payment of incomes to overseas).

Net reserve assets are recorded on our balance of payments account and involve both RBA and government transactions including foreign currencies, monetary gold, and required contributions to overseas governments and international agencies.

Net secondary incomes represent one category of international transactions recorded on the balance of payments current account. It involves the transfer of funds (e.g. non-capital foreign aid) to and from Australia. Net secondary incomes is equal to the value of secondary income credits minus the value of secondary income debits.

Net services represent a category of international transactions recorded on the balance of payments current account. It involves the purchase by Australia and sale to overseas of services such as shipment, education, other transport and travel. Net services is equal to the value of service credits (from the sale of services to overseas) minus the value of service debits (from the purchase of services from overseas).

Net wealth or net worth represents the value of assets owned by individuals, such as a house or shares, after taking any debt into account.

Neutral monetary policy stance occurs when the RBA's cash rate target is around the 'normal' 2.5 per cent range by 2019. Rates below this (e.g., 1.0 per cent in July 2019) are seen as expansionary to stimulate AD, while rates above this are contractionary (e.g., 3.5 per cent in 2011) and aim to slow AD and economic activity.

No-disadvantage test was a standard applied to all wage agreements whereby workers could not have pay and conditions below certain minimum standards applied to relevant wage awards. This was later replaced by the better off test.

Nominal income is simply the number of dollars of income received by an individual measured over a period of time, and does not take into account its purchasing power.

Non-competitive markets are marketplaces or situations where prices are not set in an atmosphere of keen competition between many small buyers and sellers. In such markets, it is

common to find monopolies and oligopolies. *See* monopoly; oligopoly; restrictive trade practices.

Non-economic living standards are value-based elements of human wellbeing that influence that part of our living standards unconnected with material possessions — they affect the quality of our daily lives. Elements may include the level of personal happiness, self-fulfilment, low crime and death rates, absence of pollution and political freedom. Many of these are difficult to measure precisely. *See* general or overall living standards and general welfare; living standards; negative externalities.

Non-market activity is production by households and individuals not actually sold or marketed, such as home duties, gardening, babysitting and cooking. This means that the value of this production contributes nothing officially to GDP. The same is true of the cash and black market economies.

Non-material living standards relate to the ‘quality’ of an individual’s daily life, not directly related to the consumption of material goods and services. They could be affected by factors like happiness, freedom, pollution, crime rates, democracy, job satisfaction and life expectancy. *See* non-economic living standards.

Non-renewable resources are natural resources that cannot be replaced or remade as they become exhausted; for example, minerals and oil.

Non-rural commodity markets are institutions where buyers and sellers of raw materials extracted from the ground negotiate prices.

Non-tax revenue is budget receipts that come from sources other than taxes, such as rents from property, profits from government trading enterprises and asset sales.

Non-taxable income is income not subject to tax. For example, income below the tax-free threshold is not taxable. Additionally, some business-related expenses incurred by individuals in gaining income can be subtracted from gross income to arrive at the level of taxable income.

Normative economics involves statements about what should be done, based on personal opinion, likes and dislikes. For instance, to say that the Australian government ‘should increase its spending on defence by cutting outlays on welfare benefits’ is a statement of personal beliefs, so this represents normative economics.

Official cash rate is the interest rate target set by the RBA for the short-term money market and indicates its monetary policy stance.

Oligopoly occurs when several large firms control the output of a product for which there is no close substitute; for example, an oil refinery, soap powder, car and tyre manufacturing and electrical goods.

Open market operations or market operations represent one specific aspect of monetary policy conducted by the Reserve Bank. It involves the sale and repurchase of government securities or bonds by the RBA in the short-term money market as a means of influencing the volume of money, interest rates, aggregate demand and the level of economic activity. For instance, when the RBA repurchases bonds from the banks in the short-term money market, this causes the amount of cash or liquidity to rise, putting downward pressure on interest rates. In turn, lower interest rates stimulate AD and economic activity through various transmission mechanisms. In reverse, the sale of bonds by the RBA creates a cash shortage, pushing up interest rates and slowing AD and economic activity. *See* interest rate policy; monetary policy.

Opportunity cost is the loss of production (production forgone) that occurs when scarce resources are diverted into their next most productive use. Given resource scarcity, this cost is unavoidable in a fully employed economy working at maximum efficiency. For example, increased military production may be measured in terms of the benefits forgone as a result of reduced civilian production. In international trade, the failure of countries to specialise in the production of goods and services where they have a comparative cost advantage also creates an opportunity costs that lowers efficiency and our general level of wellbeing.

Optimum-sized population is a theoretical concept relating to the best population size that will allow a country to maximise material living standards or value of GDP per head.

Organisation for Economic Co-operation and Development (OECD) is an international organisation with 24 member nations, including Australia, that is heavily involved in promoting international trade.

Outlays are the expenses or costs paid by the government in providing public goods and services, and welfare benefits.

Overall balance of payments account (BOP) is an annual statistical record of Australia's financial transactions with the rest of the world. In turn, these transactions are divided into two main types of transactions — current transactions, and transactions involving the capital and financial accounts, each recording credit and debit transactions.

Overdraft is a type of advance or loan made by banks where individuals or companies are granted permission to overdraw their bank accounts in exchange for the payment of an interest rate. This is both a demand-side factor and supply-side factor.

Overnight or short-term money market is an institution in which money is borrowed and lent for short periods of time (e.g. overnight). In conducting its interest rate policy, the RBA operates by selling or buying back secondhand government securities in the short-term money market, thereby altering liquidity, the availability of credit and hence official interest rates. *See* interest rate policy; monetary policy; open market operations.

Overpopulated countries are those where there are too many people given the availability of productive resources. This problem can lead to lower living standards.

Overseas debt *See* foreign or overseas debt; net foreign debt.

Overseas reserves are holdings of foreign currencies by the Reserve Bank. They may be used by the RBA for a dirty float to support the Australian dollar and to help iron out uninformed or erratic falls in the Australian dollar. *See* dirty floating exchange rate; floating exchange rate; foreign exchange reserves.

Overseas sector is that part of an economy involved in the selling of exports and the purchase of imports of goods and services.

Overtime refers to hours of employment or work outside those normally agreed. Overtime normally increases during booms when labour is in short supply and declines during recessions when unemployment is relatively high.

Paid work is when individuals sell their labour for wages or salaries.

Participation rate is a term usually applied to the labour force describing the percentage of a given group of individuals of working age who are prepared to work and seek employment. Changes in welfare and tax scales can affect participation. A rise in the participation rate can act as a favourable aggregate supply factor growing the nation's productive capacity and potential GDP.

Pattern of income distribution relates to the way the nation's income cake is divided between individuals, groups and regions making up society. Income may be divided unevenly; for instance, as a result of differences in age, sex, geographic location, skill, experience, ethnic background, job responsibility and occupation.

Pay-as-you-go (PAYG) tax on personal incomes is a direct progressive tax levied at marginal rates of zero per cent up to 45 per cent, not including the 2 per cent Medicare levy (2019–22). Currently the Australian government is starting to implement a three-stage tax reform package over the next few years to 2024–25 designed to reduce tax rates and restructure tax brackets. *See* personal income tax.

Peak is the upper turning point on the trade cycle prior to contraction. It is often associated with higher production and inflation, and lower unemployment. *See* boom.

Perfect competition is a theoretical situation in the marketplace where many buyers and sellers compete — in the absence of business, union or government monopolies or other restrictions — to set prices for goods and services for which there are many perfect substitutes. *See* market capitalist economy.

Personal income tax is an important direct federal tax on the wages and salaries of individuals (PAYG). It is described as progressive because it taxes higher incomes at higher rates than lower incomes. Marginal tax rates on personal income begin at 0 per cent on taxable incomes up to \$18 200 per year, rising through steps up to 45 per cent on taxable incomes of more than \$180 000 per year, not including the 2 per cent Medicare levy (2018–19).

Persuasion is a minor type of monetary policy strategy that may be used by the RBA to talk up or down the level of borrowing, spending and economic activity.

Planned capitalism means that the economic system mainly involves decision making through

government economic planning, and there is much private ownership of business or the means of production.

Planned socialism means that the economic system mainly involves decision making through government economic planning, and there is much state or government ownership of business or the means of production.

Policy instruments *See* aggregate demand management policies; aggregate supply policies; budgetary policy; environmental policies; immigration policy; macroeconomic policy; microeconomic reforms; monetary policy.

Policy mix is the combination of particular types of government economic policies (e.g. the mixture of macroeconomic or aggregate demand policies versus aggregate supply policies including microeconomic policies) used to pursue each government economic goal. For instance, controlling inflation is best done using a mixture of monetary and microeconomic policies — the former is used to control demand inflation and the latter policy is used to curb cost inflation by reforms to promote greater efficiency.

Policy settings (the current and expected future economic climate) are taken into consideration when the government contemplates changing its aggregate demand or macroeconomic policy stance (i.e. whether or not these need to be more expansionary or contractionary in their impact on AD and economic activity). For example, the trends in inflation, GDP, unemployment, the CAD, expenditure relative to productive capacity and the level of confidence are all considered.

Policy stance refers to whether aggregate demand management or macroeconomic budgetary and monetary policies are expansionary or contractionary in their impact on the level of aggregate demand and domestic economic activity. For instance, during a recession or slowdown when unemployment is rising (which occurred in 2008–11 and 2013–15), budgetary policy often becomes more expansionary by automatic and discretionary cuts in receipts relative to outlays. Typically, the budget moves into deficit and this tends to stimulate aggregate demand and economic activity. Similarly, when the RBA uses open market operations involving repurchasing government securities to lower interest rates, monetary policy's stance also

becomes more expansionary to stimulate aggregate demand and economic activity (e.g. 2016–19), or contractionary to slow inflation. By contrast, the stance typically becomes more contractionary to slow aggregate demand during an inflationary upswing in economic activity (such as occurred in 2006 and 2010–11, and again 2016–19).

Political constraints are the limits imposed on the use of various government policies by the government's desire to remain popular with voters, the lack of a majority in the upper house and by the limits to constitutional powers to take certain action. For example, rises in tax rates or cuts in welfare outlays are seldom popular with voters.

Population growth equals the rate of natural increase (birth rate minus death rate) plus the rate of net migration (immigration rate minus emigration rate). *See* immigration policy.

Population policies relate to attempts by governments to alter the growth rate, size, age distribution and geographic distribution of a nation's population (e.g. through immigration targets).

Population pyramids are diagrams used to show the distribution of a country's population between different age groups and between males and females. These diagrams are usually shaped like a pyramid, with the sides sloping upward to a point because there are generally fewer people in each successively older age group. However, over the years, economic events such as recession, social events (acceptance of contraceptives and changing roles of women) and political events (e.g. war) in Australia and overseas have caused irregularities in the shape of Australia's population pyramid.

Portfolio investment is investment involving the purchase of shares generally listed on the stock exchange. It is often regarded as speculative and unstable in nature. This is a major item contributing to non-official (private) capital movements recorded as one item on the balance of payments capital account.

Positive economics analyses issues where the investigation is largely free of personal values, feelings or opinions. It is based on hard evidence about what *is* actually the case. In other words, positive economic analysis often involves basic

statements such as ‘if A occurs, then B is the result’.

Positive externalities are the benefits that flow to third parties not directly involved in the production or consumption of a particular merit good or service.

Potential GDP describes how many goods and services a nation could theoretically produce if all resources were used most efficiently. It is the same as a nation’s productive capacity and may be illustrated using the production possibility frontier on a production possibility diagram. It would also be that point on a nation’s aggregate supply line where there will be no further rise in production following rises in the general price level.

Poverty is a term that may be taken in *three* senses:

1. absolute poverty — an insufficiency of income to purchase necessities
2. comparative poverty — an individual may be relatively poor given the general community standards of affluence
3. personal poverty — this may be caused when an individual suffers a sudden drop in living standards caused by, for example, unemployment or sickness.

In the Commission of Inquiry into Poverty (1973) by Ronald Henderson and others, it was found that 10 per cent of Australians lived below a poverty line (an austere level of income) and another 8 per cent were rather poor, having incomes less than 20 per cent above the poverty line. The main groups affected were the aged, females, large families, single-parent families, migrants and the unemployed. Some critics of the Henderson measure say that it exaggerates the extent of poverty. Among those most affected are the young, Indigenous Australians and the long-term unemployed. *See* poverty line.

Poverty line is a level of income below which recipients cannot enjoy reasonable food, shelter and clothing. There are several poverty lines to allow for different sized income units. These lines are regularly updated because inflation erodes the purchasing power of incomes. *See* poverty.

Predatory pricing is selling a product or service at such a low price that competitors are effectively driven out of the market.

Price is the purchase cost or amount paid in exchange for the supply of goods and services. Price often reflects the conditions of demand and supply at equilibrium in a market.

Price collusion is where companies join together to set prices that are usually higher than otherwise and establish selling arrangements that restrict competition.

Price elasticity of demand (PED) relates to *responsiveness* of the quantity demanded to the percentage change in price. For instance, given a rise in price, elasticity relates to whether the demand contracts by a lot or just a little in percentage terms. This can be affected by the availability of substitute products, the product’s importance and the time period involved. Price elasticity of demand can be calculated as follows:

$$\text{PED} = \frac{\text{Percentage change in the quantity demanded}}{\text{Percentage change in its price}}$$

PED is greater than 1 when demand is elastic and less than 1 when it is inelastic.

Price elasticity of supply (PES) relates to the *extent* to which the quantity supplied responds (i.e. whether the quantity supplied expands or contracts by a large or small percentage) to the percentage change in price. Again, elasticity is reflected in the steepness of the supply line and may be affected by the time period, product storability, resource mobility and the level of unused productive capacity. Price elasticity of supply can be calculated as follows:

$$\text{PES} = \frac{\text{Percentage change in the quantity supplied}}{\text{Percentage change in its price}}$$

PES is more than 1 when supply is elastic and less than 1 when supply is inelastic.

Price fixing refers to illegal collusion between supposedly rival firms, often involving strategies that increase prices above normal levels.

Price index is a statistical device used to show changes in the average cost or price of a basket of items. *See* consumer price index (CPI); export price index; implicit price deflator indices (IPDI); terms of trade index.

Price leadership is where a dominant or leading firm takes a lead in setting prices that others follow.

Price makers are sellers of goods and services (e.g. some unions, government enterprises and large businesses) that have the market power to set prices because of the absence of strong competition among suppliers. They are common where monopolies and oligopolies exist and where there are excessive levels of tariff protection.

Price mechanism *See* market mechanism.

Price signals help to make key economic decisions in a market economy by creating incentives for the owners of resources. When the conditions of demand or supply change in a market, they cause a change in relative prices and relative profits, guiding owners to allocate resources to where they are most wanted by consumers. Their level and direction indicate whether there has been over- or underproduction of a good or service in a market economy. Rising relative prices signal shortages or underproduction in a market, while lower prices signal gluts or overproduction. *See* market mechanism.

Price system *See* market mechanism.

Price takers are sellers of goods and services who have no power to influence the prices they receive. The situation exists in markets when competition between sellers of goods and services is strong.

Primary income *See* net primary incomes.

Private consumption *See* consumption spending.

Private enterprise occurs when the means of production (such as land, farms, mines, services, factories and banks) are owned privately. Usually, owners seek to maximise profits. *See* free enterprise; market capitalist economy.

Private expenditure is spending by private individuals and companies designed to help satisfy both immediate and future needs and wants. Both C and I are private components of the aggregate demand equation.

Private income is personal or market income from the sale of resources including wages, interest, rent, dividends and profits, before paying income tax.

Private sector *See* private expenditure.

Privatisation is the reduction of government ownership of business enterprises and their sale

(through the issue of shares) to private individuals or the public (e.g. Telstra, Commonwealth Bank, Qantas). Justification for privatisation includes that it would lift efficiency by improving access to money capital and stronger management, cut costs by the increased desire to maximise profits, and lower prices and improve service quality by increasing the potential for competitors.

Procylical policy may occur when the government tries to use aggregate demand budgetary and monetary policies to help iron out countercyclical changes in various economic policies, but these actions can sometimes worsen instability. If there are long time lags in recognition, implementation and/or impact, these policies can become mistimed and slow spending, for instance, when there is actually a need to increase spending. If this occurs, they become *procylical*, worsening economic instability. *See* countercyclical budgetary policies.

Product differentiation is the use of brand names and advertising to establish differences between substitutable products.

Production is the creation of goods and services.

Production costs include business expenses such as wages, salaries, rent, interest on loans, prices of local and imported raw materials, and government taxes and charges. They are included in the price of goods and services sold. Production costs affect profits and thus can be seen as an aggregate supply factor.

Production possibility diagrams are used to illustrate some of the production choices available to society in the ways resources may be used.

Production possibility frontier (PPF) depicts the maximum level of output possible for a country when all resources are used to maximum efficiency. When a nation is located on this curve or frontier, it is impossible to raise the output of one product without reducing the output of another, unless of course productive efficiency and/or the quantity of resources are expanded. The PPF represents a nation's productive capacity or potential level of output. On the aggregate supply line, this occurs at the 'elbow' where the line becomes vertical. Over time, the size of the frontier may grow or shrink due to changes in the quantity of resources available or the efficiency with which resources are used. Aggregate supply factors or conditions affect the size of the

frontier. *See* aggregate supply (AS); aggregate supply policies; aggregate supply-side factors; productive capacity.

Productive capacity is the economy's physical limit or potential to produce goods and services (potential level of GDP) when all resources are used to maximum efficiency. This is shown at the point where there is an upward bend in the aggregate supply line. It can also be shown on a production possibility diagram as the production possibility frontier or PPF. Productive capacity may be increased (shifting the AS line or the PPF outwards) by access to additional resources. It may also be enhanced by increased efficiency, high levels of investment in new technology, increased participation rates, higher worker motivation and even lower production costs. *See* aggregate supply (AS); aggregate supply policies; aggregate supply-side factors; bottlenecks to production; production possibility frontier (PPF).

Productive or technical efficiency is about firms producing goods and services using the least-cost method and by minimising the resources used. For this to occur, businesses need to employ best practice involving plant, equipment, technology and organisational expertise currently available. *See* efficiency.

Productivity is a measure of efficiency or the output gained per unit of input of resources. In the case of labour, productivity is a measure of efficiency calculated by dividing the real value of final output over a period of time by the total number of workers. Multifactor productivity reflects the efficiency of all inputs of resources. Australia's failure to substantially lift productivity/efficiency has contributed to industry's lack of competitiveness in domestic and foreign markets. Microeconomic reforms and industry plans have attempted to help solve this problem. *See* efficiency; microeconomic reforms; multifactor productivity.

Profit margin is the difference between the final price and the total prices or costs of all inputs used. Generally, producers attempt to maximise profits by their actions and allocate resources accordingly.

Profit maximisation is an assumption applicable to the operation of a market capitalist economy where individuals and firms attempt to achieve the highest rate of income. However, firms may

also have other goals such as enlarging their market share.

Profitability is roughly indicated by the total value of a business's sales minus the total value of its costs. Maximising profits is a key goal for most firms.

Progressive taxes are designed to redistribute income more evenly. The marginal tax rate increases as personal income levels increase (e.g. with personal income tax and capital gains tax). This is the opposite type of tax to a regressive tax. *See* personal income tax; regressive tax.

Property market is an institution where buyers and sellers of land, houses, units and industrial sites (property) negotiate a price.

Proportional or flat tax is a tax where the tax rate remains constant irrespective of income level; for example, 30 per cent tax on the company profits of large firms in 2015–19 (a lower rate for small to medium-sized firms).

Protection is a term used in international trade where imported goods and services are excluded or their volume reduced using various devices such as tariffs or import quotas. Protection is the opposite of free trade. Over the period 1972 to 2020, the federal government reduced the level of protection as part of its microeconomic policy designed to lift efficiency in the allocation of resources. Many arguments are used to justify protection of local industry including the creation of jobs, support of infant industries, and defence arguments. *See* free trade.

Protectionism *See* protection.

Public debt interest is interest payments on government borrowings.

Public enterprise is government ownership of the means of production.

Public goods and services are goods and/or services available for all people to use, gain benefit from or enjoy (e.g. the law, defence, parks and beaches). Sometimes these are even provided privately, perhaps by not-for-profit charitable organisations, but usually the government makes these goods and services available using part of its tax revenue. They are usually non-excludable and non-rivalrous.

Public ownership is widespread in socialist nations and involves government ownership of the means of production.

Public–private partnerships (PPPs) are infrastructure ventures, such as tunnels and major roads, undertaken by federal and state governments with the private sector. Private money builds, maintains and operates the facility, but the government leases it for periods up to 30 years.

Public sector is that part of the economy involving the government production of goods and services.

Public sector borrowing requirement (PSBR) is the finance required by all levels of government when total budget outlays exceed total receipts (i.e. there are budget deficits). *See* government borrowing.

Public trading enterprise is a government business that tries to sell its goods and services at a profit.

Purchasing power is the actual or real quantity of goods and services that may be bought with a given amount of money or income. Changes in real wages (money wages adjusted for inflation) may be a useful indicator of changes in purchasing power.

Purchasing power parity (PPP) is used to make adjustments to the purchasing power of money in different countries so as to allow international comparisons of incomes. The adjusted number is usually expressed in international dollars.

Pure competition *See* perfect competition.

Pure market capitalist economy *See* market capitalist economy; perfect competition.

Pure monopoly is an industry structure where one producer controls 100 per cent of the industry's output for which there are no close substitutes. Competition is non-existent and the producer is a price maker.

Purely competitive markets *See* perfect competition.

Quality of life usually relates to society's level of *non-material* living standards as influenced by a number of subjective or value-based variables; for example, happiness, the crime rate, hours of leisure and work, the environment and freedom. *See* non-economic living standards.

Quarterly changes in data occurs where statistics are released every three months, or four times a year, as with GDP.

Quintiles represent the five equal-sized groups making up all income earners in Australia. Each quintile therefore represents 20 per cent or one-fifth of all income earners. Comparing

income or wealth shares of the income cake by quintiles exposes the degree of inequality.

Quota is the quantity limit or target for production or the import of particular types goods (import quotas).

R&D grants made by governments to institutions (e.g. the CSIRO), universities, industry and individuals, seek to cultivate society's knowledge and improve technology. This approach involves cash payments, and seeks to grow the quality of our resources (especially capital goods and human capital) and increase technical and dynamic efficiency. Additionally, there are tax concessions provided for R&D to make it more attractive by offsetting part of the cost. In the long term, these outlays make supply conditions more favourable and expand our economy's productive capacity or potential GDP. R&D grants can create incentives. These should enable the development of new products and inventions that can be sold to consumers here and around the world and/or bring social benefits (positive externalities) that make society better off and raise the quality of life.

Rapid economic growth *See* goal of strong and sustainable economic growth.

Rate of interest is the cost of borrowing money or the return for lending money. Broadly, this is determined by market forces although the Reserve Bank may influence its level via its open market operations and other measures. *See* interest rate policy.

Rational behaviour is assumed to occur in competitive markets — the belief that both buyers and sellers behave rationally and act in their own self-interest. For example, it is often assumed that firms maximise profits, and consumers want to purchase goods at the lowest price. *See* asymmetric information, bounded rationalism.

Real GDP *See* gross domestic product at constant prices.

Real incomes is what incomes will actually purchase in terms of the quantities of goods and services, after allowing for the effects of inflation. *See* purchasing power.

Real interest rates represent the actual cost of borrowing calculated by subtracting the inflation rate from the nominal interest rate. Inflation is taken into account because, from a borrower's

point of view, it reduces the purchasing power of the moneys being repaid. *See* interest rate.

Real unit labour costs (RULCs) are the average wages paid per worker relative to the average value of output produced per worker measured over a period of time.

Recession is a relatively mild downturn in economic activity (such as occurred in 1990–92) caused by a slowing of aggregate demand leading to reduced sales, above-average levels of cyclical unemployment and a slow rate of economic growth. An economy is said to enter a recession when the real value of production falls in at least two successive quarters (i.e. in six months).

Redistribution of income occurs when government measures such as progressive taxes (direct tax), social welfare benefits (direct benefits) and other needs-based outlays such as education, health and welfare housing for the needy (indirect benefits) create a more equitable income distribution where everyone has access to basic goods and services.

Regimen is the basket of, for example, goods and services or currencies used in the construction of index numbers such as the consumer price index, export price index and trade weighted index. *See* consumer price index (CPI); index numbers.

Regressive tax is a tax that tends to exaggerate income inequalities because low incomes are taxed at higher rates than high incomes. Indirect taxes (such as the excise on tobacco, alcohol and petrol or the GST on a broad range of goods) are generally regarded as regressive.

Regulated markets are markets where the government restricts the free operation of the market or price mechanism, limiting its influence over resource and income allocations. Regulated markets were found in the former communist states of the Soviet Union and Yugoslavia, and exist today in China, Indonesia and even in Australia.

Relative poverty exists when people are very poor and on low incomes compared with what are normally regarded as reasonable living standards in their society.

Relative prices describe the price level of one particular type of good or service compared with the price level of another. When relative prices change (perhaps due to changes in the conditions of demand and supply), this affects relative

profits and hence influences how scarce resources are allocated among competing wants. For instance, a rise in the price of one good relative to another often means that the good becomes relatively more profitable to produce, thereby attracting extra resources into this area of production.

Relative profits describe the profits made in one area of production versus another. They are affected by changes in relative prices.

Relative scarcity is where people's needs and wants are virtually unlimited and exceed the limited resources available to satisfy those wants. *See* scarcity.

Renewable resources are resources that can be replaced or renewed, such as some forests and livestock.

Rent is income derived from the use of land or property.

Re-regulation of markets is where the government reintroduces regulations or restrictions governing the operation of particular markets, perhaps designed to provide more certainty, security and stability. For instance, consideration has been given to the possibility of greater or tighter regulation of the financial sector following the global financial crisis in 2008. Similarly, the Labor government in 2008–09 moved to re-regulate aspects of the labour market to help protect workers.

Reserve Bank of Australia (RBA) has several functions, including:

1. banker to the government and other banks
2. implementer of monetary policy to ensure the stability of our currency and the pursuit of government economic objectives
3. lender of last resort to the banks.

Its key medium-term operational objective is to keep inflation within the 2–3 per cent target over the economic cycle. *See* floating exchange rate; interest rate policy; monetary policy.

Resource allocation involves how scarce resources are to be used and the purposes or ends to which they are put. For example, will they be used for public or private purposes, for the production of specific consumer or capital goods, or for local or export production? *See* efficient allocation of resources; market failure.

Resources are inputs (also called factors of production) used in the production of goods and services. There are *three* main types:

1. land and natural resources
2. labour and entrepreneurial skills
3. capital and technology.

See individual listings.

Restrictive trade practices are illegal activities of business designed to limit competition, raise prices and expand the income of those undertaking them. Activities include:

1. retail price maintenance
2. collusive bidding and tendering
3. price leadership
4. interlocking directorships
5. predatory pricing.

These are illegal under the *Competition and Consumer Act* of 2010 (formerly the *Trade Practices Act*) which is enforced by the ACCC. *See* collusion; interlocking directorships; price leadership; retail price maintenance.

Retail price maintenance is an illegal trade practice where a producer sets a minimum price for the sale of an article by a retailer.

Revenue is government income from various sources such as taxes.

Revenue from federal government enterprise transactions is a category of budgetary revenue collected from the sale of goods and services to the community.

Rural commodity markets are institutions where buyers and sellers of farm produce (such as grains) negotiate prices.

Safety net wages are the minimum award wages set by the Fair Work Commission (\$740.80 for 2019–20). They are now set taking into account unemployment and economic conditions. *See* Fair Work Australia (FWA); Fair Work Commission (FWC).

Salary is an agreed amount of money paid to employees for their labour during the year.

Sales tax is an indirect form of tax (like the GST) on selected goods and services levied by the government at the point of sale. Indirect taxes are often regarded as hidden and are regressive, especially if levied on necessities. They can be made less regressive in their effects on income distribution if they are levied on luxuries purchased largely by higher income groups, such as French wines and luxury cars.

Salination refers to increasing salt levels in soil that can eventually lead to the degradation of soils and vegetation.

Savings are that portion of income not spent.

Frequently, savings are deposited in financial institutions and become available for financing investment and consumption spending.

Savings–investment gap occurs when national savings by households, businesses and governments are not enough to finance national investment by households, businesses and governments. There is a savings–investment gap that can only be filled by borrowing savings from overseas. This increases domestic interest rates, net foreign debt and the current account deficit.

Savings reforms and plans have been initiated by the government to boost national savings. Australian households, businesses and governments do not save enough to finance our high level of investment spending. This results in a national savings–investment gap leading to heavy reliance on overseas borrowing, foreign debt and a big CAD. To try to correct this problem, the government has initiated savings reforms (a savings strategy). These measures include the application of fiscal balance (surplus budgets pay for deficits over the economic cycle), the creation of the Future Fund (and other special savings funds), tax concessions for superannuation contributions (and for the withdrawal of benefits after age 60 years), cuts in tax rates to help facilitate more savings and the superannuation co-contributions scheme.

Scarcity is the basic economic problem or question that arises because our unlimited wants far outstrip the limited resources available for production to satisfy these wants. As a result, we need to make choices about which wants are satisfied. This decision results in opportunity costs.

Seasonal unemployment occurs when climatic and other factors cause some workers, such as shearers, fruit pickers, holiday resort employees and ski instructors, to be unemployed at the same time each year.

Secondary incomes *See* net secondary incomes.

Sector is a section of the economy; for example, consumers, producers, government, overseas.

Securities *See* government securities; open market operations.

Services are non-material objects produced by people for the benefit of others. Often services are of a non-lasting form and expire as soon as they have been performed. However, in some cases, the consumer of services may derive lasting satisfaction from them.

Shift of the whole demand line or curve occurs when the onset of new non-price, microeconomic demand-side factors, cause buyers to be prepared to purchase a larger quantity of a good or service at any given price (called an increase in demand), or purchase a smaller quantity of a good or service at any given price (called a decrease in demand). This concept is not to be confused with an upward movement (demand contracts as the price rises) or downward movement (demand expands as the price falls) along the demand line, and is caused solely by a change in the price of a particular good or service.

Shift of the whole supply line or curve occurs when the onset of new non-price, microeconomic supply-side factors cause sellers to be prepared to produce a larger quantity of a good or service at any given price (called an increase in supply), or a smaller quantity of a good or service at any given price (called a decrease in supply). This is not to be confused with an upward movement (supply expands as the price rises) or downward movement (supply contracts as the price falls) along the supply line, and is caused solely by a change in the price of a good or service.

Shortage arises in a competitive market when, at a given price, the quantity of a good or service demanded exceeds the quantity supplied. Normally, this would cause the market equilibrium price to rise until demand equals supply.

Short term is a fairly short period of time, possibly up to a year. Examining statistics covering such a period cannot be regarded as a sound basis for drawing reliable conclusions or trends.

Short-term money market enables the Reserve Bank to affect interest rates through the conduct of open market operations. When the RBA sells government securities in the short-term money market, this increases the official cash rate, while RBA repurchases of securities lowers the cash rate.

Skilled migration program is part of the federal government's immigration policy. Skilled

migrants are often recruited to help make up for shortages among the trades and professions, and make up 65 per cent of the total migrant intake. *See* immigration policy.

Skills shortages exist from time to time when the supply of some occupations (e.g. engineers, electricians, machinists, doctors) is not enough to fill the number of job vacancies that are on offer in these areas.

Slump is a downturn. *See* depression; Great Depression; recession.

Social infrastructure includes the government's provision of adequate and affordable health care education and housing. *See* infrastructure.

Social security and welfare *See* social services or security.

Social services or security are transfer payments by the government to supplement the income of mainly needy individuals. They include unemployment benefits, the aged pension, invalid and sickness benefits, single-parent benefits and family allowances, and are designed to promote greater income equality. They help to promote equity by allowing low-income earners to purchase basic goods and services and enjoy reasonable living standards. *See* assets test; direct benefits; means test.

Socially desirable goods and services are sometimes known as public or merit goods since they are seen as beneficial for society. They are costly or expensive to produce, and cannot be sold profitably at a low price where all can afford them, so the government is often forced to provide them.

Socially undesirable goods and services are an example of market failure. Sometimes these goods or services are overproduced due to their profitability, but their production or consumption nonetheless damages the general wellbeing of society.

Soft loans are offered at a special discounted or favourable interest rate.

Special savings–investment funds such as the Future Fund and Building Australia Fund have been created by the government by investing budget money into giant investment portfolios that over time should grow in value.

Specialisation of labour occurs when workers perform only a narrow range of tasks or concentrate on a particular occupation, trade or

skill, using the income gained to satisfy their other needs and wants.

Speed limit for a growing economy refers to the rate of rise in an economy's productive capacity. This dictates how fast aggregate demand can expand. It is the maximum rate of economic growth that is possible without causing rapid inflation or a blow-out in the size of current account deficit.

Stabilisation policy *See* aggregate demand management policies; contractionary monetary policy stance; countercyclical budgetary policies; economic stabilisation; expansionary monetary policy; Keynes, John Maynard.

Stability of the currency as a government

economic goal *See* low inflation as a government economic goal.

Stages of economic growth is a concept developed some decades ago by economist Walt Whitman Rostow, who believed that the economic development of a nation went through various phases including subsistence, preconditions, industrialisation, take-off and drive to maturity.

Stagflation occurred in Australia in the 1970s and early 1980s. It is the simultaneous occurrence of:

1. high inflation caused by rising costs of production (cost inflation)
2. high unemployment caused by industry being non-competitive and an insufficient growth in aggregate demand to utilise resources fully
3. stagnant or falling production levels.

Some economists believe that the solution to the problem is to stimulate spending while introducing supply-side measures to lift efficiency and to contain wages and other production costs. The latter should help shift the aggregate supply line outwards, thereby slowing domestic inflation. *See* supply-side economic theory.

Stance *See* policy stance.

Standard of living is a concept used to indicate the general level of wellbeing. This is influenced by both material living standards (e.g. the 'quantity' of goods and services consumed per head reflected in the levels of real per capita GDP, income or consumption) and by non-material living standards (e.g. the 'quality' of daily life, reflected perhaps in the levels of leisure time, job satisfaction, happiness, family cohesion and crime rates). It is the same as the level of general

or overall welfare or wellbeing. *See* economic welfare or wellbeing; general or overall living standards and general welfare; living standards; quality of life

Stern report was commissioned by the British government and headed by former chief economist at the World Bank, Sir Nicholas Stern. The report investigates global warming and its impact on the world economy.

Stock market is an institution where buyers and sellers of company stocks (shares) negotiate prices.

Stocks are unsold goods that have been produced but not yet sold. Shares in companies are also referred to as stocks.

Strong labour market conditions exist when the demand for labour is high, relative to its supply. Here, unemployment is low and there are many job vacancies. This occurs in a boom.

Structural budget outcome is the budget's financial position when the impacts of cyclical or automatic factors affecting receipts and outlays have been removed. It reflects the government's deliberate decisions. For example, during 2013–18 some claimed that there was a structural budget deficit caused by the failure to completely remove the discretionary stimulus measures (by sufficiently raising receipts and cutting outlays) introduced during the GFC.

Structural causes of income inequality include our reliance on the operation of the labour market to determine wages in different occupations, the system of inheritance of wealth, inequality in the abilities and talents of individuals, racial and gender-based discrimination, geographic factors and the tax system.

Structural causes of inefficiency in resource allocation occur when there is market failure and competition is weak. In addition, structural inefficiency may arise when the balance between resources allocated for immediate consumption, as opposed to future investment, is lopsided, or when there is poor technical or dynamic efficiency. *See* efficiency; productivity.

Structural causes of inflation occur when there are inefficiencies in the way goods and services are produced or markets are structured. Firms are forced to lift their prices to cover costs and protect their profit margins. *See* cost inflation.

Structural change involves firms and institutions altering the way they organise, produce or distribute goods and services. Structural change may involve many aspects including closing down or selling off non-performing subsidiaries or branches, de-merging aspects of the business into separate entities, downsizing staff levels, introducing a flatter management structure where there is emphasis on self-managed teams of workers and introducing the world's best practice. Often such changes are the result of government aggregate supply policies that expose firms to greater competition, such as lower tariffs and market deregulation. The main aim of structural change is to allow the business to control its production costs, raise profitability, become more efficient and improve international competitiveness. *See* microeconomic reforms.

Structural current account deficit (CAD) occurs when supply-side problems result in a preference for imports and overseas borrowing relative to exports and domestic borrowing, and net income debits rise. One reason for Australia's generally high CAD is that locally made goods, services and credit are relatively dearer and less attractive than the overseas counterparts. Another cause is the lack of domestic savings to fill the national savings–investment gap that is met by increases in the net foreign debt (overseas borrowing).

Structural determinants of the rate of economic growth such as structural or aggregate supply-side factors (e.g. the size of firms, efficiency of workers, application of new technology, management quality, level of market competition and availability of resources, and aggregate supply policies including microeconomic reforms) affect the way goods and services are produced or supplied. If there is structural inefficiency, the sustainable rate of economic growth or speed limit will be reduced.

Structural efficiency is an aim of microeconomic reform whereby firms, workers, industries and sectors making up the economy become more productive and resources are allocated more efficiently. The government's promotion of competition has forced firms to restructure their operations more efficiently. *See* national competition policy (NCP).

Structural problems are obstacles that exist in an economy that can cause supply-side inefficiency, cost inflation, structural unemployment, low

sustainable rates of economic growth, a structural CAD and income inequality. They can relate to the way production is organised by the suppliers of goods and services, such as firms, unions and governments.

Structural reform is government microeconomic or industry policies designed to improve efficiency in resource allocation and to lift Australia's international competitiveness. Reducing tariff protection, deregulation of various industries and privatisation are all instruments of structural reform. *See* aggregate supply policies; microeconomic reforms.

Structural unemployment is unemployment caused by the changing composition and structure of industry, possibly associated with the introduction of new technology and processes (such as the computer), cost cutting by firms (e.g. business rationalisation, relocation), change in the geographic location of a firm/industry, government microeconomic reform (such as tariff cuts and the carbon tax), a mismatch of skills held by the unemployed that prevent them from taking up job vacancies, and by changing fashions and products. Currently, this contributes significantly to the 5 per cent or so natural level of unemployment in Australia.

Subsidies are generally cash payments or tax concessions given by the government to businesses, industries or individuals. They are part of industry protectionist policies. When given to producers (rather than consumers), they can help to reduce production costs, encourage firms to restructure their operations more efficiently to become internationally competitive, expand their productive capacity, and grow aggregate supply in the long term. They can also help to promote society's general interests by reducing market failure, perhaps associated with externalities and the provision of public goods.

Substitute is one product that can easily replace another; for example, margarine for butter.

Superannuation is a pension or lump sum of money payable to some workers upon retirement. This money is accumulated through contributions made by employees, and by employers on behalf of their staff. The contributions are invested and hopefully grow over time to provide extra retirement income. The government uses tax concessions on superannuation as part of budgetary policy to encourage household savings,

add to national savings and help close Australia's savings–investment gap that adds to the structural CAD and NFD. *See* superannuation co-contributions scheme; superannuation guarantee charge.

Superannuation co-contributions scheme was introduced in 2002 and modified several times. Lower income individuals making a \$1000 after-tax contribution to their superannuation fund were matched by the government by up to \$500 per year.

Superannuation guarantee levy (SGC) is a compulsory levy imposed by the federal government. From 1 January 1993, large companies with payrolls over \$1 million per year were required to pay a 5 per cent contribution into a superannuation fund for employees when they retire. Smaller companies were then to pay a 3 per cent levy. In 2001–02, the percentage rose to 9 per cent, up from the 1998 level of 7 per cent. Subsequently, the SGC has been increased progressively from 9.0 per cent from June 2013, to 9.25 per cent from June 2014, to 9.5 per cent from June 2014, to 10 per cent by 2021–22 and eventually rising to 12 per cent from July 2025.

Supply is a market force that relates to the quantity of a particular good or service that producers are willing to sell at a given price over a period of time. This is directly related to price. *See* law of supply; supply curve or line.

Supply curve or line, when plotted on a graph, shows that the supply of most individual products varies directly with price. For instance, a fall in price causes the quantity supplied to contract, while a rise in price causes supply to expand. This gives the line a positive slope up and to the right. Movements 'along' the supply line are caused by changes in price. *See* supply.

Supply management policies *See* aggregate supply policies.

Supply of labour is the number of individuals able and willing to work.

Supply-side aspects of budgetary policy are aspects in the annual budget such as spending on infrastructure projects, lower tax rates and welfare reforms that help to lift efficiency and build productive capacity.

Supply-side economic theory attributes changes in economic activity and the general inflation rate to changes in the overall willingness and/or ability of the nation's suppliers of goods and services to

produce. Aggregate supply conditions facing producers can become generally more favourable or less favourable for sellers. However, theory suggests that government aggregate supply policies should seek to make these conditions more favourable, leading to an expansion of the economy's productive capacity or AS.

- *Favourable aggregate supply factors* expand the willingness or ability of producers to supply. They may include increased business profits, lower costs of production such as wages, oil or power, increased availability of resources and productive capacity, and government policies (e.g. stronger productivity, increased public works, reductions in company tax rates and reduced interest rates on business loans). They may combine to lift economic activity (production and employment) while depressing cost inflation.
- *Less favourable aggregate supply factors* restrict the willingness or ability of producers to supply. They might include lower productivity, higher wage costs, increased cost of borrowing credit, higher costs of electricity for firms, drought and climate change. They can cause business closures and discourage business expansion by raising costs and reducing profits. These adverse conditions may not only reduce activity but may also worsen cost inflation (causing stagflation).

Supply-siders thus advocate government measures to help promote more favourable conditions for suppliers, such as tax cuts and efficiency reforms.

Supply-side factors or conditions at the macroeconomic level are the influences that affect the general viability and decisions of firms or producers supplying goods and services in the economy. For instance, when aggregate supply-side conditions are more favourable — for example, when there is better productivity, lower costs, good weather conditions for farmers, reduced company tax rates, lower real unit labour costs and lower interest rates on credit — business owners become more willing or more able to raise their production levels, thereby accelerating economic growth. These same promising conditions can also mean lower production costs for firms, reducing cost pressures that squeeze profit margins and cause

inflation. *See* aggregate supply-side factors; aggregate supply policies.

Surplus budget *See* budget surplus.

Surplus on the balance of payments current account occurs when the total value of credits exceeds debits for goods, services, primary incomes and secondary incomes in a nation's international transactions for the year.

Sustainable Development Goals of the United Nations are the 17 targets for development set for the period 2015–30. These include the eradication of poverty.

Sustainable development or economic growth is where economic growth meets the needs of the present population without jeopardising the ability of future generations to meet their needs. Clearly this concept must take account of negative externalities. *See* environmental policies; goal of strong and sustainable economic growth.

Sustainable rate of economic growth as a government goal *See* goal of strong and sustainable economic growth.

Swing is a short-term change in the direction of a variable, possibly caused by seasonal factors (e.g. seasonal unemployment). *See* trend.

System for making economic decisions describes how choices are made about what types of goods and services are to be produced, how these should be produced, and for whom these should be produced. It is about whether decisions are made by private individuals (consumer sovereignty, as in a market system), or by the government (as in a planned system).

System of ownership describes who owns the means of production and the businesses (such as farms, mines, shops, banks), and whether there are private owners (in a capitalist system) or whether the government owns most businesses (in a socialist system).

Takeover occurs when a business buys more than 50 per cent of the shares in another business, allowing the buying business to become larger and develop more power in the marketplace to fix prices. The company that is bought out is called a subsidiary.

Tariff is an indirect tax added onto the price of imports to make them dearer to local consumers and protect local industries from overseas competition. As part of its trade liberalisation policy, the Australian government started to cut tariffs in the early 1970s and continued during the

1990s until all tariffs were reduced to 5 per cent or less from 2015 onwards.

Tariff protection is the protection of local industries through the imposition of a tax on imported goods, which is likely to make those imported goods more expensive. *See* protection; tariff.

Tax is a levy imposed by governments on businesses and individuals designed to raise revenue.

Tax base describes whether the coverage of the tax is relatively broad or narrow. For instance, the GST exempts some necessities to make it less regressive, but this narrows the tax base. A broader tax base could allow for more adequate funding of community services and welfare. *See* tax reform.

Tax burden relates to the proportion of an individual's total income that is collected as government revenue. The rich bear a heavier tax burden of progressive taxes than the poor.

Tax mix is the type or combination of taxes used by the federal government to raise its revenue. Currently the tax mix involves a greater reliance on direct rather than indirect taxes.

Tax reform can be regarded as a microeconomic policy and often involves changing the way budget revenue is collected. As an aggregate supply policy, tax reform usually focuses on:

- reducing the tax burden through lower tax rates paid by individuals and companies as a proportion of their income or the price of a good
- reviewing the tax base, coverage or inclusiveness of what types of things are to be taxed or not taxed (e.g. which goods or services, which income, what assets)
- improving the tax mix or combination of different types of tax used to raise revenue (e.g. direct versus indirect, consumption versus income taxes)
- redirecting how the tax revenue that is raised is to be used or spent.

Through these types of changes, governments seek to increase the incentives for businesses to invest and produce, encourage individuals to work harder by rewarding effort, and strengthen Australia's international competitiveness.

Overall, tax reforms can help to grow the economy's efficiency, productive capacity and the level of aggregate supply, and through these effects advance Australia's domestic

macroeconomic goals and living standards. More specifically, tax reforms have involved the following:

- The 10 per cent GST was introduced to replace the wholesale sales tax (WST) in July 2000.
- The capital gains tax rate was halved in 1999 and in 2017–18 is 22.5 per cent.
- All tariffs were cut to a maximum rate of 5 per cent by 2015.
- Company tax rates were cut from 36 to 30 per cent in 2000–02, in July 2015 to 28.5 per cent for small businesses, and then to 27.5 per cent for small and medium-sized businesses with a turnover of less than \$50 million in 2018–19. Further cuts to 25 per cent have been passed for the upcoming years for small to medium-sized firms with an annual turnover of less than \$50 million by 2021–22.
- Excise tax was modified and in some cases reduced in 2000–02, with additional changes made to the excise on tobacco and petrol in 2014–17. For example, the tobacco excise has been rising by 12.5 per cent over the last and next few years.
- PAYG tax thresholds and rates were revised in 2003–10 and again in 2012, when the tax-free threshold increased from \$6000 to \$18 200. Currently, the Australian government is implementing its three-stage personal income tax reform policy that will be completed in 2024–25. Stage 1 started from July 2018, increased the upper cut off for the 32 per cent tax bracket. Stage 2 will start from July 2022. It will increase the upper cut off for the 32.5 per cent tax bracket. Stage 3 will increase the upper cut off for the 19 per cent tax bracket to \$45 000. It also abolishes the 32.5 and 37 per cent tax brackets, replacing these with a 30 per cent bracket that runs up to a cut off of \$200 000.
- The Minerals Resource Rent Tax (MRRT) was introduced from July 2012 at a nominal rate of 30 per cent on profits made from the extraction of iron ore and coal mining companies exploiting our non-renewable mineral resources. It was abolished in 2014.
- The carbon tax was introduced in 2012 and abolished in 2014.
- For three years from 1 July 2014, a temporary budget repair levy of 2 per cent was introduced

for those on personal incomes above \$180 000, taking the top marginal tax rate to 47 per cent (for 2015–17, not including the then 2% Medicare levy).

Tax revenue is money collected by the government; for example, from wage and salary earners, companies making profits and from the sale of goods and services. This money is then available to the government to provide services for the community.

Tax-free threshold is the cut-off level of taxable income that applies before individuals have to pay income tax. The current PAYG tax-free threshold for the period to 2012–20 is \$18 200.

Taxable income is income on which tax must be paid (gross income less allowable deductions).

Taxation is a government levy or revenue measure that can be used as part of the budget to affect the level of prices, the growth rate and the distribution of income. Important considerations for taxes are their simplicity, efficiency and equity. Tax reform may involve changes to tax rates, the tax mix, the tax base and the tax burden.

Technical and other assistance in overseas aid involves the donor country or a United Nations agency providing scientific, economic, educational, technical, industrial or agricultural personnel.

Technical efficiency *See* efficiency; productive or technical efficiency.

Terms of trade compares the prices received for our exports against those paid for imports. *See* export price index; terms of trade index.

Terms of trade index is a measure that reflects changes in the weighted average prices received for a basket of exports against average prices paid for a basket of imports. It is the ratio of export to import prices and is measured as follows:

$$\text{Terms of trade index} = \frac{\text{Terms of trade index}}{\text{Import price index}} \times \frac{100}{1}$$

This index shows changes in the actual quantity of imports that may be purchased with a given quantity of exports. A decline in the terms of trade is seen as unfavourable for Australia. This is because it may cause a decline in the exchange rate, a less favourable balance of goods, a slower rise in AD, higher unemployment, declining material living standards and a slower rate of

economic growth. Australia suffered a substantial fall in the terms of trade between 2013 and 2016 due to weaker global economic growth.

By contrast, between 2010 and 2012 and again in 2016–17–18–19, Australia enjoyed stronger terms of trade (moved favourably) due to strong Chinese and global economic growth. This raised the prices received for and value of our exports, contributing to stronger AD, and economic growth and employment. *See* export price index.

Third World refers to a group of nations that have very low subsistence levels of production and income, and hence high levels of poverty.

Tied loans involve special conditions that are imposed on borrowing countries, such as requiring that the money be used to purchase exports from the donor country.

Time lag is the period of time that elapses between observing an adverse trend in an economic variable (such as rising inflation) and this variable responding to a corrective policy introduced by the government. There are *three* types of time lag:

1. the recognition lag — the time period that elapses before statistical indices pick up an adverse trend. For instance, some measures are published only on a yearly basis.
2. the implementation lag — the time period that elapses before government policy makers select and implement a corrective policy to deal with the adverse trend. This may be quite long, especially in the case of new discretionary measures in the annual budget.
3. the impact lag — the time period that elapses before a corrective policy takes effect.

Although automatic stabilisers respond and work quickly, discretionary budgetary policy (such as infrastructure projects) may be made less effective than monetary policy because of the greater lag in implementation. Monetary policy changes may take up to three years to reach full effect. Monetarists often oppose the use of discretionary government stabilisation policy since time lags can cause countercyclical measures to be procyclical. *See* procyclical policy.

Total equality is a situation in which income is divided evenly between income recipients. On a Lorenz diagram, this would be represented by the diagonal line of absolute equality where each decile receives exactly the same share of the total income cake.

Trade agreements are contracts and sales negotiated by the government with overseas countries and individuals to promote exports abroad. These agreements may be bilateral (such as the agreement with New Zealand, China, and Japan) or multilateral (such as GATT).

Trade balance *See* balance of (merchandise) trade.

Trade barriers are government restrictions such as tariffs, import quotas and subsidies on the movement of goods and services across national borders.

Trade deficit occurs when the total value of a country's imports exceeds the total value of its exports over a period of time.

Trade liberalisation involves the progressive reduction of tariffs, subsidies and import quotas, and a shift towards the idea of free trade where there is an increase in the number of bilateral free trade agreements. Increasingly, national borders no longer restrict the movement of goods, services and money capital between countries. The Australian government has gradually adopted this policy since 1972, but especially in the period 1990 to 2020. With freer trade, nations are forced to allocate resources into areas of production where they have a comparative cost advantage (or in areas of least disadvantage). *See* free trade agreements (FTAs); globalisation; import quotas; subsidies.

Trade-off occurs when governments are forced to choose, for example, between the achievement of one goal and another. For instance, attempts to boost economic growth sometimes lead to increased inflation. Another example is between the pursuit of an equitable distribution of personal income and the level of efficiency and economic growth. Additionally, there is often a trade-off between increased material living standards and the maintenance of non-material living standards.

Trade Practices Act (TPA) *See* restrictive trade practices.

Trade protection is a government policy that involves using high tariffs, import quotas and subsidies to local producers to support local industry so that it can compete with imports. Protection encourages countries to produce goods and services for which they do not have a comparative cost advantage. *See* protection.

Trade surplus occurs when the total value of a country's exports exceeds the total value of its imports over a period of time.

Trade wars can occur when one nation decides to increase tariffs applied to the imports of goods from another nation, causing the other nation to raise its tariffs in retaliation. This can then provoke ongoing rounds of tariff rises. An example of a trade war was that between the United States and China during 2018–19.

Trade weighted index (TWI) is an index or measure reflecting the average movement of the value of the Australian dollar against a basket of currencies of our trading partners, each weighted according to its relative importance. In the base year, the index equals 100 points. However, if our dollar appreciates the index will rise above 100 points, while if it depreciates it will fall below 100 points. On 3 May 2019, Australia's TWI stood at 60.1 index points (where 1970 = 100 points).

Trading competitors usually mean those foreign nations against whom Australian producers must sell in domestic and foreign markets.

Transfer income *See* transfer payments.

Transfer payments include cash income supplements or welfare benefits paid to the neediest individuals (e.g. the unemployed, single parents, the sick, students and the aged), designed to top up their disposable income and promote a more equitable income distribution. In addition, they can also include grants to the states and interest on the public debt paid by the federal government. Transfer payments are a major component of budget outlays, but are not seen as actual expenditures on goods and services conducted by the government that make up the G_1 and G_2 components of aggregate demand — the actual spending is done by the transfer recipients. *See* social services or security.

Transmission mechanism for monetary policy describes the various ways whereby changes in interest rates can be used to regulate the level of AD and economic activity. For example, lower interest rates (e.g. 2011–19) help strengthen demand and economic activity in *five* main ways:

1. *The cost of credit effect.* Lower interest rates mean cheaper credit and easier repayments for loans. This stimulates credit-sensitive spending (AD) and discourages saving. This causes a fall in stocks, so firms increase production, boosting economic activity.

2. *The availability of credit effect.* Lower interest rates increase the availability of credit and so more borrowers meet bank lending criteria
3. *The wealth effect.* Lower interest rates increase the price or value of assets like property. As a result of feeling wealthier, people tend to spend more.
4. *The exchange rate effect.* Higher interest rates tend to slow inflation by discouraging spending on imports, thereby pushing up the exchange rate. This makes the cost or price of imports purchased locally cheaper.
5. *The inflationary expectations effect.* Higher interest rates can reduce inflationary expectations. They signal to savers, borrowers and investors that the RBA means business and will check inflation. It affects people's perceptions before they take necessary action to protect their real incomes from the effects of rising prices and before there is speculation in assets.

Trans-Pacific Partnership Agreement (TPP) is a free trade agreement signed by Australia and six other nations including Japan, Mexico, Canada, New Zealand, Singapore and Vietnam that came into force from 30 December 2018. It eliminates 98 per cent of tariffs on our agricultural exports.

Treasury bills are a form of short-term government security sold to the Reserve Bank by the government and designed to provide finance for a deficit budget. This is often referred to as the 'printing of money'.

Treasury notes are a form of short-term government security (13- or 26-week maturities) sold by tender.

Trend is the underlying direction of an economic variable established over a period of time (perhaps five or more years). This is distinct from a short-term or seasonal swing which may or may not become established as a trend with the passage of time. *See* long term or long run; swing.

Trickle-down theory believes that the benefits of economic growth and development will not just benefit the rich but, given time, will eventually improve the daily existence of the poor.

Trough is the lowest point on the trade cycle, where unemployment is usually high and production is down. *See* business cycle; depression; economic activity; recession.

Ultimate economic objective of the government is the goal of improved material and non-material living standards for everyone. It can be pursued by achieving other subsidiary goals like low inflation, strong and sustainable economic growth, full employment and an equitable distribution of personal income. *See* economic welfare or wellbeing.

Underemployment exists where it would be possible to reduce the labour force without a reduction in production levels. This is because workers are not working to their capacity and are employed inefficiently. Disguised unemployment is common, especially in economically poorer countries.

Underlying balance represents the headline balance after subtracting the value of one-off volatile items such as asset sales, special loans to state governments or debt repayments by other governments.

Underlying inflation rate prepared by the Treasury is measured by removing the 20 000 or so volatile items (such as some fresh food items, including fruit and vegetables) from the 100 000 plus items making up the regimen for measuring the ordinary headline CPI. Sometimes the underlying measure is preferred for some purposes by the government when shaping its anti-inflationary policies, since it is believed to provide a better guide to changes in fundamental inflationary pressures that may exist in the economy because of the exclusion of those items affected by one-off events. The government's target for underlying inflation is to keep annual average price rises around 2–3 per cent over time. *See* headline inflation.

Underutilisation rate *See* labour force underutilisation rate.

Unearned income is income gained from the ownership of land (rent) and capital (interest). This is not gained directly from personal effort.

Unemployable persons are those members of the labour force who cannot be employed or who cannot retain a job because of personal or physical characteristics.

Unemployment occurs when those who are willing and able to work cannot secure a job. A major cause of high levels of unemployment during a recession (which almost occurred in 2008–09 during the global financial crisis) or depression is

a lack of spending on aggregate demand. When there is no cyclical unemployment (as in February 2008 when the rate was only 3.9 per cent), the major cause of unemployment is structural change (structural unemployment). *See* cyclical unemployment; frictional unemployment; natural unemployment; seasonal unemployment; structural unemployment; underemployment; unemployable persons.

Unemployment benefit is money paid to unemployed persons by the government. In recent times, benefits to the unemployed are paid only to those who meet preconditions relating to seeking employment and undertaking training. *See* dole; social services or security.

Unemployment rate is the number of workers in a nation classified as unemployed and then expressed as a percentage of the total labour force. For example, Australia's unemployment rate for 1992–93 was 11 per cent, while in February 2008 it was 3.9 per cent and 5.0 per cent in April 2019. Annual rates represent the average of the rate for four months — August, November, February and May.

Unfair dismissal laws are laws that protect workers from unfair dismissal or treatment by their employers. When dismissal from a job occurs, the employer needs to follow certain procedures. Failure to comply fully with legal requirements allows staff to seek compensation or other sanctions to be applied to a particular business. Some commentators felt that this protection discouraged firms from taking on staff since it could be costly to get rid of them if they proved to be unsatisfactory. This contributed to structural unemployment. With this problem in mind, the laws were changed in both 1996 and again in 2006. Small firms employing fewer than 100 staff became largely exempt from the law. However, with further changes introduced by the *Workplace Relations Amendment Act* in 2008 and the *Fair Work Act* in 2009, these laws were again partly reinstated for medium to large firms where staff have been employed for more than six months, or for smaller firms employing fewer than 15 staff that have been employed for more than 12 months. *See* *Work Choices Act*; *Fair Work Act*; *Fair Work Amendment Act*.

Unfavourable terms of trade *See* terms of trade index.

Unit elasticity of demand refers to how demand for a product changes when the price changes. Demand is of unit elasticity if the quantity demanded changes by the *same proportion* as the change in price; for example, a 10 per cent fall in price results in a 10 per cent rise in quantity demanded. Here, the total revenue remains unchanged with a fall in price.

Unlimited liability occurs when sole traders and partners are fully responsible for repaying all debts of the firm.

Unpaid work is work performed free of charge.

User-pays principle is the principle that if you use the good or service, you must pay for it. Traditionally, many government services (such as health, education, transport, telecommunications and water) were provided to the public, especially the poor and those living in remote and rural areas, free of direct charge or at a low, subsidised price. Increasingly, however, this is changing. The user of services is increasingly expected to pay as government departments become more commercialised and corporatised following funding cuts.

Utility refers to the total satisfaction received from consuming or demanding a good or service. Utility often decreases the more of a good we consume. Utility also decreases as the price paid for the good increases. This means that the demand for a good will normally contract as the price increases, and expand as the price decreases.

Vacancies are unfilled job positions or offers of employment by business firms. These are normally advertised in the employment sections of daily newspapers and indicate the demand for labour. A fall in job vacancies is usually seen as a sign of a weaker labour market.

Value is determined by both the per-unit price and the number or quantity of units involved. That is:

$$\text{Value} = \text{Unit price} \times \text{Quantity.}$$

Values are beliefs or attitudes about what individuals, society or governments consider to be good or bad, right or wrong, important or unimportant. They help to shape our economic system.

Vertical integration is when firms are joined together to become a bigger business in different but often related industries.

Voluntary unemployment occurs when people of working age deliberately decide not to seek employment.

Wage is the monetary reward of labour, paid in exchange for work.

Wage or profit shares of GDP is an indicator of the distribution of total national income going to workers (the wage share) as a proportion of the income going to owners of businesses.

Wage–price spiral is successive rounds of increases in prices leading to increased wage demands, or increased wage demands leading to increased prices.

Wants are desires for goods and services that are not usually considered essential or necessary (e.g. a new bike or a holiday house). These are generated by trends in fashions, advertising, planned obsolescence, population growth and habit.

Weak competition causes market failure. It exists in markets where there are no or few sellers of a good or service, and where the market power of a particular firm is great (e.g. where there are monopolies and perhaps oligopolies).

Weak labour market conditions exist when there is a low demand for labour relative to its supply. Here, unemployment is relatively high and there are few job vacancies. This occurs in recessions.

Wealth is the stock of assets (such as property, capital and antiques) owned by an individual. Substantial income can be earned by owners of wealth. In Australia, wealth is unevenly distributed and is often inherited from one generation to the next.

Weighting of items in the consumer price index (CPI) reflects the relative importance assigned to each particular good or service included in the basket or regimen, reflecting the spending patterns of typical households.

Welfare benefits are regarded as cash transfer payments from the government (usually via Centrelink) to various categories of people who are often classed as needy (e.g. the aged, the sick, widows, families, veterans, the unemployed and single parents). Frequently a means or incomes test, or an assets test, is applied in an effort to help level out income inequalities and cut the cost to taxpayers. These help recipients to buy basic goods and services and enjoy better living standards. *See* aged pension.

Welfare or wellbeing *See* living standards; economic welfare or wellbeing.

Welfare trap occurs when income gained from government welfare benefits is too generous or attractive relative to that earned from having full- or part-time work. As a result, some people become trapped on welfare. Alternatively, people are trapped if the tax system is such that personal tax begins at very low income levels when they start earning extra income, thereby discouraging work.

What and how much to produce? is one of three key questions facing all economies involving a choice between alternative types and quantities of output. Should a nation, for example, allocate resources to produce guns or butter, consumer goods or capital goods, in small or large quantities?

Work Choices Act (the *Workplace Relations Amendment Act*) was passed in 2005 (effective from March 2006). Essentially, this Act involved:

- handing over the Australian Industrial Relations Commission's (AIRC) minimum wage-setting role to the newly set up Australian Fair Pay Commission (AFPC)
- establishing a national wage-setting system under federal control that overrode the state wages systems for many workers
- limiting the role of the AIRC to industrial relations dispute resolution, and the simplification and rationalisation of wage awards

- creating the Australian Fair Pay and Conditions Standard (the minimum, statutory, standard working conditions; for example, the 38-hour week, four weeks annual leave, parental leave, sick leave, personal carers leave)
- making firms employing fewer than 100 staff exempt from unfair dismissal laws.

See Fair Work Act; Fair Work Amendment Act; Forward with Fairness Policy.

Workforce *See* labour **force**.

Workplace Relations Act (1996) and Workplace Relations Amendment (Work Choices) Act (2005) *See* *Work Choices Act*.

Workplace Relations Amendment (Transition to Forward with Fairness) Act (2008) sought to remove some of the harsh aspects of the former *Work Choices Act*. New AWAs were made illegal, transitional arrangements were put in place, unfair dismissal laws were reinstated and apply in most instances, the no-disadvantage test (abolished under *Work Choices*) applies to all enterprise agreements, and a one-stop industrial relations shop called Fair Work Australia was established in mid-2010 (now called the Fair Work Commission).

World Bank is an international financial institution set up to provide technical and financial help in the form of financial loans and grants to member nations.

World Trade Organization (WTO) is an international institution originally set up in 1995 to promote *free trade* as a means of accelerating global economic growth and development.

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